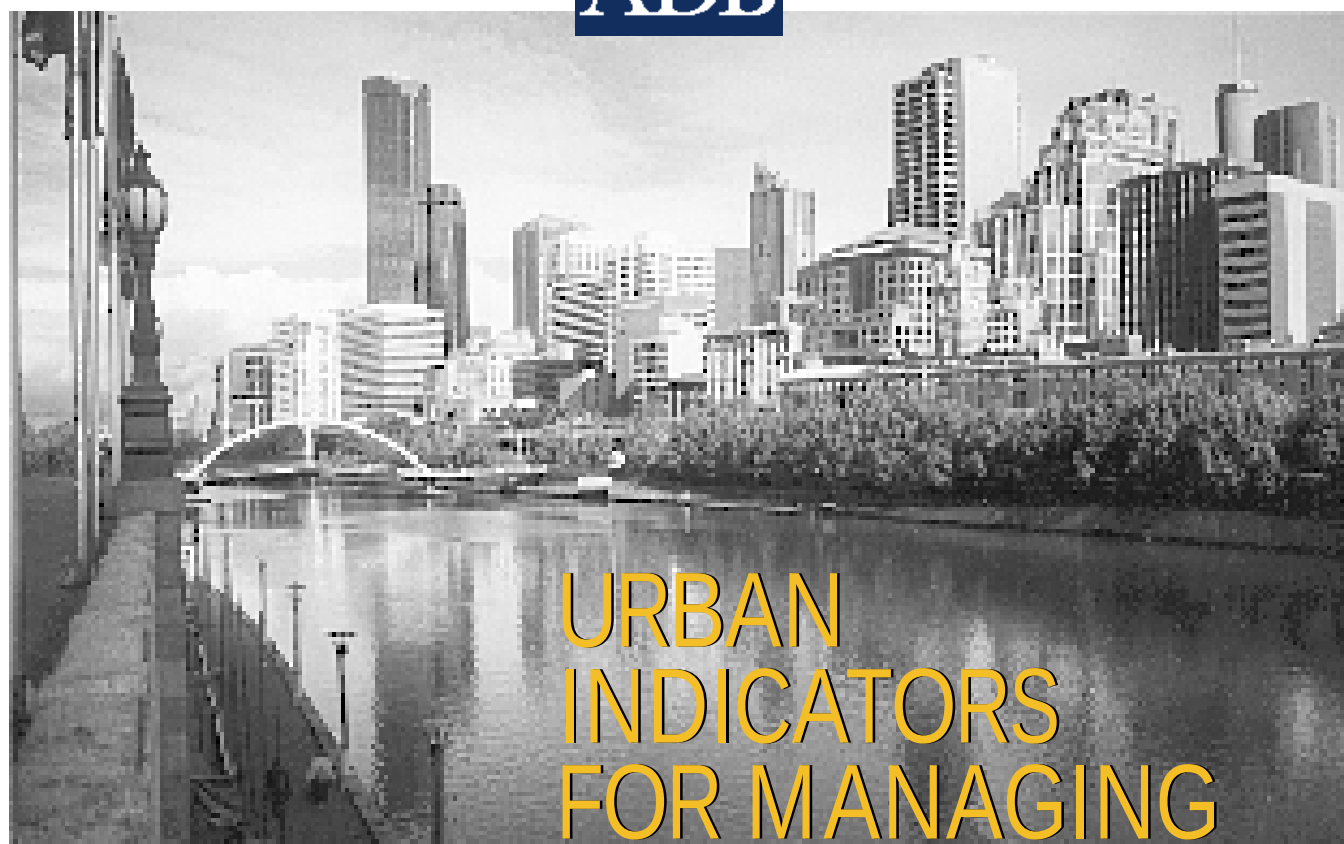




URBAN INDICATORS FOR MANAGING CITIES

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Matthew S. Westfall
and Victoria A. de Villa

CITIES DATA BOOK

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Abbreviations and Acronyms

Organizational Terms

ADP	Annual Development Program (Bangladesh)
ARMM	Autonomous Region of Muslim Mindanao (Philippines)
Bayantel	Bayan Telecommunications Corporation (Philippines)
BIR	Bureau of Internal Revenue (Philippines)
BDA	Bangalore Development Authority
BRTC	Bangladesh Road Transport Corporation
BTTB	Bangladesh Telegraph and Telephone Board
CAR	Cordillera Autonomous Region (Philippines)
CB (BSP)	Central Bank of the Philippines (Bangko Sentral ng Pilipinas)
CBOs	community-based organizations
CBS	Central Bureau of Statistics (Nepal)
CCP	China Communist Party
CDPS	Central Department for Population Studies (Nepal)
CEA	Central Environment Authority (Sri Lanka)
CHED	Commission on Higher Education (Philippines)
CIS	Commonwealth of Independent States
CMC	City Municipal Council (India)
CMC	Colombo Municipal Council
Comelec	Commission on Elections (Philippines)
CONCERN	Estimation of Concern for Children in Nepal
CPN-UML	Communist Party of Nepal Unified Marxist-Leninist
CPPCC	Chinese People's Political Consultative Conference
CSC	Civil Service Commission (Philippines)
CSD	Commission on Sustainable Development
CSCE	Conference on Security and Cooperation in Europe
CSSA	Comprehensive Social Security Assistance
CUP	Coalition of Urban Poor (Bangladesh)
CWHKTT	Cable and Wireless HKT Telephone Ltd (formerly Hong Kong Telephone Company Ltd)
CWIN	Child Workers in Nepal
DAEP	Depressed Area Electrification Project (Philippines)
DECS	Department of Education, Culture and Sports (Philippines)
DENR	Department of Environment and Natural Resources (Philippines)

DHS	Department of Health Services (Nepal)
Digitel	Digital Telecommunications Philippines, Inc.
DILG	Department of Interior and Local Government (Philippines)
DOH	Department of Health (Philippines)
DOLE	Department of Labor and Employment (Philippines)
DOR	Department of Roads (Nepal)
DOST	Department of Science and Technology (Philippines)
DOT	Department of Tourism (Philippines)
DPWH	Department of Public Works and Highways (Philippines)
EHDAG	Environment Health Development and Advisory Group (Nepal)
EMB	Environmental Management Bureau (Philippines)
ENRO	Environment and Natural Resources Office (Philippines)
EPD	Environment Protection Department (Hong Kong)
ERLTS	Elevated Light Rail Transit Systems (India)
ESAs	external support agencies
EU	European Union
FEZ	Free Economic Zone (Kyrgyz Republic)
GOI	Government of Indonesia
GSIS	Government Service Insurance System (Philippines)
GTZ	German Agency for Technical Cooperation Ltd.
GUO	Global Urban Observatory
HART	Housing Assistance and Relief Trust (Fiji)
HCDC	Housing and Community Development Council (Sri Lanka)
HKSAR	Hong Kong Special Administrative Region
HLURB	Housing and Land Use Regulatory Board (Philippines)
HMDF	Home Mutual Development Fund/Pag-IBIG Fund (Philippines)
HUDCC	Housing and Urban Development Coordinating Committee (Philippines)
ICIMOD	International Center for Integrated Mountain Development
ICLEI	International Council on Local Environmental Initiative
IMAR	Inner Mongolia Autonomous Region (PRC)
IMF	International Monetary Fund
ISIC	International Standards Industry Classification
Islacom	Island Communications, Inc. (Philippines)

IUCN	International Union for Conservation of Nature and Natural Resources	SP	Sangguniang Panlungsod (Philippines)
JICA	Japan International Cooperation Agency	SSS	Social Security System (Philippines)
KCRC	Kowloon-Canton Railway Corporation (Hong Kong)	STP	Sustainable Township Program (Sri Lanka)
KHB	Kartanaka Housing Board	SWS	Social Weather Station (Philippines)
LGA	local government area	TEPA	Traffic Engineering and Planning Agency
LGC	Local Government Code (Philippines)	TGC	Titas Gas Company (Bangladesh)
LGUs	Local government units (Philippines)	TMC	Town Municipal Council (Bangalore)
LTO	Land Transportation Office (Philippines)	TNCs	Transnational Corporations (Hong Kong)
MERALCO	Manila Electric Company	TUGI	The Urban Governance Initiative (UNDP)
MHPP	Ministry of Housing and Physical Planning (Nepal)	UES	Urban Environmental Sanitation (Pakistan)
MMDA	Metro Manila Development Authority (Philippines)	UK	United Kingdom
MTR	Mass Transit Railway Corporation (Hong Kong)	ULCs	Urban Local Councils (Pakistan)
MUDHC	Ministry of Urban Development, Housing and Construction (Sri Lanka)	UN	United Nations
NAIA	Ninoy Aquino International Airport	UNCHS	UN Commission on Human Settlements
NC	Nepali Congress	UNCHS-Habitat	UN Centre for Human Settlements – Habitat
NCR	National Capital Region (Philippines)	UNDP	United Nations Development Programme
NCSO	National Census and Statistics Office (Philippines)	UNEP	United Nations Environment Programme
NEA	Nepal Electricity Authority	UNESCO	United Nations Educational , Scientific and Cultural Organization
NGOs	non-government organizations	UNICEF	United Nations Children's Fund
NHMFC	National Housing and Mortgage Finance Corporation (Philippines)	UNTAC	United Nations Transitional Authority in Cambodia
NTC	National Telecommunications Commission (Philippines)	USA	United States of America
NTC	Nepal Telecommunication Corporation	USAID	U.S. Agency for International Development
NTL	National Trading Limited (Nepal)	USSR	Union of Soviet Socialist Republics
NSCB	National Statistical Coordination Board (Philippines)	VSNL	Videsh Sanchar Nigam Limited (India)
NSO	National Statistics Office (Philippines)	WASA	Water and Sanitation Agency (Pakistan)
NSSO	National Sample Survey Organization (India)	WAPDA	Water and Power Development Authority (Pakistan)
NWFP	Northwest Frontier Province (Pakistan)	WB	World Bank
NWSC	Nepal Water Sewerage Corporation	WECS	Water and Energy Commission Secretariat (Nepal)
OECD	Organization for Economic Cooperation and Development	WHO	World Health Organization
PADS	Port and Airport Development Strategy (Hong Kong)		
PAG-ASA	Philippine Atmospheric Geophysical Astronomical Service Administration	Technical Terms	
PESO	Public Employment Services Office (Philippines)	ACP	Airport Core Program
Piltel	Pilipino Telephone, Inc. (Philippines)	AMPS/DAMPS	Advance Mobile Phone Service/ Digital Advance Mobile Phone Service
PLDT	Philippine Long Distance Telephone Company	BOD	Biological Oxygen Demand - measure of amount of organic pollution in water
PNP	Philippine National Police	BOT	build-operate-transfer
PNR	Philippine National Railways	CBD	central business district
POPCOM	Population Commission (Philippines)	CDB	Cities Data Book
POS	people's organizations	CDI	City Development Index
PPA	Philippine Ports Authority	CEROI	Cities Environment Reports in the Internet
PMDFC	Pakistan Municipal Development Fund Company	CNG	Compressed Natural Gas
PRC	People's Republic of China	CO	Carbon Monoxide
PTC	Pakistan Telecommunications Corporation	CO ₂	Carbon Dioxide
RAJUK	Rajdhani Unnayan Kartripakha or Capital Development Authority (Bangladesh)	CPI	consumer price index
SLTelecom	Sri Lanka Telecommunications	DMCs	developing member countries
SMART	Smart Communications, Inc. (Philippines)	EIA	Environmental Impact Assessment (Hong Kong)
SOEs	state-owned enterprises (Vietnam, PRC Cambodia)	EMRs	extended metropolitan regions
		EO	Executive Order (Philippines)
		EUMM	Extended Urban Metabolism Model Framework

GCP	gross city product (Philippines)
GDP	gross domestic product
GIS	geographical information system
GIS	global information system
GNP	gross national product
GSM	Global Satellite for Mobile
HDI	United Nations Human Development Index
IDD	International Direct Dialing
ISPs	Internet Service Providers
IRA	Internal Revenue Allotment
LPG	Liquid Petroleum Gas
LRT	Light Rail Transit
MRH	medium rise housing
NDD	National Direct Dialing
NO ₂	Nitrogen Dioxide
NO _x	Nitrogen Oxide
O ₃	Ozone
PABX	Private Automatic Branch Exchange
Pb	Lead
PD	Presidential Decree (Philippines)
PM ₁₀	Particulate Matter with a mass medium aerodynamic diameter less than 10 micrometers (um)
PMI	Performance Measurement Indicators
POS	point of sales
PPP	Purchasing Power Parity
RA	Republic Act (Philippines)
RETA	Regional Technical Assistance
SAR	Special Administrative Region
SCATS	Sydney Coordinated Adaptive Traffic System
SO ₂	Sulfur Dioxide
SPM	Suspended Particulate Matter
SRP	South Reclamation Project
STD	Standard Telephone Dialing
TNCs	Transnational Corporations
SWM	solid waste management
UPS	Uninterrupted Power Supply
VOC	Volatile Organic Compound

Measurement Units

cu m	cubic meter
Gj	gigajoules
Hz AC	alternating current in hertz
kltr	kiloliter
kWhr	kilowatt hour
ug/m ³	micrograms per cubic meter
mld	million liters per day
mt/mT	metric tons
m ²	square meter
m ³	cubic meter
mwh	megawatt hour
t/annum	tons per annum
teu	twenty-foot equivalent units
v	volts
v/c	volume per capacity
vph	volume per hour

Foreword

The fast pace of urbanization in the Asian and Pacific region is a critical element of life in the Asian Development Bank's developing member countries (DMCs). Already one third of the region's population of some 3.5 billion is living in urban areas and the share is forecast to increase by 54 percent by 2020. In fact, the majority of the new urban growth will be in Bangladesh, People's Republic of China, India, Indonesia, and Pakistan. Another feature of urbanization in Asia is the growth of megacities, urban areas of ten million or more population, in many cases surrounded by extended metropolitan regions extending up to 100 kilometers from the central built-up area. There are already nine megacities in the region, and 17 are forecast by 2015. This massive transformation of societies is having both positive and negative effects. On the positive side, growing urban centers can take advantage of agglomeration economies and globalization trends to generate jobs and increase incomes. It is forecast that over 80 percent of Asia's economic growth will come from its urban areas. On the negative side, some cities undergoing rapid growth are suffering from inadequate infrastructure and services, severe environmental degradation, increasing traffic congestion, and proliferation of slums and squatter settlements.

In many cities in Asia, rapid growth has outpaced the abilities and resources of city

administrators to maintain adequate provision of services. Other trends are exacerbating the situation. Increasing decentralization and complexities of management are extending the responsibilities of local governments, but without the necessary additional financial or human resources. Moreover, the expectations of residents and other customers concerning lower cost and higher quality services are increasing, but the required level of resources may not be available. In part answer to the resource gap, private sector participation in the provision of services is increasing. At the same time, governments' roles are moving away from directly providing services to an enabling role that emphasizes coordinating, regulating, monitoring, and supporting the private sector.

Social and economic development of urban areas is increasingly focused on local government management, with private sector participation. Consequently, local governments are expected to be an important focus of ADB's governance and capacity building work during the next decade. However, most cities in its DMCs are suffering from inadequate data and information, which has undermined their ability to understand the complex forces shaping their cities and to develop and test effective urban policies.

These inadequacies affect many elements of urban management, strategic and sector planning, private sector involvement and more. For example, major economic data that

In many cities in Asia,
rapid growth has
outpaced the abilities
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measure the health of an urban economy, such as city product, investment, income disparity and financial status, are seldom collected. Data on population growth, rural-urban migration, infrastructure and the environment are not available in a single location, or in a consistent format. Other data are not collected at all, such as distribution of job opportunities and city spatial structure. Scant information is available to help understand the relationship between policy initiatives and urban outcomes, or between the performance of specific subsectors and broader social and economic development. City managers are missing out on opportunities to improve coverage and targeting of services, and operational performance in urban management. Cities can use the data to establish performance benchmarks for setting service standards or objectives, become more customer-focused, identify best practice, exchange information, and compare progress with other cities.

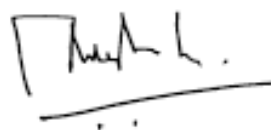
While the World Bank, the United States Agency for International Development, and the Global Urban Observatory program of the United Nations Center for Human Settlements have been involved in developing urban indicators, a large gap has remained until now. Recognizing the urgent need to fill the gap, ADB approved this regional technical assistance (RETA) on *Development of the Cities Data Book for the Asian and Pacific Region* in June 1999. The RETA recognized the need to focus on the role of improved data, indicators, and benchmarking in managing fast growing cities in the region and to work closely with some of those cities to improve their operational efficiency. The project was designed to remedy the endemic data shortfalls and to demonstrate the application of indicators to urban policy formulation and implementation.

The objective of the RETA was to establish a policy-oriented urban indicators database for research, policy formulation, monitoring of the development impact of interventions in the urban sector, comparison of performance between cities, and improving the efficiency of urban service delivery. The RETA developed methodologies and criteria

to measure and evaluate the efficiency of urban service delivery, and a network to exchange information on the quality and efficiency of service delivery and urban management between cities.

The outputs of the RETA are summarized in this publication. A workshop was held in September 1999 attended by city officials and agency heads of the 18 participating cities, ADB staff, and observers and guests from a number of multilateral and bilateral development agencies. The workshop participants agreed on the choice of indicators and data to be collected in the selected cities. A second workshop was held in February 2001, which explored how the exercise may be carried forward and integrated into ADB's operations. In addition to the publication of the book, production of a CD-ROM and installation of a website that highlights CDB RETA outputs have been undertaken.

We are pleased to commend the *Cities Data Book: Urban Indicators for Managing Cities* to all those involved in managing the urban sector, in Asia and throughout the world, particularly to those interested in the use of indicators and benchmarking. Cities in Asia and the Pacific face a host of challenges to urban management and we are confident that this report, and the networking that will take place among the cities, will be important tools for meeting those challenges.



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Preface

The regional technical assistance (RETA) for the *Development of the Cities Data Book for the Asian and Pacific Region* was approved in June 1999 and consultancy services were provided from August 1999 to February 2001. The work was undertaken in four phases, which necessarily overlapped.

In Phase I, lasting five months, preparations were made for an initial workshop with participants from the 18 participating cities, ADB staff, and resource persons. An indicators questionnaire was prepared and pilot-tested in selected cities in the Philippines. The shortlist of participating cities was finalized before the workshop, while recruitment of domestic consultants in ADB's developing member countries was completed in February 2000. Officials from the cities assisted the CDB team in drawing up the shortlist of domestic consultants.

The selected participating cities in the region are as follows:

- Bangalore (India)
- Bishkek (Kyrgyz Republic)
- Cebu, Mandaluyong, Naga (Philippines)
- Colombo (Sri Lanka)
- Dhaka (Bangladesh)
- Hanoi (Viet Nam)
- Hohhot (People's Republic of China)
- Hong Kong (People's Republic of China)
- Kathmandu (Nepal)
- Lahore (Pakistan)
- Medan (Indonesia)

- Melbourne (Australia)
- Phnom Penh (Cambodia)
- Seoul (Republic of Korea)
- Suva (Fiji Islands)
- Ulaanbaatar (Mongolia)

In Phase II, lasting over six months, the main fieldwork of data collection was carried out, including checking of sources and data by the CDB team at ADB headquarters in Manila.

In Phase III, three senior resource persons were recruited to prepare papers on (i) Asia's Urban Future, (ii) Urban Indicators and the Management of Cities, and (iii) Comparing the Cities Data Base. In parallel, a summary of ADB's policy in the urban sector was prepared and commentaries made on data presented in the book. Data collected from the cities were tabulated and organized for further comparison and analysis. This phase was carried out over three months.

Phase IV, covering the editing, publishing, printing, and distribution of the book, was completed in over four months. This phase was capped by a dissemination workshop in February 2001, where city officials and urban managers met to discuss the relevance of urban indicators in city management and learn from cities that have undertaken a similar exercise.

The *Cities Data Book: Urban Indicators for Managing Cities* is designed firstly for policymakers and urban managers of cities in the Asian and Pacific region. It should also

*The Cities Data Book:
Urban Indicators for
Managing Cities* is
designed firstly for
policymakers and urban
managers of cities in the
Asian and Pacific region.

be valuable to the work of community-based and nongovernment organizations, businesses, as well as ADB staff, consultants, and other professionals involved in using urban indicators and performance benchmarking. The exercise intended to establish a cadre of city-level information resource persons and a network of city managers who are prepared to devote at least some resources to using urban indicators and benchmarking in their work, and to trigger reforms in their city environment. The network will act as the information and dissemination point for best practice, contacts for other organizations involved in the use of indicators, and advice to urban management professionals and others in civil society.

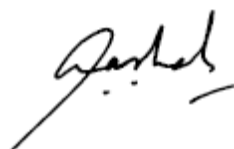
Being an initial effort in collecting city level data, the results may not be statistically foolproof. Despite the RETA team's efforts to standardize definitions of the indicators, certain city nuances and local practices have emerged. For this reason, the "Notes and Sources" section of this book explains the figures. The Notes may also provide a fuller understanding of how the city manages its urban affairs.

The RETA, its two workshops and this report would not have succeeded without the hard work, professionalism, and enthusiasm of the participants from the 18 cities. ADB expresses its appreciation to all participants and resource persons. We express our thanks for the hard work and dedication of the members of the RETA team—Matthew Westfall, Senior Urban Development Specialist/RETA Coordinator who conceptualized and led this intensive exercise; Victoria de Villa, who managed the RETA's day-to-day

affairs; and consultants Giles Clarke and Joe Flood. Special thanks goes to the CDB staff Lora Lynn de Leon, Michelle Tan, Jennifer Vicedo, Karen Guzman, Ram Cabrera who was responsible for the layout and design of the book, and Stuart Sell who edited the publication.

We are also particularly honored by the participation of theme paper writers, notably Sir Peter Hall, Professor of Planning at University College London; Terrence Gary McGee, Professor at Institute of Asian Research, University of British Columbia; and Peter Newton, Chief Research Scientist, Commonwealth Scientific and Industrial Research Organization and Associate Director of the Australian Housing and Research Institute.

In conclusion, I thank all those who have contributed to the success of the RETA, including the mayors, city managers and staff of municipal offices, the local consultants based in each city, utility companies, and the many other organizations in the public and private sectors. I hope this will be the first phase of a sustained structure for research, capacity building, and dissemination of knowledge on the use of urban indicators in city management so urgently needed in the region.



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URBAN INDICATORS FOR MANAGING CITIES



URBAN INDICATORS FOR ASIA'S CITIES: FROM THEORY TO PRACTICE

Peter Hall

The Cities Data Book (CDB) for the Asian and Pacific region is the latest step on a long road. Economists and others have wrestled for nearly half a century with the problem of measuring human development, sometimes loosely equated with quality of life, in nations and in cities. They have faced massive problems in doing so, both in developing a strong theoretical underpinning, and in measuring the key variables. This introductory chapter to the CDB first discusses the theoretical, conceptual, and measurement problems (Sections I and II). The CDB's achievement in addressing these problems is shown in Section III, including a summary and overview of the main conclusions that are treated in detail in Chapter 5. Finally, various problems of interpreting the data are discussed in Section IV.

I. THE THEORETICAL PROBLEM

Traditional neoclassical economics never addressed such issues adequately. First, its scheme of utilities, or satisfactions, rarely distinguishes between the value of individual utilities and all are to be treated as of equal value, so that (in Bentham's immortal words) pushpin is truly as good as poetry. Second, it takes no account of income distribution, so that a gain in utility to a rich person must count the same as a gain to a poor person.¹

Its ultimate expression, Pareto optimality, was notably criticized by Amartya Sen:

If preventing the burning of Rome would have made Emperor Nero feel worse off, then letting him burn Rome would have been Pareto-optimal. In short, a society or an economy can be Pareto-optimal and still be perfectly disgusting (Sen 1970, 22).

This relates to a much more contemporary debate raging among economists in leading development institutions: should policy try to encourage growth, making everyone richer but maybe more unequal, or should it worry about distribution?

Amartya Sen has wrestled with these paradoxes and has developed a fresh approach: there is a single universal definition, not of money, but of "capabilities" and "functionings." People all have the same 24 hours of the day. Subject to certain constraints, they can spend this time any way they like. And they could do many more things, but this would depend on their potential, which many of them fail to realize. As one commentator has written, for Sen, "The poor

Should policy try to encourage growth, making everyone richer but maybe more unequal, or should it worry about distribution?

¹ Strictly, Bentham did allow that the marginal utility of income diminished. He wrote: "The effect of wealth in the production of happiness goes on diminishing, as the quantity by which the wealth of one man exceeds that of another goes on increasing: in other words, the quantity of happiness produced by a particle of wealth (each particle being of the same magnitude) will be less and less at every particle; the second will produce less than the first, the third than the second, and so on" (*Pannomial Fragments*, IV.5). But this was not the way he was understood.

Sen's focus throughout is on the possibilities for people, particularly poor people, to develop their own lives; as he puts it, "to favor the creation of conditions in which people have real opportunities of judging the kind of lives they would like to lead."

are poor because their set of capabilities is small—not because of what they don't have, but because of what they can't do. In other words, they can't do very much with their time" (Desai 2000, 49).

Central to Sen's theory, in the title of his 1999 book, is the concept of development as freedom. The conventional view of development, he argues, misses the fact that substantive freedoms (such as access to basic education or health care or a job) do not only contribute indirectly to growth of GDP (though of course they do); they are among the constituent components of development (Sen 1999, 5). This ability to do valuable things simultaneously makes you free, and also helps you achieve valuable outcomes; Sen says it has a "generic similarity" to the notion of "quality of life" (Sen 1999, 24).

This of course is particularly important for the development of poor countries. But Sen points out that richer countries, too, often have deeply disadvantaged people, who lack basic opportunities to get health care, or functional education, or gainful employment, or economic and social security. Sometimes such groups may have a life expectancy no higher than that in much poorer countries. And women in many countries are worse off than men (Sen 1999, 15).

Sen's focus throughout is on the possibilities for people, particularly poor people, to develop their own lives; as he puts it, "to favor the creation of conditions in which people have real opportunities of judging the kind of lives they would like to lead" (Sen 1999, 63). This is essentially a theory of empowerment, which he sums up in the word "functionings." These, basically, are things that people care about: they range from basics, like having enough to eat, to complex things like playing a valuable role in one's community (Sen 1999, 75). We need to ask how far people are able to do these things. This means that processes, such as participation, are not just a means to an end; they are part of the end of development (Sen 1999, 291).

Such freedoms may correlate only poorly with conventional measures of economic development, such as GDP per capita. As Sen

shows in his empirical examples, "income levels may often be inadequate guides to such important matters as the freedom to live long, the ability to escape avoidable morbidity, or the opportunity to have worthwhile employment, or to live in peaceful and crime-free communities. These non-income variables point to opportunities that a person has excellent reasons to value and that are not strictly linked with economic prosperity" (Sen 1999, 291).

There is a basic question about such indexes: do we ask people to measure their own conditions subjectively, or do we use objective measures? Economists always argue that the only true measure of someone's welfare is what that person feels: a "subjective" approach. But this gives problems. People may not be fully aware of their state: poor people may not know how sick they are, for instance. They would certainly find it difficult to measure their own state against that of much richer people (Bliss 1993, 418-9). Even among people at about the same income level in a rich country, it would be hard for a member of the career-obsessed, consumer-oriented mainstream to judge the state of a dropout in pursuit of an alternative lifestyle—or vice-versa (Bliss 1993, 428). So an objective measure may be preferable.

But there is a specific problem with Sen's concept of "capabilities": it refers both to what a person does get, and to what that person could get (Cohen 1993, 10). Sen writes a lot about basic freedoms: to have enough to eat, to have good health. But, as one critic writes, "being free from malaria is not something that one does" (Cohen 1993, 21). It is not a freedom; it just happens to you. Sen's real concern, it appears, is not lack of capability as such: it is lack of food or shelter or good health, which are much more basic. It is true that by being well-fed, one can do more things. But they are two different things, and very often Sen is concerned with the first (Cohen 1993, 23).

This problem might seem, literally, academic. But it becomes quite serious in societies above the level of satisfying their most basic needs. Here, as Sen recognizes, individual tastes enter (Cohen 1993, 26).

Is there a resolution to these basic dilemmas? One, perhaps, is that there must be a set of basic capabilities common to all human beings: to move about freely, to mate with the partner of your choice, and to live a healthy and productive life (Desai 2000, 49). Beyond that, it may depend on the standards of the society you live in: different in the Lao People's Republic (Lao PDR) and Singapore. In fact, Amartya Sen's theory is a very dynamic notion of freedom, based on positive choice.

If we apply this to cities above the poorest level, we find many people who have little choice, whether or not they fully realize it. They are well nourished and adequately housed and in reasonable health. But beyond this, their options are quite limited, even non-existent. Consider poor children who drop out of school. Their education (or the lack of it) will deny them the "capability" of a wide choice of jobs, or maybe of getting any job at all. They will perhaps have the "capability" to get into taking drugs or even dealing in drugs, and perhaps getting into jail. Bad health may reduce their choice even further. If we consider their sisters, finding themselves with a small child, without adequate income, will certainly reduce their capabilities quite massively. Living in an area which is dangerous, or dirty, or noisy may be physically uncomfortable and psychologically damaging. Further, many of these happenings are cumulative, piling constraints one on the other. People may find themselves in a kind of snakes and ladders game where the ladders seem short and the snakes endless. And choices, made without much forethought (or any thought at all), early in life, may prove to have fatal consequences later on.

So these points are far from academic. People's "capabilities" and "functionings," in an advanced welfare state at the beginning of the 21st century, can mean that things have been done for them, without much conscious effort on their part. But in another sense, they have very little of either: their "life chances" are hugely circumscribed.

All this suggests that it may be much easier to develop objective indexes at a fairly basic level on the development scale, where

these deal with things that may be provided for people, but are valued by virtually all people: life, health, lack of avoidable suffering, the ability to read and write, and basic shelter. It may become much harder later on in the development process, where larger differences in incomes often emerge, and where the effects of different tastes loom larger. Here, value judgments may prove unavoidable: we may determine that more education is good, even though some people may be disinclined to take the opportunity, or that drug or alcohol abuse are bad, though some people think they are enjoying either or both. And indeed, most indexes of human development do make such basic value judgments, whether implicitly or explicitly.

II. APPLYING THE THEORY: MEASURING HUMAN DEVELOPMENT

Sen's theory has been very influential in framing the concept of human development, now the subject of an annual report from the United Nations Development Programme (UNDP).² The United Nations (UN) Human Development Index (HDI), first published in 1990, is designed to produce "real" indexes of development by using a variety of internationally comparable, and therefore "objective," indexes. Slightly different sets are used for developing and developed countries; for developed countries they include

- longevity: life expectancy at birth (female/male); percent not expected to survive to 60;
- knowledge: adult literacy rate; enrollment ratio; female and male rates; adult functional literacy rate; female and male combined enrollment ratio; and
- decent standard of living: adjusted per capita income in purchasing power parity in US\$, male and female shares; percentage of people living below the income poverty line (50 percent of median personal disposal income) (UNDP 1999, 127).

All this suggests that it may be much easier to develop objective indexes at a fairly basic level on the development scale, where these deal with things that may be provided for people, but are valued by virtually all people: life, health, lack of avoidable suffering, the ability to read and write, and basic shelter.

² UNDP *Human Development Report*. Sen confesses that he was originally skeptical about the idea of a single human development index, but now accepts it (UNDP 1999, 23).

In developing the indicators for the CDB, ADB considered a number of objectives. The book must appeal to urban managers and urban development practitioners, so the indicators should measure policy outcomes.

As Sen suggested, the UNDP indexes show no clear relationship to the conventional index of income per capita. Spain, Singapore, Georgia, Turkey, Morocco, and Lesotho all fall within the HDI range between 0.894 and 0.582, yet real GDP per capita in Spain is 8.5 times that of Lesotho (UNDP 1999, 129). Countries with similar GNP per capita, such as Sri Lanka and Côte d'Ivoire (\$700-800/head), can show huge variations in HDI: life expectancies that range from 46.7 to 73.1, adult literacy rates ranging from 42.6 to 90.7, and overall HDI ranging from 0.422 to 0.721 (UNDP 1999, 129, 135-7). It seems that such general worldwide indexes may be better at exposing differences at the lower end of the development scale, than at the top.

But the UNDP indexes are not the only kind. As Chapter 2 shows, the three separate approaches to indicator construction being applied by different agencies are

- *a policy-related approach originating in the social indicators movement of the late 1960s, and now used in the World Bank/United Nations Centre for Human Settlements (UNCHS) Indicators Program and the Global Urban Observatory. Such indicators typically stem from government or community concern in a particular area, and so are closely related to the process of establishing urban strategies and policies. They work by developing a comprehensive inventory of major social goals or norms, and then devising indicators to measure progress towards these goals. They are holistic, looking at the health of cities or sectors as a whole; inclusive, covering areas beyond the realm of a single management structure; and pluralist, intended to foster or inform a dialogue between the different parties involved in urban development;*
- *a thematic/index approach used by UNDP and in State of the Environment reporting. This works by establishing broad themes or concepts rather than specific policy goals, and is not necessarily directly associated with a strategy. Such broad themes, livability, sustainability, or good governance, are not directly observable, but are either multidimen-*

sional, involving different aspects which have different indicators, or may be expressed as indexes or linear combinations of indicators; and

- *the systems approach of the Organisation for Economic Co-operation and Development (OECD), now used to support Agenda 21 and other environmental sustainability agendas. This differs from the policy-driven approach because it begins with a simple, but explicitly physical, model or systems diagram of the city or the environmental system, within which the various actors operate, and in which linkages and causality between various sectors are delineated.*

In developing the indicators for the CDB, ADB considered a number of objectives. The book must appeal to urban managers and urban development practitioners, so the indicators should measure policy outcomes. Specifically, they should address ADB's major strategic objectives, as expressed in its current Urban Sector Strategy, and there should be consultation in establishing them. Because of these considerations, it was felt that the policy-based approach of the UNCHS Urban Indicators Program and World Bank/UNCHS Housing Indicators Program would be most appropriate. It could provide a comprehensive set of indicators, directly related to policy concerns and developed in full consultation. In addition, it has been shown capable of producing a large collection of indicators at affordable cost. Its main disadvantage is that, because it is produced through participation, the issues and the indicators both depend on the expert group that chooses them. There is no systematic scheme that underlies the selection; nor will new indicators be generated. But these were not felt to be particularly decisive in the present exercise.

III. REALITIES OF THE CONTEMPORARY ASIAN CITY

Asia's Urban Challenge

Nowhere is the urban challenge more starkly evident than in Asia. Today, 38 percent of the population is urban; by 2020, the per-

Table 1.1. Urban Population

	Urban Population (%)			Urban Population Growth Rate (%)		
	1980	2000	2020	1980-85	2000-05	2020-25
World	39	47	57	2.6	2.2	1.7
Africa	27	38	49	4.4	4.0	3.0
Europe	69	75	80	0.8	0.3	0.1
North America	74	77	82	1.2	1.0	0.9
Central America	60	67	73	3.1	2.0	1.5
South America	68	80	85	3.1	1.8	1.1
Asia	27	38	50	3.6	2.8	2.0
Oceania	71	70	72	1.4	1.3	1.3
Developing Countries	29	41	52	3.8	2.9	2.1
Developed Countries	71	76	81	0.9	0.5	0.3

Source: World Resources 1998-99.

centage will be 50 (Table 1.1). There will be a doubling of the urban population between 2000 and 2025 with an urbanization rate of around 3 percent per year. Already, there are an estimated 200 million surplus workers in the rural areas of the People's Republic of China (PRC); during the 1980s and 1990s, this surplus labor joined in one of the most massive migrations in world history; perhaps 100 million have moved from farm to city (Anon 1994).

By 2015, the UN predicts there will be 358 'million-person' cities, cities with a population of one million or more, in the world: no less than 153 will be in Asia. And of the 27 'megacities,' with ten million people or more, predicted for the year 2015, 18 will be in Asia (Table 1.2). Urban experts now identify a new phenomenon among these megacities: an agglomeration of perhaps a score of cities of different sizes, formerly separate, still retaining a physical identity, but constituting a population mass of 20, even 30 million people, and highly networked. Dejan Sudjic describes the Pearl River Delta between Hong Kong and Guangzhou as "... the world's newest metropolis—a sprawling monster city still in the throes of a violent birth" (Sudjic 1995, 27). By 2005, he suggests, on present trends it may have 40 million people, the largest urban agglomeration in the world (Sudjic 1995, 30). Other such agglomerations include the Jakarta-Surabaya

corridor, and Japan's Tokaido corridor. In several of these, the problems that arise from sheer size, like supplying basic services, traveling from home to work and disposing of waste, already prove daunting; they are certain to multiply in the coming decades.

These realities are compounded by there being no simple or easy relationship between size, complexity, and level of wealth. Emerging megacities, like Asia itself, cover the whole gamut of development, from very advanced city-states (Hong Kong, Singapore) to very low-income cities that are just beginning on the development path (Dhaka, Phnom Penh). Further, many, though not all of them, exhibit great internal differences in income and living standards: the classic general rule, enunciated long ago by Williamson (1965) (that income differentials increase during the early stages of development, before narrowing again) certainly appears to apply to many of these cities.

Applying the earlier theoretical arguments to this situation, it can be concluded that for many inhabitants of these cities, basic measures will prove robust. Having enough food to eat, living reasonably long, enjoying a decent level of health, learning to read and write, all are measurable and all provide measures of basic quality of life. But beyond basic levels, for some people in many cities and for almost all people in some cities, it increasingly becomes a matter of lifestyle

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After more than three decades of economic growth in Asia, the region remains home to 70 percent of the world's poor, numbered at 900 million.

Table 1.2. Megacities, 1995 and 2015

Urban Agglomeration	Population (thousands)		Annual Growth Rate (%)	
	1995	2015	1985-1995	2005-2015
Africa				
Lagos	10,287	24,437	5.68	3.61
Cairo	9,656	14,494	2.28	1.97
Asia				
Tokyo	26,836	28,701	1.40	0.10
Bombay	15,093	27,373	4.22	2.55
Shanghai	15,082	23,382	1.96	1.85
Jakarta	11,500	21,170	4.35	2.34
Karachi	9,863	20,616	4.43	3.42
Beijing	12,362	19,423	2.33	1.89
Dacca	7,832	18,964	5.74	3.81
Calcutta	11,673	17,621	1.67	2.33
Delhi	9,882	17,553	3.80	2.58
Tianjin	10,687	16,998	2.73	1.91
Metro Manila	9,280	14,711	2.98	1.75
Seoul	11,641	13,139	1.98	0.32
Istanbul	9,316	12,345	3.68	1.45
Lahore	5,085	10,767	3.84	3.55
Hyderabad	5,343	10,663	5.17	2.83
Osaka	10,601	10,601	0.24	-
Bangkok	6,566	10,557	2.19	2.51
Teheran	6,830	10,211	1.62	2.30
South America				
Sao Paulo	16,417	20,783	2.01	0.88
Mexico City	15,643	18,786	0.8	0.83
Buenos Aires	10,990	12,376	0.68	0.50
Rio de Janeiro	9,888	11,554	0.77	0.84
Lima	7,452	10,526	3.30	1.32
North America				
New York	16,329	17,636	0.31	0.39
Los Angeles	12,410	14,274	1.72	0.46

Source: United Nations 1996, 451-456.

and of taste. As argued earlier, this is where the problems arise.

Take poverty, for example. After more than three decades of economic growth in Asia, the region remains home to 70 percent of the world's poor, numbered at 900 million (ADB 1999). Poverty, once measured simply by income, is now seen as embracing multiple dimensions of

- *human capital development*, measured by access to basic education, primary health care and other essential services;
- *gender equality*, by ensuring universal education for girls, providing accessible reproductive health services and increas-

ing economic opportunities for females;

- *social protection*, assisting individuals, households, and communities to manage risks and ensure economic security through old age pensions, unemployment and disability insurance, social safety nets against disasters, economic crises, or civil strife; plus policies to improve labor mobility and enforce labor standards;
- *good governance*, ensuring that essential assets are equitably distributed, public policies and programs are appropriate to human needs, and that there are full opportunities for participation;

- *lack of discrimination*, whether ethnic, cultural, or gender-based; and
- *geographic location* (rural vs. urban) in relation to access to jobs, services, etc.

In practice, some formidable problems have to be overcome. International statistical comparison is notoriously difficult even at the national level; but at the city level, further problems emerge. One is a simple lack of data: the Cities Data Book exercise has been able to collect data for 18 cities. The majority of these achieved collection rates of over 75 percent but in a few cities the collection rates were poor. Definitions of cities vary from country to country; cities in transitional economies, between a socialist planned economy and a market one, exhibit all kinds of unusual distortions in their economic and social structures (McGee 2000, 17).

However, some indicators remain fairly robust and directly comparable: demographic data (total population, birth, and death rates), some measures of economic development, and basic health and educational achievements. Among the 140 indicators in the CDB exercise, many concentrate on such measures, some of them basic inputs (like population), some primary economic outputs. But many other indicators measure processes in the market or the public sector and their outcomes: these include indicators on connectivity, on housing and urban land, on municipal services, on urban environment and transport, and urban governance and management. Quality-of-life measures are distributed throughout the tables: they include homelessness, household utility connections, water consumption, air pollution concentrations, noise complaints, disasters, transport fatalities, and crime rates.

The CDB Database

The 140 indicators are grouped into 13 main divisions, each of which includes a variety of indicators measured in different ways.

Population, Migration, and Urbanization

This first group contains a series of indicators which describe basic demographic and socio-demographic characteristics of the city

population (population, both resident and working; net migration; age structure; household size; household formation rate; and household type). They also include some measures of housing condition (population and households in informal settlements). The 18 cities range enormously in size, from Melbourne with a resident population of only 44,500, to Hong Kong with 6.69 million, and this immediately introduces a major problem of comparison. Like most Australian cities, Melbourne covers only a minute part of the total metropolitan area, whereas Hong Kong includes the entire city-state. Generally, with exceptions, the less-developed cities have higher rates of overall growth and net in-migration from other parts of the country (though the use of absolute numbers can mislead). Also densities appear to vary according to local circumstances, in particular the way boundaries are drawn, so that Hong Kong anomalously appears almost at the bottom of the range. The age distribution, again expressed in absolute numbers, is difficult to interpret. Household size clearly relates to level of development, as does household formation rate, with high levels in less developed cities. Particularly notable are the large variations in women-headed households, where Hanoi at the top of the range demonstrates the continuing effect of Viet Nam War deaths; Phnom Penh, in second rank, also reflects drastic levels of male deaths a generation ago. Household structures again relate to development patterns, with Melbourne showing high levels of one-person households characterizing the modern western inner city, and Bangalore or Hanoi demonstrating largely family-based structures. Particularly notable, finally, are the huge numbers in informal settlements in some of the poorer cities such as Dhaka and Lahore.

Income Disparity, Unemployment, and Poverty

A second group of indicators include measures of economic deprivation including income distribution, poverty, child labor, informal employment, and unemployment. It also includes a policy measure of expendi-

International statistical comparison is notoriously difficult even at the national level; but at the city level, further problems emerge.

It is notable that many of the cities with the highest proportions in poverty are least able to spend money on reducing it.

ture on poverty reduction. Here, the most notable features are the differences in income spread between relatively egalitarian cities like Kathmandu and Seoul, where the top 20 percent averages only three times the bottom 20 percent, and Lahore, where the ratio is 31 to one, and the very low income levels of the bottom 20 percent in Hanoi and Phnom Penh (reflecting the many women-headed households). As a result, the percentage below the poverty line varies from a low of 1.2 in Seoul to a high of 47.7 in Dhaka. Particularly notable is the very high proportion of women-headed poor households in Kathmandu (97 percent) and Naga (53 percent), the large numbers of child workers in Dhaka and Lahore, and the high percentages of informal employment in Bangalore (54 percent), Lahore (60 percent), Dhaka and Suva (63 percent). Predictably, most of these cities have low rates of formal unemployment; the exception is Dhaka, where a 23 percent rate produces the extraordinary total (assuming no overlap) of 86 percent lacking formal employment. Finally, it is notable that many of the cities with the highest proportions in poverty are least able to spend money on reducing it; Dhaka, for example, spends just under \$3.2 per poor person annually.

Health and Education

A third group of indicators specifically measures the society's achievements in health and education covering persons per hospital bed, child mortality, life expectancy, mortality from infectious diseases, family planning, the adult literacy rate, school enrollment rates, graduates from tertiary education, median years of education, and school children per classroom. This group marks a mixture of indexes, some reflecting the level of economic development and social evolution, some more directly addressing the effectiveness of urban (and national) policies in these fields. Consequently, there are some interesting and unexpected results: key health indexes show quite small variations from rich cities to poorer ones (though Phnom Penh falls well behind the others); in places this may relate to a lack of hospital bed provision, but otherwise there is a conspicuous

lack of relationship between these sets of indicators. Family planning appears more closely related to the level of economic development, as is adult literacy, but the latter shows encouragingly high levels generally, as does primary school enrollment (with an anomalous 117 percent in Naga, presumably caused by re-enrollment of older groups). School children per classroom show predictable variations according to development levels, though with many anomalies and there seems to be little relationship with outcome measures.

Urban Productivity and Competitiveness

A fourth group of indicators directly addresses measures of economic development including city product per capita, the structure of employment, household expenditure on main items, investment by sector (basically the public sectors of infrastructure, housing, and services), tourism, a list of major investment projects, the cost of a day's stay, and the number of corporate headquarters. Clearly, the indicators measure different things like the general level of economic development, the efficiency of the private sector, the effect of national macro- and micro-economic policies, and special characteristics such as might attract tourists and corporate headquarters. The city product per capita is the basic index here, and shows large variations, from a low of \$246 in Phnom Penh to a high of \$26,369 in Hong Kong; but most cities appear in a narrower range from \$500 to \$2,000 per head. Figures on employment are difficult to interpret and compare because they appear as absolute numbers, not percentages; household expenditure, easier to interpret, shows characteristic variations according to income; investments show many missing data. The data for tourism show some interesting variations, with some very poor cities (Hanoi, Kathmandu, Phnom Penh) attracting significant numbers.

Technology and Connectivity

The fifth group of measurements also deals with economic development, especially in information and communications technol-

ogy. They include research and development expenditure, telephone traffic (distinguishing local, international, and mobile), and Internet hosts per 1,000 population. The measurements reflect a mixture of state and private investment as well as the general level of economic development; they provide an important set of measures of a city's linkages to an increasingly networked urban world. While somewhat difficult to interpret, being expressed in absolute numbers, this group demonstrates some of the starkest contrasts to be found anywhere in the series, from minimal (Mandaluyong) to highly developed (Hong Kong).

Housing

Housing represents one of the most basic of human needs, but this group of measurements is concerned less with measures of housing size or quality (which are partly addressed in the next series); it is concerned more with land use and land costs, including the ease of obtaining land for development.

Included in this group are basic housing measures, including dwelling type, tenure type, house prices and rents, available area, financing of house purchase, the production of new housing, treatment of squatter settlements, government expenditure, and homelessness. These partly measure government policies and commercial activity, and partly outcomes in housing quantity and quality. Notably single-family homes dominate in a few cities (Cebu, Hanoi, Medan, Naga), but apartments dominate in Bishkek, Hohhot, and Hong Kong. Particularly notable is the high proportion of owner-occupied housing in many cities, both rich and poor. Generally, house prices and rents are within an acceptable range of income (understandably, given the poverty of many cities), but there are some anomalously high values in a few cities, notably Phnom Penh. More sophisticated housing indexes are often lacking; homeless people are not generally significant in number, with the stark exception of the 70,000 in Dhaka.

Urban Land

The land use data are again very difficult to compare because they are expressed in ab-

solute areas, not percentages; some cities (Lahore, Phnom Penh) show large amounts of land awaiting development, presumably reflecting lack of demand, and some of these also have large areas of vacant government land. Most cities process planning applications within one to two months, but Bangalore and Medan are conspicuous exceptions. Prime rentals vary hugely, but this is by no means clearly related to the level of economic development; the Melbourne figure is dominated by the CBD.

Municipal Services

Here are several sub-series of indicators for water, electricity, sewerage/wastewater, telephone, and solid waste collection that measure the delivery of basic services, whether by the public or private sector. They are presented as far as possible uniformly: statistics are given, where available, for connections, investment per capita, operations and maintenance expenditures, cost recovery, productivity of staff, providers, unaccounted delivery and service interruptions, consumption, and median prices. These measures are quite heterogeneous including very basic indicators (like connections and per capita consumption) as well as a much wider variety which measures the efficiency and effectiveness of the providers. Water consumption varies significantly, from a low of 32 liters per day in Phnom Penh to a high of 302 liters in Melbourne; there appears to be no clear relationship to levels of development, to the percentage of households connected (which, with the exceptions of Dhaka, Medan, and Ulaanbaatar, is generally high), or to price (which is extremely low in some transitional cities, and high in Cebu, Dhaka, Lahore, and Naga). Electricity, like water, reaches the great majority except in Phnom Penh. However, the performance of electricity utility organizations varies startlingly, with cost recovery figures ranging from 0.02 percent (Bishkek) to 213 percent (Hong Kong), while productivity shows equally startling (and inexplicable) variations. Finally, though supply is generally reliable, three cities (Bishkek, Cebu, and Lahore) report outages of more than 100 hours a month. Sewage

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Car use for the work trip varies from zero in Hanoi and Kathmandu, to nearly 55 percent of trips in Melbourne, and is clearly related to car ownership which ranges from one per thousand in Hohhot to 341 per thousand in Melbourne.

and wastewater connections show much greater variations, from a low of zero in Naga and Cebu, to a high of 98 percent and over in Hong Kong, Melbourne, and Seoul. Investments are also highly uneven, and cost recovery and productivity measures again show large variations from city to city.

Telephone services, also reported earlier, vary greatly in percentages connected, from a low of 9 percent in Hohhot and Dhaka, to 99 percent in Hong Kong and Melbourne. However, some of the variations are difficult to explain by development level. Solid waste collection is more widely available, save in Bangalore, with a number of cities reporting 100 percent collection; cost recovery again varies, as does productivity.

Urban Environment

This group of indicators relates closely to the last, since it includes measurements of solid waste generated, solid waste disposal, household sewage disposal, and wastewater treated. It also includes measurements of air pollution, energy use, noise complaints, and damage from natural disasters. It is again a heterogeneous group, partly measuring the scale of the problem, and partly the effectiveness of public services in handling it. Solid waste generation does not show major variations; most households in most cities are connected (as already noted), and the few exceptions appear to use septic tanks. Most cities use landfills as the main means of disposing of their solid waste; incineration records zero values, but the three cities (Dhaka, Melbourne, and Seoul) succeed in recycling 30 percent and more. Unfortunately, most environmental indicators are lacking for most cities, so comparison is difficult.

Urban Transport

This group of indicators basically measures traffic, both of people and goods: it includes data on mode of travel to work, median travel time, car ownership, port and air activity, and goods carried by different modes. It also includes some indicators that effectively measure the impact of public policies: expendi-

ture on roads, road congestion, cost recovery from fees, and transport fatalities. As might be expected, there are some large variations related to level of development. Car use for the work trip varies from zero in Hanoi and Kathmandu, to nearly 55 percent of trips in Melbourne, and is clearly related to car ownership which ranges from one per thousand in Hohhot to 341 per thousand in Melbourne. Public transport conveys 87 percent in Hong Kong, 86 percent in Medan, 80 percent in Bishkek, and 75 percent in Colombo. Bicycles carry 91 percent in Hohhot and 29 percent in Hanoi but zero in some cities (Colombo), where significant use might have been expected. The great majority of median travel times fall in the 25–45 minute range. Finally, accident rates are generally low except for Ulaanbaatar. Figures for freight traffic are largely lacking.

Cultural

This is the most unusual group of measures. As distinct from seeking to provide comparable statistical indexes (though participation in sports is included for some cities), it simply lists attendances at each city's leading attractions during the year. Some of these are ongoing, others (such as national independence days) are time-limited. Because of its nature, this group is difficult to compare.

Local Government Finance

This group of indicators measures a variety of input and output measures, including sources of city revenue, capital and recurrent expenditure, collection efficiency for property taxes, debt service charge, employment, wages, and measures of computerization of city government functions. These relate to other indicators that analyze the performance of local government, and they reveal sharp differences. Taxes range from over 85 percent of total revenues to zero in Kathmandu, with most cities falling into the 40–65 percent range; a few (Kathmandu, Naga, Phnom Penh) depend for a majority of their revenue on transfers. Capital spending per person shows extraordinary variations, from negligible levels to over \$1,000

annually. However, most cities fall in a narrower range of between \$3 and \$20 a year; likewise, recurrent expenditure is mainly in the \$25–\$150 range per head, with Melbourne and Hong Kong spending \$680 and \$3,171, respectively. Reported collection efficiency ranges from lows of between zero percent and 10 percent (Kathmandu, Lahore, and Mandaluyong), to highs (for most cities) of 70 percent and more. Employment and percentage of wages in budget show considerable variations, with some cities (Colombo, Lahore, Phnom Penh, Suva) spending more than 50 percent of their budget on wages. Finally, most cities, rich and poor alike, have computerized most of their functions; the intriguing anomaly is Bangalore, India's high-tech capital.

Urban Governance and Management

The final group of measures is again large and highly heterogeneous; it includes data about local government functions, voter participation, independence from higher levels of government, council members, representation, planning applications, a variety of indexes directly related to quality of life (business and consumer satisfaction, perception of the city as a place to live, reported crime), indexes on access to city information and contact between city administration and the public, and the existence of decentralized district units.

Local government functions vary greatly. Bishkek, Hohhot, Hong Kong, Mandaluyong, and Medan are responsible for all listed services. At the other extreme, Melbourne has minimal responsibilities. Most cities appear to offer the majority of services. Voter participation varies greatly, from 100 percent in Hanoi, Hohhot, and Melbourne (where it is compulsory) down to 14 percent (12 percent for women) in Lahore. Data from higher government is sketchy; in general, few cities have much independence, though Colombo and Hohhot are exceptions.

In most cities councilors are elected, though in Bishkek, Hong Kong, and Kathmandu they are exceeded by nominated council members, and Phnom Penh has no

representatives at all. Particularly notable is the low proportion of women members in most cities. Colombo and Lahore make specific provision for representing minorities.

Unfortunately, most quality-of-life data (business satisfaction, consumer satisfaction, and perception of the city as a place to live) are mostly unavailable. It was not possible with the resources available to carry out a perception survey to improve on the quality-of-life data. Reported crimes show great variations, for reasons that sometimes may be statistical artifacts (thus, Melbourne's anomalously high figure of 449 per thousand must reflect its domination by the CBD). Otherwise, with a few exceptions (mainly involving drug-related offenses), crime levels in most cities show little variation, with the exception of Suva.

Contact with the public varies from zero to extraordinarily high levels (and the attendance levels in Mandaluyong, 840,000 in a single year, are highly unusual). Generally the levels are modest.

IV. INTERPRETING THE CITIES DATA BOOK

The CDB interprets the statistics in two main ways. First, it seeks to correlate the different indicators and the results are fully reported in Chapter 5. There are some significant correlations. The City Development Index (CDI) seeks to aggregate all the different measures into five groups (Infrastructure, Waste, Education, Health, and Product), then dividing the result by five. Predictably, the results show a close correlation with average household income ($R=0.846$) and with the UN's HDI (-0.895),³ as well as with a number of other indicators which are related to income, including household structure, housing floor area, and Internet access.

Second, the CDB has sought to produce a statistical cluster analysis of the 18 cities. Rather predictably, perhaps, this produces four groups of cities: three highly-developed

Finally, most cities, rich and poor alike, have computerized most of their functions; the intriguing anomaly is Bangalore, India's high-tech capital.

³ The CDI gives high values to places at the top of the scale, the HDI the reverse; therefore, the negative value of the correlation.

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(Melbourne, Hong Kong, and Seoul); four medium-development cities (Mandaluyong, Naga, Suva, and Cebu); four transitional-economy cities (Bishkek, Hohhot, Hanoi, and Ulaanbaatar); and seven low-development cities (Kathmandu, Lahore, Bangalore, Colombo, Medan, Dhaka, and Phnom Penh). Particularly evident, in this grouping, is the close relationship between the CDI and the UN's HDI. Further, many of the individual measurements cluster neatly within the categories, though with some anomalies as reported in the commentary above. For instance, the percentage of households below the poverty line is higher in medium-development Mandaluyong and Naga than in low-development Colombo and Phnom Penh; and the percentage in informal employment is higher in medium-development Suva than in low-development Kathmandu or Colombo. As already observed, many other indexes (health, education) are now reasonably uniform between cities at different levels, and therefore do not provide a solid basis for statistical clustering. Better correlations, of course, exist with obvious measures of development like car ownership and use, and telephone or Internet hosts per 1,000 population, and these clearly have figured largely in the clustering process.

Assembling and then synthesizing a database of this kind is a massive enterprise, involving huge practical problems: of basic definition and comparability, of data availability, and of aggregation and synthesis. Difficult enough in the most advanced cities possessing the largest and most sophisticated data, the task becomes next to impossible in trying to introduce cities that have less-developed statistical systems. The authors of this volume deserve the plaudits of the worldwide community of urban observers, first for having the temerity to try to achieve this near-impossible task, and then for succeeding—not marginally, but rather brilliantly.

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CHAPTER 2:

URBAN INDICATORS AND THE MANAGEMENT OF CITIES

Peter Newton

I. DATA COLLECTION

The enormous challenges for those who manage cities include providing adequate urban services and amenities, alleviating urban poverty, designing new infrastructure, establishing systems of governance, and revitalizing slum neighborhoods. These challenges are multiplied when growth is rapid and continuous, where there are critical shortages of capital, skills, and information, and where levels of poverty and inequality are extreme. All these factors exist in Asia.

Shortfalls in Data Collection and Availability

A serious problem for urban policy making has been the lack of appropriate data at the city level. Major economic data for measuring the health of the urban economy, like city product, investment, income disparity, and financial status and other data for measuring the living condition of the city, like infrastructure service levels and environment, are not available or are seldom collected in comparable frameworks. The lack of data is especially frustrating for the typical situation where city staff are trying to manage rapid growth with few human, technical, and financial resources.

In many places data collection has not been coordinated with policy needs. Expensive statistical collections undertaken in many countries are seldom used, while key information for policy is rarely collected. In other cases, an “information glut” may occur, where large quantities of data sit unanalyzed because

of the expense and complexity involved, and the incapacity to identify the best uses of the data. Finally, data may be collected by different agencies in a variety of often incompatible forms and without the knowledge of other parties; duplication of effort is common.

The Need to Build Capacity

There is an urgent need to build indicators capacity at all levels of government

- to collect useful information on urban conditions and trends;
- to analyze this information to improve access to and coverage of basic services and other urban infrastructure;
- to improve targeting and operational performance of services; and
- to apply that knowledge in formulating and implementing urban policies and programs.

This needs to be coupled with a growth in local capacity and advocacy, a cadre of development professionals responsible to the local level and equipped with a full suite of tools and techniques. It also requires a move from central control towards monitoring and accountability under agreed national targets and priorities.

The development of indicators systems has been a prime response to the need for monitoring in devolved systems within the context of national or regional plans or international agreements. Developing policy with responsive indicators for all stakeholders has been a cost-effective solution to monitoring in the devolutionary context, with the adoption of enabling responses to local problems.

A serious problem for urban policy making has been the lack of appropriate data at the city level... The lack of data is especially frustrating for the typical situation where city staff are trying to manage rapid growth with few human, technical, and financial resources.

With private sector participation expanding in the operation of infrastructure and services, there is increased need for performance indicators as an input for regulating private companies.

Within the context of urbanization and decentralization, the need for improved capacity at the local level coupled with improved systems of urban data and indicators has become essential. As control moves to lower levels, it is increasingly more important to monitor performance to ensure directions follow national planning goals and that sufficient information is available for local and central planning decisions. Developing capacity to provide a range of functions at the local level is an important adjunct and prerequisite for a successful decentralization strategy. With private sector participation expanding in the operation of infrastructure and services, there is increased need for performance indicators as an input for regulating private companies.

How to begin to meet these challenges in an integrated and coherent manner has become a focus for key international development agencies, national governments, municipalities, nongovernment organizations and others across the public–private spectrum. Assembling information for decision making is a key starting point.

Performance measurement and monitoring for citywide and metropolitan development trends and strategies is relatively new. The importance of cities and metropolitan regions in economic terms within the global economy is leading many national and multinational agencies to realize that the benefits of world trade, technology, and innovation can only be captured if cities and metropolitan regions are well placed to exploit them. Consequently, there is a growing need to monitor and evaluate metropolitan performance in a comparative context as a mechanism to improve city competitiveness and functioning.

Indicator Initiatives

Some international indicator initiatives under way include

- the United Nations Centre for Human Settlements' (UNCHS) and the World Bank's (WB) Global Urban Observatory;
- the Asian Development Bank's (ADB) and WB's urban development strategies, in-

cluding sectoral benchmarking studies and assessments of the impact of the Asian crisis;

- Agenda 21 and sustainability indicators supported by environmental agencies; and
- health indicators and urban governance, as well as other initiatives in monitoring, evaluating, and setting policy.

There are many other national and local indicators initiatives relating to funds allocation, policy evaluation, competition for investment, or local empowerment. The private sector is involved in indicators in reporting to shareholders and customers, and through the industry regulatory functions already noted. Benchmarking and quality control movements arose originally in the private sector.

There is also a wide range of other indicators initiatives under way in many countries, which seek to provide a quantitative basis for

- needs-based resource allocation from higher to lower levels of government;
- performance evaluation and organizational management, including benchmarking and minimum performance standard setting;
- local indicator sets arising from various communities' desire to empower their citizens, or from public organizations to inform their clients and other stakeholders; and
- comparative reports on the performance of various cities, which are useful in attracting investment and establishing credit security for local borrowing.

These more ad hoc approaches are now widely entrenched in government circles in developed countries, with most government agencies' annual reports now containing performance criteria and an assessment of progress toward meeting these objectives.

II. URBAN INDICATORS FRAMEWORKS

Definitions

In Arabic the word for indicator means *pointer*, which describes how an indicator is intended to point towards some desirable state or course of action. Each indicator is actually a kind of

small model in its own right, implying elements of cause and effect, of social norms that constitute progress, and of policy actions and outcomes.

The main difference between indicators and other kinds of data is that the connection with policy is, or should be, explicit. Indicators are about the interface between policy and data. Much more time is usually spent working out what kind of data to collect and why during indicator activities than in purely statistical exercises. The people developing and collecting the indicators are more often operational data users and policy analysts rather than statisticians.

The relationship between data, statistics, and indicators is shown in Figure 2.1.

At the bottom level of the data triangle are raw data, or information. These data are usually assembled into statistics, which often take the form of tables, or other partially organized data frameworks. These tables are not generally of much value in their own right for policy, since a majority of people cannot read large tables or perceive the importance of the results; and they require further interpretation and analysis.

The next step of organization is indicators, which are usually single numbers, mostly ratios, such as the unemployment rate or the economic growth rate, which permit comparisons over time and space and have normative and policy implications. Finally at the top level of data organization are indexes, which are combinations of indicators designed to measure the overall health or progress of the object of study. The consumer

price index (CPI), gross domestic product (GDP), and Human Development Index (HDI) are all well-known indexes.

Indicators are not data, rather they are models simplifying a complex subject to a few numbers which can be easily grasped and understood by policymakers and the public. They are required to be user driven, and are generally highly aggregated, so that changes or differences in the value of an indicator may be more important than its absolute level.

The main types of indicators usually encountered in policy are

- *performance indicators*, which measure aspects of the performance of organizations, sectors, or cities, and are intended to identify which departments, districts, or policies are meeting desirable aims;
- *issue-based indicators*, which are intended to draw attention to particular issues. Common examples of issue-based indicators include crime and safety, unemployment, urban sprawl, air quality, etc.; and
- *needs indicators*, which measure need or deprivation, and generally aim to allocate resources to the most needy target groups. Poverty and deprivation indicators are major examples of needs indicators.

Indicators are also classified according to the framework being used to construct the indicators system. A number are in common use.

Conceptual Approaches

The Choice of Indicator

The major initiatives for developing indicators have used three main conceptual approaches. These are

- *a policy-based approach* that had its roots in the social indicators movement of the late 1960s, and was subsequently modified and developed by the WB/UNCHS Indicators Programme and the subsequent Global Urban Observatory;
- *the thematic/index approach* used by United Nations Development Programme (UNDP) and in *State of the Environment* reporting; and

The main difference between indicators and other kinds of data is that the connection with policy is, or should be, explicit. Indicators are about the interface between policy and data.

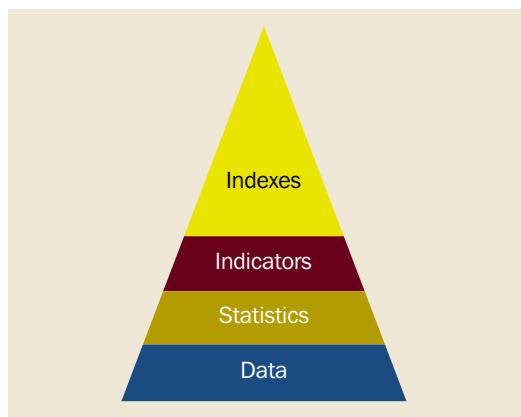


Figure 2.1. The Data Triangle

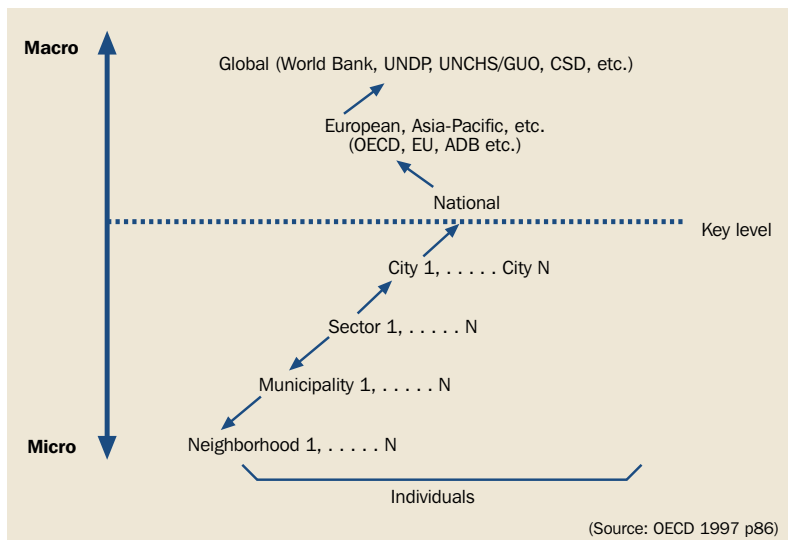


Figure 2.2. Spatial Scales and Indicators

There is a whole range of potential users for every class of indicator, including city and national policymakers, citizens, researchers, the private sector, and international agencies

- the *systems approach* originally promoted by the Organisation for Economic Co-operation and Development (OECD) and used widely to support Agenda 21, *State of the Environment* reporting, and environmental sustainability agenda.

There is, however, a range of frameworks employed within and outside these main-streams (see the review by Maclaren (1996), for example). One way of categorizing these indicators frameworks is by asking six questions about the environment in which indicators development takes place:

- Who are the indicators for? There is a whole range of potential users for every class of indicator, including city and national policymakers, citizens, researchers, the private sector, and international agencies (UNCHS 1994, Vol. 1, contains a stakeholder analysis). However, there tends to be a dominant class of user who will own or use the indicators.
- What are the indicators for? What is the principal use and rationale for developing these indicators?
- What is the urban perspective? Is the city regarded largely as a political entity of interacting stakeholders, as a developing entity meeting goals associated with broad themes, as a physical system in which the stakeholders operate, as a system of control and accountability, or as

a set of units and processes seeking best performance?

- What is their scope? Do individual records apply to particular organizations or target groups, to themes, to socioeconomic sectors, or to the whole city? Is the city confined to the central municipality, the metropolitan jurisdictions, or the functional urban region? What is the coverage of the full collection? A number of the major collections have sampled the whole world, particular regions, countries, and single cities or municipalities. Figure 2.2 shows the range of indicator applications at macro and micro levels.
- What is the political and organizational context? Do the indicators form part of a political dialogue between different parties? Are they intended to measure and compare development progress? Or are they intended for various internal organizational processes, such as performance review, budget setting, or process improvement?
- By whom are they developed and implemented? Are the indicators issued by fiat, by groups of experts, or generated through a consultative process involving stakeholders? Is it a top-down or bottom-up process?

Table 2.1 shows the main frameworks and how they relate to these questions.

These frameworks are described in succeeding sections, along with examples showing their strengths and weaknesses.

Policy-Based Systems

Strategic policy-based frameworks are associated with issue and goal-based indicators, typically emerging as a consequence of government or community concern in an area. The earliest systems of social indicators such as those developed by Bauer (1966) and other authors involved preparing a comprehensive inventory of major social goals or norms, and devising indicators to measure progress toward these goals. Many subsequent indicator development exercises follow a similar procedure, as applied to cities or economic sectors.

The key features of these broad policy-based indicators systems, as opposed to the

Table 2.1. Indicator Frameworks

Framework	For whom	Purpose	Scope	Context	By whom	Example
Policy-driven	City planners, Policymakers	Dialog between policymakers and stakeholders	City or sector	Political, pluralist	Stakeholders, experts. Ideally, both directions	UNCHS
Theme- or index-driven	Development professionals	Comparative	Theme or metaphor	Development	Experts Top down	UNDP
Systems	Experts advising policy	Sustainability	City or theme	Physical	Usually top down by experts	State of the Environment
Performance	Policymakers	Accountability	Sector	Managerial	Bureaucracy Top down	Program budgeting
Needs-based allocation	Central policy-makers	Resources for target groups	Target groups	Budget setting	Bureaucracy Top down, may be negotiated	Asian Crisis Thailand
Bench-marking	Middle management	Efficiency	Organization	Units	Employees Bottom up	Best practice

These frameworks will be described in succeeding sections, along with examples showing their strengths and weaknesses.

management performance indicators systems discussed below, is that they are holistic, or intended to look at the health of cities or sectors as a whole, inclusive, covering areas beyond the realm of a single management structure, and pluralist, intended to foster or inform a dialogue between the different parties involved in urban development. They are also largely driven or integrated with the process of establishing urban strategies and policies.

Indicators and Strategic Planning

The relationship between indicators and strategic plans is represented in Figure 2.3.

The methodology has been formalized in indicators development activities such as the UNCHS/WB urban indicators system (UNCHS 1994-96). A set of underlying norms can be established which represent the perspective of the owners of the indicators; for example, at the broadest level “poverty is bad,” “people should have a good quality of life,” or “cities should be managed well”; or at the narrower level, “people should have enough food to sustain life,” “crime should be eliminated,” or “decentralized management is preferred.” These norms can be used to draw up a system of objectives and indicators which can then be developed to measure progress towards the objectives. An action plan is also developed, to operationalize the strategy, with the aim of meeting the objectives and

improving or meeting targets for the indicator values.

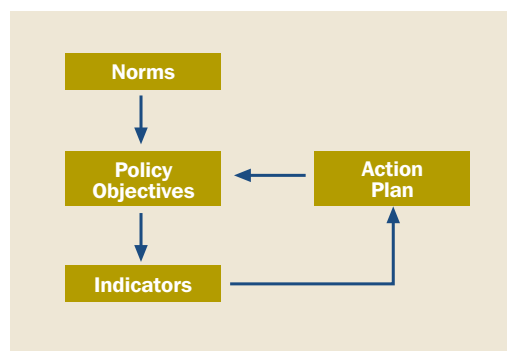
This management by objectives methodology has become widespread and underlies most strategy documents (though the indicators are not always made explicit). A key aim of the indicators approach is to ensure the seamless integration of indicators with policy; no policies without indicators, and no indicators without policies.

It is usually a fairly straightforward task to integrate indicators with existing strategy documents. An example of the method used in the context of the Thai Eighth Plan is shown in Table 2.2.

The lessons to be drawn from this exercise are that

- *most goals in a strategic plan have some sort of performance criteria attached, to*

A key aim of the indicators approach is to ensure the seamless integration of indicators with policy; no policies without indicators, and no indicators without policies.

**Figure 2.3. Policy Indicator Model**

One of the major requirements of an indicators system is comprehensiveness, but indicators taken from policy documents are rather ad hoc compared with, say, annual reports of government agencies, which normally have specific, comprehensive goals and monitoring criteria such as performance indicators.

Table 2.2. Spatial Themes of Thai Eighth Plan 1996: Summary of Population Issues

Goal	Indicator *
Population geographically distributed in concert with development potential	- population distribution - assessed development potential *
Family planning where birth rates remain high	- family planning rate - birth rate
Youth provided with occupational skills	- expenditure on training - youth unemployment
Credit services and funds developed in rural areas	- number and amount of funds - rural/urban borrowing per person
Information on jobs and commodities widely disseminated	- expenditure on awareness programs - survey of awareness
Hospital networking system	percent patients treated in institutions with appropriate facilities
Financially assist children in disadvantaged areas to stay at school	- retention rate - amount of payments

Note: (*) These indicators are not part of the Thai Eighth Plan, but are purely for demonstration purposes.
Source: Taken from Flood (1999b), based on Norconsult (1997).

- which indicators can often be readily assigned. These indicators are invaluable in determining whether progress is being made and whether the strategy is working or is based on sound premises;
- *some goals are of the “motherhood” type*, and cannot be operationalized since they are either too vague or outside the ambit of government control. Indicators may provide a useful screen to eliminate these goals; and
 - *some goals are of a process nature*, requiring setting up particular structures or improving coordination. These types of goals can be monitored through a checkbox approach, a list of outcomes, or a description (as with some indicators in the CDB). Other goals may only be monitored through demonstration projects.

Overall, strategy documents are useful as guides for indicators, but are usually too broad-based to devise complete indicators collections. This is because they are vision documents rather than summaries of the most important issues, and tend to ignore the more mundane concerns that are essential to monitoring. One of the major requirements of an indicators system is comprehensiveness, but indicators taken from policy documents are rather ad hoc compared with, say, annual reports of government agencies, which normally have specific, comprehen-

sive goals and monitoring criteria such as performance indicators.

Stakeholder Consultation Model

A stakeholder consultation approach asks, “What is a well-functioning city?” and establishes a list of norms as part of a facilitated meeting of stakeholders. The procedure is then to establish a comprehensive list of concerns and associated policy objectives, to prioritize these concerns by various means, to develop policy aims associated with these concerns, and ultimately to integrate the indicators with the process of policy development, monitoring, and revision.

The approach seeks to represent all major concerns or norms in human settlements from the viewpoint of each major group of stakeholders in the arena, and to develop indicators which will measure progress toward achieving each policy norm. This has the advantage of taking a community-based, holistic approach to indicators which explicitly recognize the distinct views of different actors. The methodology is also very explicit about including only indicators for which some policy action may be taken.

This indicators framework is driven largely by the policy process, by the need to incorporate the often conflicting views of different players in the policy arena, and by utilizing indicators during policy and strategy development, during monitoring of out-

comes, and during strategy reformulation and redirection. The advantages of the model are the highlighting of possible alternative viewpoints, the association of particular indicators with particular strategies and outcomes, and the incorporation of indicators as part of general policy development.

The methodology has been extended and refined to use standard facilitated meeting procedures, including brainstorming, prioritization, and small groups in a variety of contexts, usually as expert group meetings or more broadly-based participative workshops of stakeholders and policymakers. The methodology was used to construct an urban indicators reporting system for Habitat II. Subsequently, the Global Urban Observatory at UNCHS (Habitat) is attempting to create a worldwide network of local urban observatories which would conduct locally-driven indicators activities and document best practices in local governance.

Other Policy-Based Indicators

There are examples of broad policy-driven indicators systems at the international, national, and local levels, and many of these can be located on the Internet (see Appendix 1). Many state and local governments and agencies are involved in publishing indicators that cover the broad sectors in which they are involved and these are occasionally associated with urban strategies:

- The Auditor-General's Department of Canada, for example, has established a framework for developing performance measures for sustainable development strategies which stresses policy correspondence and the principle of alignment—the idea that there must be direct linkages between the strategic objectives set by the department and the objectives, action plans, and measures of each of its work units.
- The provincial government of Alberta, Canada, publishes an annual report *Measuring Up*, which contains 25 core performance measures related to 17 government goals and the Government's three core businesses: people, prosperity, and preservation. The report provides

residents with comparative performance assessments such as the following goal.

GOAL 1: Albertans will be healthy

Core Measure: Life Expectancy at Birth

Target: The life expectancy of Albertans will be among the highest in the world. In 1996, Japan had the highest life expectancy for both females (83.6 years) and males (77 years).

Results: In 1997, the life expectancy of Alberta females was 81.3 years and for males it was 76.1 years.

- The City of Calgary, at the metropolitan level, releases a separate report, *Performance Measures*, with each annual city budget. The objective is to present a balanced scorecard of the city's performance.
- The performance indicators were a key component addressing a different set of objectives of neighborhood revitalization initiatives in Los Angeles, California where a long range strategic plan was established in 1995 to improve both the residential and business climate of the downtown area (Table 2.3). Other local initiatives are described under Sustainability Indicators.

Theme and Index Approaches

Related to the policy-driven systems are a range of indicator initiatives which are essentially based on establishing broad themes or concepts rather than specific policy goals, and are not necessarily directly associated with a strategy. These broad themes such as livability, sustainability, or good governance are not directly observable, but are either multidimensional, involving different aspects which have different indicators, or may possibly be expressed as indexes or linear combinations of indicators.

Index-Driven Approaches

Deriving indexes of national or city performance and using these as a framework for

Many state and local governments and agencies are involved in publishing indicators that cover the broad sectors in which they are involved and these are occasionally associated with urban strategies.

Urban metaphors have also emerged in recent years as a source of powerful city-based goals, and are frequently featured in city promotional literature. Metaphors are often abstract representations of complex phenomena (such as cities) designed to deliver a message with maximum impact upon a particular audience.

Table 2.3. Neighborhood Revitalization Performance Targets for the Year 2020, Downtown Los Angeles, California

Goal	Strategy	Performance Measure	Performance Target
Strengthen Downtown as a mixed-use neighborhood	Increase available housing units near and within Downtown	Number of new mixed-income housing units built	18,000 units built on the outskirts; 24,000 built within Downtown proper
Create job opportunities through neighborhood investment	Cut unemployment rate	Number of new jobs created through investment in infrastructure, marketing, and promotion	110,000 jobs created
Strengthen the local business economy	Attract new businesses or help existing business expand	Percentage of office vacancies	30 percent vacancy rate
Strengthen the local retail economy	Increase local retail space available	Additional square feet of retail space	2.4 million square feet added

Source: *Council for Urban Economic Development* (1999).
A number of other local initiatives are described under Sustainability Indicators in Appendix 1.

collecting indicators has become an important methodological approach which receives wide publicity.

An important index-driven approach is from UNDP, which has been publishing its *Human Development Report* since 1990 (see Appendix 1) The report initially began with a single index of HDI, which was intended to simulate the social welfare function of a city and measure what Amartya Sen has called “capability poverty” (Chapter 1). The HDI has components (subindexes) of income, education, and health and has been increasingly simplified. Countries are ranked by their index value, which is compared with a ranking based on GDP alone. Subsequently, a range of other indexes and statistics has been included, including a poverty index and a gender equality index. Each of these represents a single theme or concept for which policymakers seek to have a single value for comparison. Human development reports for individual countries have sometimes used the same methodology (for example, the *Human Development Report of Thailand* (UNDP 1999) calculates indexes of human development for all 75 Thai provinces).

Other indexes have been commonplace in providing city comparisons, such as *Asiaweek’s* competitiveness index, which compares some major Asian cities, and ZPG’s (1990) Urban Stress Test in the United States (US). Indexes are generally derived ad hoc, or by using statistical data reduction tech-

niques. An early example of the latter is from Brian Berry (1980) who categorized world and US cities using factor analysis. Flood (1997b) extended HDI in this manner to form a City Development Index (CDI) which as well as the usual HDI subindexes of income, health, and education includes subindexes for infrastructure and waste management. CDI, along with several other indexes, is used in this book.

Urban Metaphors

Urban metaphors have also emerged in recent years as a source of powerful city-based goals, and are frequently featured in city promotional literature. Metaphors are often abstract representations of complex phenomena (such as cities) designed to deliver a message with maximum impact upon a particular audience (Siber 1995). Spatial metaphors have been used to powerful effect in the market, in public policy, and in academic polemics. Examples include “information superhighway,” “better cities,” and “livable city.” Their heritage is well established in urban analysis, where metaphors represent important guides for thinking about the present and likely future working of cities. They frequently attract considerable debate and the rich content of the associated literature can be explored to provide new insights into how a city functions. A representative sample of urban metaphors is presented in Table 2.4.

Various cities, for example the City of Melbourne, have developed reporting and indicators systems under headings such as

- a human city,
- a sustainable city,
- a prosperous city,
- an innovative city, and
- an efficient and effectively managed city.

In developing countries, the concerns have tended to be more direct and basic, like how to reduce poverty, improve incomes, infrastructure, and governance. Indicators systems have tended to follow these clearly identified concerns.

Poverty, Governance, and Competitiveness Indicators

The two concepts of poverty and governance are of paramount concern in development, and substantial effort has been expended in developing measurement and recording systems for poverty in particular (see Flood (1999a) for a recent review of the poverty literature, and Kakwani (1980) for a technical coverage of estimation issues). Most of the indicators in this book are related either to poverty reduction or to improved urban governance, however defined, and it is intended that both indicators and the urban profiles should guide readers on these topics.

Poverty Indicators

Poverty reduction is now the principal objective of the key multilateral finance and developed organizations, including WB, UNDP, and ADB. However, unless a clear understanding of poverty can be given, it is difficult to ascertain whether antipoverty programs are effective. Poverty can be simply defined as a lack of the basic necessities of life, but this begs a number of questions such as, what are the basic necessities, and how is a lack of such necessities to be defined? The most common way is to use income as the measure of poverty, to set a poverty line and define those households, families, or individuals below the line as being in poverty. Country-specific definitions of poverty and poverty lines are used in this book. The level of extreme poverty, defined as an income level of a dollar a day per person at local

Table 2.4. Urban Metaphors as Sources of Urban Indicators

Key Issue	Urban Metaphor
Environment	Ecological City (OECD 1995) Sustainable City (Newman et al. 1998) Exploding City (Devas and Rakodi 1993) Megacity (Hall 1998) Compact City (Jenks et al. 1996)
Economy	Human Innovation City (Maillat 1991) Information City (Castells 1991) Entrepreneurial City (Gaye 1996) Competitive Cities (Brotchie et al. 1995)
Social well-being	Livable City (Pressman 1981) Multicultural City (Sandercock 1998) Health City (see Appendix 1) Safe City (Oc and Tiesdell 1997) Whose City (Pahl 1975; Harvey 1973) Divided Cities (Fainstein et al. 1992) Likable City (Nasar 1998) Convivial Cities (Peattie 1998)
Governance	Designer Cities (Corden 1977) Intentional Cities (Jensen 1974; Troy 1996) Creative Cities (Hall 2000)

Source: Newton et al. 1998.

purchasing power parity, has also been estimated for the cities.

Other procedures range from, at one extreme, defining poverty as being below the starvation line or being malnourished, sometimes referred to as absolute poverty, to widely-drawn definitions which seek to include a lack of empowerment or access to basic human rights, within the ambit of poverty. For example, Amartya Sen's "capability poverty" approach, which looks more at a long-term inability to gain the necessities through lack of education or ill-health, a lack of access to basic services, and diminished quality of life, has been adopted by UNDP as a rationale for its HDI.

Governance Indicators

Governance is an even more elusive concept to measure, and attempts to develop general governance indicators, apart from normal organizational performance measurement and benchmarking activities, have not been particularly convincing. It is proposed that governance is about the way things are done rather than what is done or even what are the outcomes. The components of good governance, which are somewhat subjective, are generally taken to be

The two concepts of poverty and governance are of paramount concern in development, and substantial effort has been expended in developing measurement and recording systems for poverty in particular.

Some highly industrialized countries, most notably Canada, the Scandinavian countries and Australia, as well as various communities in the US, have established systems of indicators for sustainable development or livability. This has been part of a move away from purely economic definitions of well-being toward a more holistic or sustainable approach.

- *transparency* (no corruption, public scrutiny of decisions);
- *accountability* (taking responsibility for decisions);
- *participation* (mechanisms to involve people in the decisions that concern them);
- *planning and predictability* (a statutory regulatory framework and forward plans); and
- *efficiency and effectiveness* (achieving desirable results with minimum resources).

Stability and the rule of law, fairness and equity, planning and predictability, empowerment, and progressiveness may also be included.

Only efficiency and effectiveness are easily measurable; the remaining components require data that are of their nature difficult to gather, or are subjective. Some attempts to do this have been made, for example, Transparency International's *Corruption Index* (see Appendix 1), the result of questioning businessmen, or Estes (1988), *A Social Progress of Nations*, which attempts to list procedures and breaches of governance.

Competitiveness Indicators

Competitiveness is another theme that has had great appeal to city managers in attracting business, as well as to international development agencies and the private sector. WB maintains a useful Competitiveness Database as well as a Poverty Monitoring Database (see Appendix 1).

Many city websites contain indicators considered to be of advantage to firms wishing to locate there. However, the most substantial competitiveness methodology can be found in the annual *World Competitiveness Yearbook* from the International Institute for Management Development (see Appendix 1), which ranks 47 countries by 290 criteria using hard data collected through partner institutions, and subjective data from an opinion survey sent to over 3,200 executives worldwide. The types of indicators are structured by competitiveness input factors and subfactors, as shown in Table 2.5.

The *Yearbook* calculates various subin-

dexes as well as an overall competitiveness scoreboard, and engages in considerable analysis and simulation, for example, on the best place to locate various facilities and activities.

Companies such as *Fortune* magazine and *Asiaweek* annually rank cities on their performance across a range of indicators that relate to "what is best for business." *Fortune* indicators include workforce (flexibility, quality), proximity to markets, local attitudes to business, quality of local education, air connectivity, costs (housing, labor, taxes, floorspace), and efficiency of transport and highway systems (Huey 1991).

Sustainable Development

Some highly industrialized countries, most notably Canada, the Scandinavian countries and Australia, as well as various communities in the US, have established systems of indicators for sustainable development or livability. This has been part of a move away from purely economic definitions of well-being toward a more holistic or sustainable approach.

Sustainability, often taken as a much broader concept than simply maintaining the environment, is used to reflect the whole overlay of economy, society, and environment. Themes such as population, poverty, labor market conditions, crime, and governance have been considered to fall under the sustainable urban development umbrella, to the point where it can actually be used as an encompassing framework for all urban indicators (but always with an environmental slant).

Sustainability has also been associated with nonmonetary measures of national product and poverty, including "green accounting." Sweden, for example, has developed various indexes of livability which move away from the old poverty-line approach of measuring well being. More economically advanced Asian countries such as Japan; Hong Kong, China; Singapore; and Republic of Korea have also felt that it is time to move away from a production or normative approach in issues such as housing, to a "quality of life" approach that looks at the impact of government policies or community activity on

Table 2.5. Competitiveness Input Factors

Domestic Economy	Internationalization	Government	Finance	Infrastructure	Management	Science & Technology	People
Value added	Current account balance	National debt	Cost of capital	Basic	Productivity	R&D expenditures	Population characteristics
Investments	Exports of goods & services	Government expenditure	Availability of capital	Technological	Labor costs	R&D personnel	Labor force characteristics
Savings	Imports of goods & services	Fiscal policies	Stock markets dynamism	Business	Corporate performance	Technology management	Employment'
Final consumption	Exchange rate	State efficiency	Banking sector efficiency	Energy	Management efficiency	Scientific environment	Unemployment
Economic sectors performance	Portfolio investments	State involvement		Environmental	Corporate culture	Intellectual property	Educational structures
Cost of living	Foreign direct investments	Justice and security					Quality of life
Adaptiveness	National protectionism Openness						Attitudes and values

Source: *World Competitiveness Yearbook 2000*.

the whole person. Thailand also is working at present on a livable city concept.

No country is as yet using a formal system of sustainability or livability indicators to be applied generally to urban areas, although in many cases such indicators are embedded in policy. Such a general system will be unlikely in the developed countries, because of a change of emphasis away from centralized control and toward citizen empowerment. But many individual cities have embraced the concept and are putting forward sustainability plans, practices, and indicators (Appendix 1).

The Systems Approach

The systems approach differs from the policy-based approach in beginning with a simple but explicit physical model or systems diagram of the city or the environmental system, within which the various actors operate, and in which linkages and causality between various sectors are delineated.

Pressure-State-Response

The framework developed and popularized by OECD (1994) for *State of Environment* reporting has emerged as the most widely used indicator framework for environmental reporting. The P-S-R framework represented an advance in environmental indicators de-

velopment by introducing the idea of cause and effect relationship covering human pressures on the environment, actual states of the environment, and the responses which may be undertaken to alleviate environmental damage. The categories include

- *pressure*, which relates to policies, programs, or activities (generally human) that affect the environment like mode of travel, housing density, and price of energy;
- *state*, which is the observable condition of various aspects of the environment for a defined place like categories of air pollution and vehicle kilometers traveled; and
- *response*, which is action taken to respond to impediments to sustainable development. They may reduce or intensify the impacts like car parking charges, and air quality standards.

The P-S-R model has been subsequently revised and extended:

- *driving forces* include major socioeconomic activities (Kjellstrom and Corvalen 1995, p. 149), or what Newton et al. 1998 have termed exogenous or macro influences on human settlements, for example, industrial structure of nation/region, technological sophistication, and capital flows; and
- *implications* involve making quite specific statements about the economic, so-

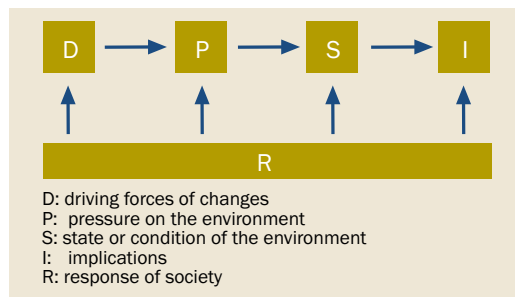


Figure 2.4. The DPSIR Causal Indicators Framework

cial, and ecological implications of continuing the identified environmental trends (Yencken and Wilkinson 2000), extending in some cases to suggested policy responses.

A diagrammatic representation of the causal model is given in Figure 2.4.

While the P-S-R model is a useful framework to apply to any environmental indicators set, with its focus on human causes and responses, it has some acknowledged shortcomings because

- it accommodates human but not ecological responses (Hamblin 1998);
- it distinguishes vaguely between pres-

sure, state, and response, and depends on the underlying policy direction. For example, “New Housing Starts” is a pressure from the perspective of use of resources, a condition when assessing the state of the housing industry and a response from the perspective of housing shortages or homelessness;

- it lacks the inter-generational perspective and normative (goal-orientated) approaches to future paths of development inherent in sustainability frameworks; and
- it applies uneasily to human settlements because of their dual character (Newton et al. 1998). Settlements constitute a significant environment in their own right with a range of human livability dimensions in addition to the physical dimensions. These can be intrinsic to the immediate urban setting, its hinterland (like receiving waters, or regional airsheds), or wider ecological footprints.

The Extended Urban Metabolism Model

Several of the limitations of the P-S-R model for urban indicator development have been

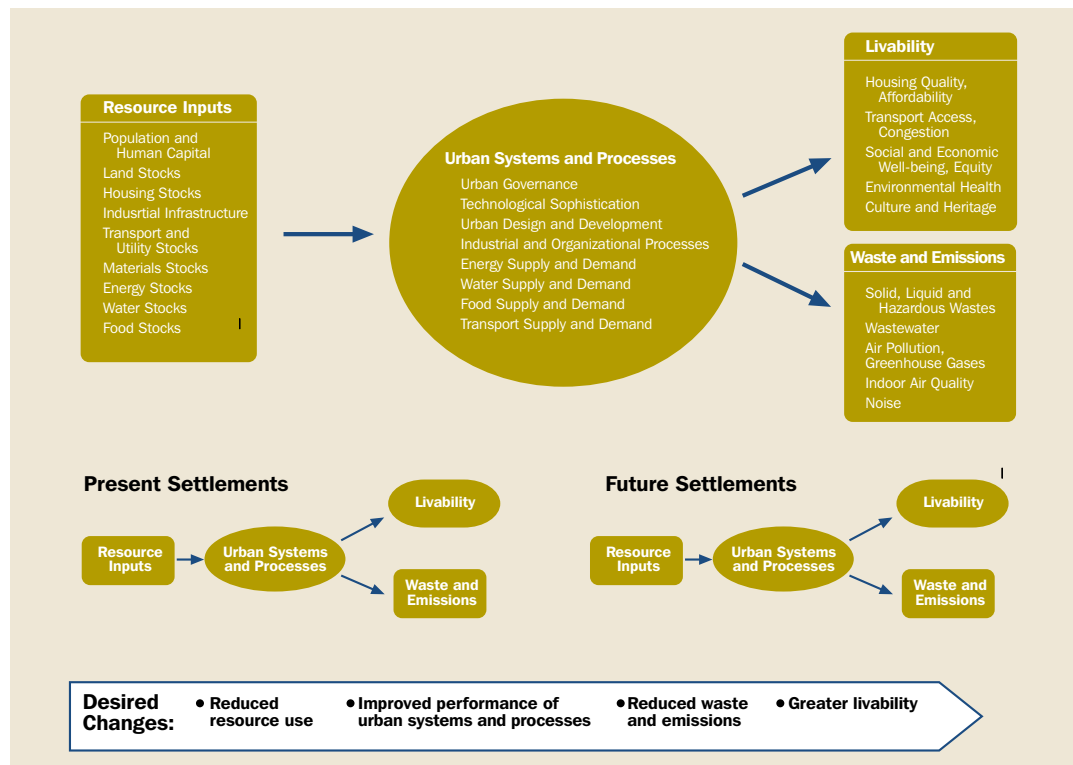


Figure 2.5. Extended Urban Metabolism Model Framework

Source: Adapted from Newman et al. 1996.

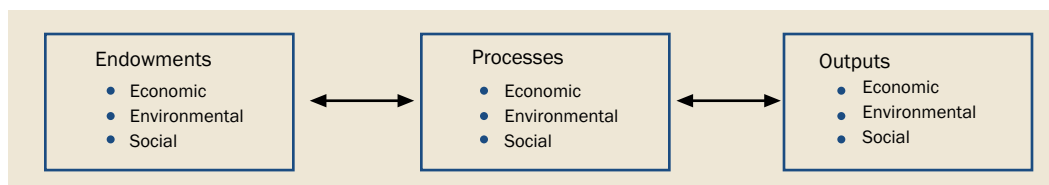


Figure 2.6. Sustainable Development Indicators Framework

Source: National Aeronautics and Space Administration, Working Draft Framework for Selecting Sustainable Development Indicators 1996.

addressed via the Extended Urban Metabolism Model Framework (EUMM) developed by Newman et al. (1996), which makes explicit the notion of livability and reinforces the normative concept of improved environmental outcomes over time (Figure 2.5).

The EUMM views cities as systems that require inputs of key resources (stocks) which are drawn into their resident domestic, industrial, and governmental urban processes to produce two key sets of outputs. One of these is a human-orientated built environment, which can be characterized through a range of indicators that range from adequacy of infrastructure, to environmental, health, and social well-being of the inhabitants. Goals for this “livability” dimension are to improve over time. The second set of outputs relates to emissions and waste flows. The goals for this dimension are to diminish flows over time.

As such, the EUMM is more closely aligned with the concept or paradigm of sustainable development, where future orientation, sustainability goals, targets, and linkages among economic, social, environmental, and cultural factors are made explicit (Figure 2.6). The EUMM also has merit in addressing most of the key domains for urban indicator development.

A related systems approach is used by the WHO Healthy Cities Project which has a strategic policy element, but also uses an appreciation of causality in health programs and outcomes (see World Health Organization 1992. *Twenty Steps for Developing a Healthy Cities Project*. Copenhagen. WHO Regional Office for Europe) (see Appendix 1).

Domains

Within industry sectors, a systems-type approach to indicators is to use domains which

flesh out in a comprehensive, almost theoretical fashion, the key elements of each domain area and their interrelationship and linkages. This process was followed in recent *State of the Environment Reporting for Human Settlements in Australia* (Newton et al. 1998) and a report by Alberti (1996) involved with conceptualizing urban sustainability. Figure 2.7 is an example of a domain model developed for indicators of environmental health. It provides for a conceptualization of the domain into its major components, giving guidance on potential linkages between indicators. Indicators can then be selected which represent these causality chains.

Development of domain models for the key development sectors has not been done for this project, but would be a worthwhile next step.

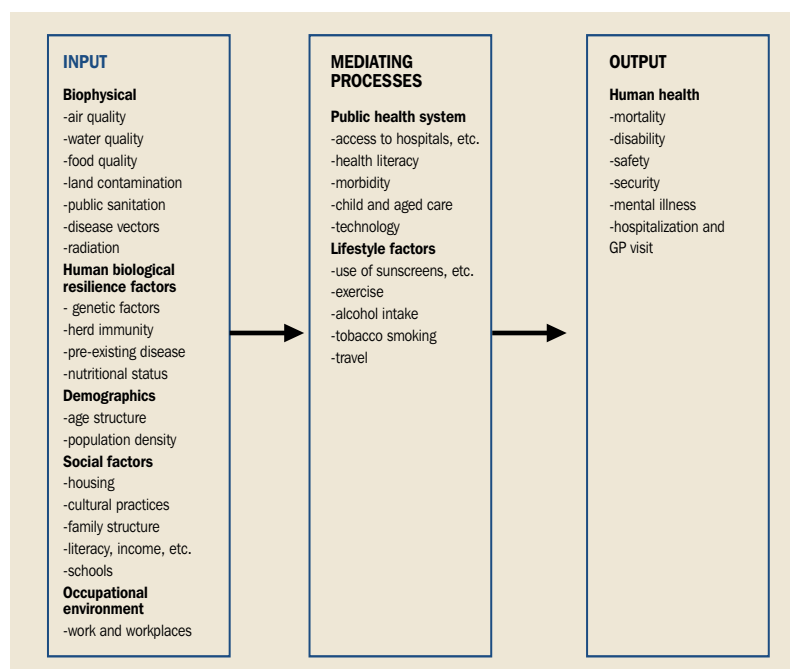


Figure 2.7. Domain Model for Environmental Health

Source: Newton et al. 1998. p.48.

Poverty indicators are the most commonly used form of needs identification, and much work has been undertaken on methodological issues and frameworks for developing them

Needs-Based Allocation

The equitable and effective allocation of funds is a key concern for central funding bodies including multinational funding agencies. Some organizations have chosen to automate the allocation process using systems of indicators. Incentives may also be provided to firms to relocate to areas of perceived need based on indicators, that is, areas of high unemployment.

Poverty indicators are the most commonly used form of needs identification, and much work has been undertaken on methodological issues and frameworks for developing them (UNDP 1999). There are substantial programs of fund allocation which use such indicators. For example, some \$4 billion of Asia crisis funds from the International Monetary Fund and other donors was allocated to provinces in Thailand in 1998 based on poverty incidence indicators.

The European Union allocates large amounts of regional funds based on poverty and other needs-based criteria among and within its member countries. Centrally planned economies also allocate regional funds based on quasi-indicator systems, possibly combined with negotiation. Housing funds are allocated spatially in the United Kingdom and also in several programs in Australia using needs indicators, and similar sectoral systems have been developed in many parts of the world. Education funds have also been given to schools in many places, for example, Australia, based on perceived deprivation, indicators of school facilities, and measures of socioeconomically deprived students.

Local indexes of socioeconomic disadvantage are regularly published in some countries, usually based on factor analysis procedures (see Appendix 1). These indexes are used by policymakers to establish targets and priorities, and by business to establish target localities for retail sites and marketing.

Performance Measurement Indicators

Since the early 1990s there has been a resurgence of indicators activity related to perfor-

mance measurement of public agency programs and projects (see Poister and Streib 1999, and Perrin 1998 for a review of earlier initiatives). The recent key drivers have been the influential books *Reinventing Government* (Osborne and Gaebler 1992) and *The Gore Report on Reinventing Government* (Gore 1993), which call for developing outcome-orientated indicators systems capable of providing data for establishing and assessing public sector goals and targets in the context of agency management and accountability, strategic planning, economic development program evaluation, customer satisfaction, and city competitiveness (Council for Urban Economic Development 1999). This movement corresponds with the growth of private sector participation in infrastructure and service provision during the 1990s.

The suite of indicators employed in performance measurement include

- *inputs*, including budgets, staffing, etc.;
- *outputs*, including workload measures such as number of arrests, patrol miles, etc.;
- *outcomes*, including crime rate, resident satisfaction, compliance rates, etc.; and
- *efficiency*, including average time or cost per inspection conducted per kilometer of road, water, infrastructure, etc.

The agencies where such indicators have been applied are widespread. In local government, performance measurement indicators (PMIs) have been employed across departments such as police, fire, solid waste, public transport, health, and social services to assess areas such as workload, outputs, and efficiencies. City governments have also developed performance indicators to assist with assessing the rate of success of major projects, such as urban revitalization programs (see Austin's 1998 case study of Cleveland's "turn-around," where sets of indicators were developed to monitor progress around the four key themes of downtown development, neighborhood revitalization, economic rejuvenation, and quality of life).

At the international level, organizations such as WB, UN, and ADB are at varying stages of developing and implementing performance measurement programs for their ur-

ban sector activities. Cook et al. 1995, in a review of performance measurement in multinational agencies, indicate that PMI systems should

- *use results or outputs* rather than being solely orientated to executing annual operational work plans (assessing only inputs and workload);
- *involve host governments and contractors* to build understanding, consensus, and commitment to common goals;
- meet the needs of multiple stakeholders (citizens, governments, private sector, etc.);
- *involve regular data collection and reporting* over time, and monitor, compare, and benchmark; and
- *define clearly the objectives, targets, and goals* of the program at the outset.

In Asia and the Pacific region, many organizations are employing PMIs. In those countries which have adopted full systems of program budgeting, such as Australia, virtually every public agency annual report contains objectives, performance indicators, and other measures of whether objectives are being met.

Sectoral Reviews

There are increasing examples of PMI use at national, state (provincial), municipal, and private sector levels. In some cases, rather than a single organization, a whole sector has been covered. Sectoral reports afford the ability to drill down within a particular sector to establish how it is operating in relation to key parameters of performance, and where possible make comparisons on performance over time and with equivalent sectors in other countries.

A prime example of a single sector indicators report is that conducted by ADB on the water sector (*Second Water Utilities Data Book* ADB 1997). It compared private and public water utilities in 37 countries, across a set of over 40 indicators and for two periods. A similar report was also done on electricity utilities.

Reports such as these constitute important reference documents for utility managers to assess performance and establish strat-

egies and management practices that can direct efforts towards achieving desirable outcomes. For example, reducing unaccounted for water loss—as high as 63 percent in Hanoi and as low as 6 percent in Singapore; increasing coverage of water supply; reducing consumption; and extending metering.

The US Department of Transport has also developed PMIs to assist in managing the nation's transport, while at the same time providing a model which is useful for state and local use. They monitor access (which determines how easy it is for people to reach their destinations or business to reach their markets and suppliers); quality of service (via measures such as travel time, speed, cost, reliability, safety) and efficiency (economic use of resources including congestion, and intermodal efficiency).

Extensive privatization and devolution for urban service provision in some countries have led to a changed role for government departments associated with that sector, in moving from direct provision to a facilitation, monitoring, and regulating role which requires comparative performance indicators. For example, where social housing is now provided in a community management model or through housing associations, in the United Kingdom (UK) and the Netherlands, a system of sectoral performance indicators has been developed which serves the accountability role of providing national monitoring data, as well as informing clients of the performance of their housing associations.

Some countries including New Zealand, UK, and US have extensively privatized public utilities, requiring public watchdog or regulatory agencies to be established (see Appendix 1). For example, virtually all utilities provision in the Melbourne Metropolitan Area is now contracted out to private companies or between wholesale and retail suppliers, as in the US. A watchdog authority, the Regulator General gives annual indicator-based reports on these suppliers' financial and technical performances.

Some countries have national industry review bodies tasked to make detailed reports and recommendations on particular industry sectors, and in the case of the

Extensive privatization and devolution for urban service provision in some countries have led to a changed role for government departments associated with that sector, in moving from direct provision to a facilitation, monitoring, and regulating role which requires comparative performance indicators.

A substantial research
program of
benchmarking in ADB is
looking at comparative
local government
performance in various
aspects of service
provision.

Productivity Commission in Australia, to conduct annual performance reviews by sector using a fixed system of indicators. The Australian National Audit Office provides *Better Practice Guides* and financial information for Commonwealth authorities (see Appendix 1). Performance indicators are available (see Appendix 1).

Various other sectoral performance indicators are maintained in the region, for example, schools in and judiciary statistics in Hong Kong (see Appendix 1).

All broad indicator systems have of necessity a sectoral emphasis, simply because the sources of data are usually organized according to government departments; for example, transport and communication, housing, employment, health, social welfare, finance, environment, culture, and heritage. However, recently, some major national indicator development efforts, such as attempts by the Australian and UK governments to develop strategies for sustainable development across several sectors, have specifically been organized along sectoral lines (Productivity Commission 2000; Department of the Environment Transport and the Regions 1999), and involve separate reports for each sector.

The limitations of some sector-based reporting structures is their narrow focus, restricted to those areas for which departments are already accountable. This may fail to capture the complexity inherent in major urban areas and the interrelated nature of the sectors, for example, the link between housing, location of jobs, travel/transport, energy use and air quality. However, they usually detail the operation of individual sectors which may be absent from more holistic approaches.

Benchmarking

Benchmarking relates to best practice, and is a method for organizations to improve their performance in key areas of practice. It originated in the private sector for improving international competitiveness, but has now extended to many public sector agencies and is often combined with elements of industrial participation. There are now extensive benchmarking networks and resources avail-

able for those seeking best practice examples and information.

The benchmarking process involves locating those areas needing improvement, deciding on indicators to measure performance, finding other organizations that have better or the best performance on these indicators, and adopting or adapting the practices of these organizations that lead to the better results.

Benchmarking initiatives are being sponsored by international organizations to establish best practice in public utilities. A substantial research program of benchmarking in ADB is looking at comparative local government performance in various aspects of service provision.

Benchmarking is sometimes confused in government agencies with setting minimum performance targets for client groups. It is normally a bottom-up process related to quality control that originates from the perception of management and employees as to which organizational areas need improvement, while minimum performance standards are for top-down evaluation and accountability.

The Choice of Indicators Framework

None of the urban indicators studies undertaken and published are identical. The possible exceptions are those major projects, of which this is an example, where there is a common indicator set and methodology established for use by all participating agencies or consultants. There is significant evidence of convergence, however. Notwithstanding that most major indicators studies have sponsoring agencies that reflect their identifiable strategic objectives, it commonly proves necessary to use a “combination framework” which brings together key elements of two or more of the “specialist” frameworks described in earlier sections, consolidating the advantages and minimizing the limitations of each.

The choice of indicators to be developed in the CDB reflects the decision taken to target ADB’s Urban Sector Strategy, shown in Appendix 5. A summary of the Strategy’s strategic objectives and the themes with which

indicators should be concerned is shown in Figure 2.8. The overall objective can be classed as sustainable urban development. In summary, the preferred combination framework includes a policy-based framework, an index-driven approach, and performance measurement indicators. The rationale for this choice is as follows:

- *Policy-based framework gives the discipline of management by objectives needed to implement urban strategies, that is, no policies without indicators, and no indicators without policies.*
- *Goals that are too vague or not within government control can be eliminated through the policy-based approach.*
- *The policy-based approach allows for consultation with a wide variety of stakeholders. The approach seeks to identify all major concerns of stakeholders, and to develop indicators which will measure progress toward meeting each policy norm.*
- *Cities are interested in comparing with other cities concepts and standards of livability, sustainable development, good governance, attraction to business, and other themes. In such cases it will be important to develop index-driven approach in areas such as standards of infrastructure, socioeconomic conditions, congestion, competitiveness, and connectivity.*
- *PMIs are becoming increasingly important in both the drive for more efficient public services and the regulation of privatized industries and services. The key components addressed in either case are inputs (budgets, staffing), outputs (workload measures), outcomes (resident satisfaction levels), and efficiency (average cost of inspection per kilometer of infrastructure).*
- *PMIs can also be used for detailed review and comparison of individual plant and service levels (ADB's water sector reports).*
- *PMIs can help build understanding, consensus, and commitment to common goals between the public and private sectors, using regular data collection and reporting, as well as monitoring, comparison, and benchmarking.*

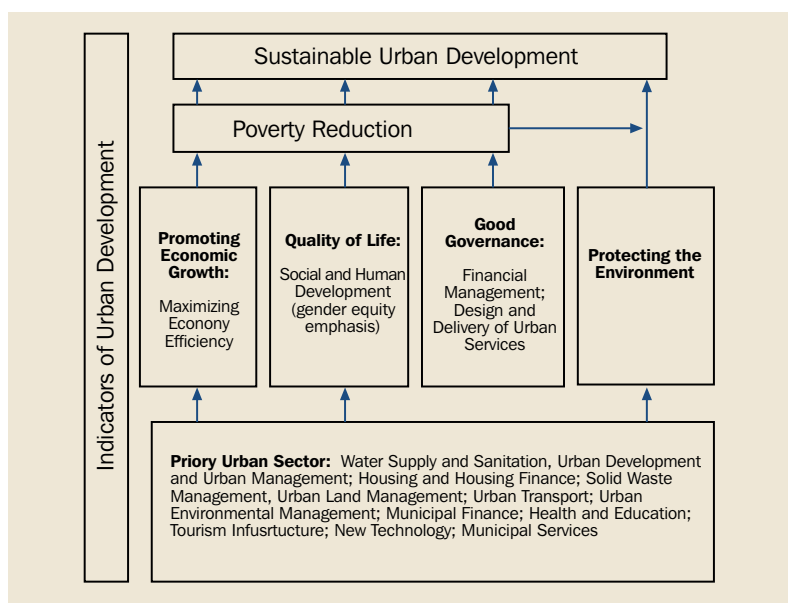


Figure 2.8. Domains and Indicators Within the Framework of ADB's Urban Sector Strategy

III. SELECTION OF CDB URBAN INDICATORS

Establishing the Urban Indicators System

Having determined the broad indicators frameworks for ADB's Urban Sector Strategy as well as city managers and other users, the next task was to select the indicators for the CDB. The book itself grew out of policy concerns to create tools to monitor the performance and decision-making capacity of individual urban administrations. Its general aims were (i) to develop a consensus with participating cities for which data would be most useful for policy setting and evaluation; (ii) to establish key indicators for monitoring and evaluating cities; and (iii) to establish a network of cities that can communicate experiences and share best practices in the delivery of urban services, policy development, and data management.

As part of the Cities Data Book exercise, ADB considered a number of objectives:

- *The outputs must appeal to urban managers and urban development practitioners, and contain information valuable to their professions.*
- *All indicators should measure policy outcomes and allow comparison among cities.*

In summary, the preferred combination framework includes a policy-based framework, an index-driven approach, and performance measurement indicators.

The ultimate goal of creating such an urban database then is to build capacity of the local governments, develop methodologies for measurement and evaluation, monitor effectiveness and efficiency of service delivery, determine effective investments and growth strategy, and promote interaction and information exchange among cities.

- *The book should be easy to read and well presented with graphical and descriptive elements.*
- *The indicators must be concerned with ADB's major strategic objectives, as expressed in the current Urban Sector Strategy (ADB 1999; ADB 2000).*
- *The indicators should be established through consultation.*
- *The number of cities involved should be limited to 18.* For each city, a profile would describe the city, its historical, economic, and political context, equity issues, service provisions, and governance.
- *A wide range of city types should be included* to represent the varying conditions of Asian cities.
- *The actual coverage of the indicators should cover all the main issues* which would provide a full data review of the cities, subject to budget limitations. This was agreed to and would provide experience and pointers for future editions.
- *The overall city performance in various sectors and across sectors should be measured by various indicators.*

The ultimate goal of creating such an urban database then is to build capacity of the local governments, develop methodologies for measurement and evaluation, monitor effectiveness and efficiency of service delivery, determine effective investments and growth strategy, and promote interaction and information exchange among cities.

Creating the database had three phases. In the first, a preliminary version of the questionnaire designed to collect urban indicators was used in Mandaluyong, Philippines. The second phase involved an experts group meeting of city administrators who gave inputs for the final selection of the indicators and the collection of data from the 18 cities. This phase also involved a written report or city profile on various features of each city. The third phase involved presentation of the data, formulation of the theme chapters on measuring human development, the role of urban indicators, and comparison of the city database. A key phase in the preparation was conducting the experts group meeting consisting of city and stakeholder representa-

tives. The group first established the main sectors or themes to be investigated (through brainstorming and prioritization), and the criteria for indicator selection. Separate small groups then drew up a list of indicators relating to each question, often taken from a long list provided by the organizers, but new indicators were sometimes suggested. A vote was next taken by the whole group on which indicators have the highest priority. Subsequently, the results were assembled by the organizers, generally following the directions of the meeting, but also adding or modifying indicators for completeness or ease of collection, or to meet overall organizational directions. Afterwards the resultant system was sent to the participants for review and comment.

Appendix 2 contains the report of the workshop held in September 1999. The report shows the sectors, the criteria used for selection, and the prioritized indicators. The final set of indicators is organized into 13 thematic groupings which are mainly sectoral. There are 140 indicators, including 16 lists or descriptions, two checkbox questions, and 122 quantitative indicators, of which 29 require multiple answers for a total of 234 numeric data items per city. Requiring multiple answers is slightly misleading for the effort involved, as the multiple indicators generally contain information from the same source, whereas some of the single indicators require the consultants to assemble multiple pieces of information from multiple sources.

Implementing the Data Collection Exercise

Agreement to participate in the indicators collection exercise was obtained from each city, and from national government focal points where necessary. Consultants in each city were usually selected from several suggested by each local government, and were given materials to assist them to complete the indicators collection. They were also required to provide some pictorial material, and to write a draft city profile, making use of the indicators and other materials to provide a picture of the city and its operation.

With the greater penetration of computer

technology in developing countries over the last five years, the materials provided differed from the style of the two earlier collections. Instead of a single instrument which provided indicator descriptions and boxes to enter indicators and notes, the country consultants were provided with a kit which consisted of

- an *Excel worksheet* in which the indicators were to be entered;
- a *Notes and Sources MSWord template* to enter details about data sources, intermediate data in calculations, time series, lists or definitions, explanations of why indicators could not be collected, and any other explanations or caveats about the numbers provided. Consultants were also encouraged to comment about the process and any difficulties they encountered;
- a separate *Instructions and Definitions* document which detailed each of the indicators tabulated under headings: Definition, Warning Trend, Significance, Collection Problems, and Alternative Collection Methods; and
- a small *Visual Basic Calculations Assistant program* which performed more complex calculations relating to four special indicators, showed how divisions were to be performed in the large number of indicators that involved standardization, and provided compounded annual growth rates.

For more efficient communication, virtually all communications with the consultants were by e-mail rather than post or fax through intermediaries. About half the consultants were diligent and timely, presenting excellent results and detailed notes in accordance with instructions, along with well-constructed city profiles which made full use of the indicators. In some cases the consultants came forward with original suggestions for estimating indicators for which no direct data were available. The data were assembled and corrected in an Excel database.

Constraints and Problems in Data Collection

Unlike standard statistical collections, the philosophy underlying urban indicators data se-

lection is that they must be “good enough for policy purposes.” It is necessary to keep in mind the multivariate characterization of the indicators. The total picture of each sector and of the city as a whole is more important than a highly accurate value for any one variable, and highly inaccurate values for all others. In most cases, an approximate result or a best estimate by a group of experts is very much to be preferred over no result, and may guide improved future collection methods. The data should otherwise be the best and latest available, and should be fully documented.

A major constraint on implementing the indicators collection is the frequent absence of current data at the city level, as noted in Chapter 1. In some cases the exact territorial limits of the city and administrative unit may not be precisely established. In addition, there may be important differences between cities in responsibilities for data collection. For example data on landownership may be collected by city administrations but searches for data on immigration or trade may have to rely on national figures, reworked to indicate regional or local differences. Thus the shared responsibility for data collection between national and local government administrations may greatly affect the range and quality of data.

However, many indicators can be enumerated directly from existing surveys or from administrative city records, and most of the key indicators have been selected with this in mind. Other indicators can be readily extrapolated from national figures or updated by varied approximation methods, and these techniques are generally sufficient for policy purposes.

Almost all the consultants are practitioners and data users such as planners, government officials, and consultants, rather than statisticians. This is in the spirit of the data selection, which puts the possible application of the data in front of the data itself, and which often requires indirect estimation methods or expert estimates rather than official figures. This does, however, put an extra load on the collection team, which ultimately has to perform many of the standard statistical duties in assembling an accurate and comparative collection, such as data

The total picture of each sector and of the city as a whole is more important than a highly accurate value for any one variable, and highly inaccurate values for all others.

The quality or quantity of data in no way corresponded to the level of development of the city.

verification and reconciliation with other sources.

Every consultant initially produced some estimates for some indicators that could not be maintained, which did not follow the guidelines, or which involved inaccurate computation. The data and communication effort required to weed out extreme or inaccurate values and to fill in blanks was substantial, first in locating the source of errors, second in completing indicators for which the consultants did have sufficient information, but had not made the final step in calculating the indicators. The detailed Notes and Sources proved invaluable in both cases.

Following the dialogue with consultants, some missing data were filled from other sources such as the ADB's *Second Water Utilities Data Book* or with national data from standard sources, particularly where it was desired to calculate indexes. Ultimately, about 85 percent (70 percent for Seoul and 60 percent for Dhaka) of all database items were filled for the cities in the CDB.

The quality or quantity of data in no way corresponded to the level of development of the city. High income cities tended to have more problems in meeting the requirements of a harmonized collection, due to the idiosyncratic nature of their developed statistical systems and the greater reluctance of consultants to make estimates. By contrast, in poorer countries where development agencies are routinely involved, there tends to be plenty of development-related data collected which accord with international norms.

Potential sources of unreliability were identified for each indicator in the Instructions and Definitions document. In general the sources of error concern

- *geographical scope*. It was decided at the outset to collect data at the local government level where possible. However, in the cases of Melbourne and Mandaluyong which form part of much larger urban areas, and which have particular roles as CBD and outer business node, respectively, some indicators such as persons per hospital bed or local government expenditure per resident may be misleading, while others such as air-

port use or city product can only be calculated meaningfully at the level of the whole urban area.

- *history of the cities*. It is important to understand the historical context of individual cities in explaining differences. For example none of the central Asia economies have yet permitted individual land-ownership and therefore comparing their land market situation with cities in the market economies is inappropriate.
- *political context of the city*. There is a need to recognize the political relationship of the individual city with other administrative units. Thus ten of the 18 cities surveyed are capitals and as national centers enjoy various advantages in urban management.

Another example is the degree of independent decision-making capacity at the level of the urban unit.

- *poverty and the informal sector*. For poorer cities that have a significant component of their population living or working in the informal sector, there are real difficulties in generating reliable data about this population. That many of the economic activities carried out in the informal sector are classified as illegal means reliable figures may not exist for this sector.
- *different categories*. The social variables that have categories, such as housing tenure and family type, tend to be collected under different categories in different places, and consultants were reluctant to make estimates of the missing data, often lumping under "Other" categories that did not appear to immediately match the stated definitions. "Households with children" and "women-headed households" caused some problems.
- *different data collected*. In some cases closely related data to that which was required was collected, for example, "minutes of telephone calls" rather than "number of calls," or "total telephone connections" rather than "number of houses with a telephone".
- *more difficult concepts*. Consultants had trouble with more abstract concepts,

such as “net migration,” often giving just the gross figures. The relationship between city product and household income was poorly understood.

Indexes

There is increasing interest in using indexes for varied purposes by city governments, private sector interests, research bodies, and others. Creating indexes, either statistically or ad hoc, has always been part of indicators practice, whenever analysts have sought a single number to measure a particular concept.

The City Development Index

The CDI parallels the HDI at the city level, combining city product with health, education, infrastructure, and waste management components. It has been shown that the CDI correlates very strongly with many variables of particular interest in development, better than the national HDI or the city product. And it gives a meaningful ranking of cities in the development spectrum (see Appendix 1).

Because the variables used to make up the CDI are highly collinear, there are different ways to calculate it that give almost identical results. For this present book, rather better and more extensive data have been collected than for the original study, and a new formulation of the index has been made which is better harmonized with UNDP’s current definition of the HDI, and mostly uses the same formulas as in UNDP (1999).

Indexes are formed by normalizing the component variables (giving them values between zero and one) and then taking a

weighted average. For meaningful ranking of cities, they require data which are essentially complete and which are robust and precise, so not many variables are suitable. The new formulas for the indexes used in this book are shown in Table 2.6.

The Congestion Index

The congestion index effectively measures crowding. It is uncorrelated with the CDI, favoring smaller, more dispersed cities with good transport networks (Table 2.6).

The Connectivity Index

One of the principal functions of cities is to act as a conduit for their hinterland with the rest of the world, and the extent of this connection is one measure of their success. A new cluster of highly correlated variables concerned with international connectivity has been located. They include international flights, international phone calls, tourism, headquarters and Internet connections. A new index of connectivity, which ranks Hong Kong paramount among the cities studied, has been developed. The index measures the extent to which the city is connected to the rest of the world, outside of national borders (Table 2.6).

IV. DIGITAL INFORMATION AND THE INTERNET

The rapid growth of the Internet since the emergence of easy-to-use browsers in the mid-1990s together with a mix of interrelated information and communications technology tools has created new opportunities for storing, accessing, manipulating, and presenting

One of the principal functions of cities is to act as a conduit for their hinterland with the rest of the world, and the extent of this connection is one measure of their success.

Table 2.6. City Index Formulas Used in The Cities Data Book

Index	Formula
Infrastructure	$25 \times \text{Water connections} + 25 \times \text{Sewerage} + 25 \times \text{Electricity} + 25 \times \text{Telephone}$
Waste	$\text{Wastewater treated} \times 50 + \text{Garbage collection} \times 50$
Health	$(\text{Life expectancy} - 25) \times 50 / 60 + (32 - \text{Child mortality}) \times 50 / 31.92$
Education	$\text{Literacy} \times 25 + \text{Primary enrollment} \times 25 + \text{Secondary enrollment} \times 25 + \text{Graduates} / 350 \times 25$
Product	$(\log \text{City Product} - \log 400) \times 30 / 2.71 + (\log \text{Residential density} - 1.98) \times 30 / 4.86 + 40 \times (\log \text{Population} - 2.78) / 6.7$
City development	$(\text{Infrastructure index} + \text{Waste index} + \text{Education index} + \text{Health index} + \text{Product index}) / 5$
Congestion	$(\log \text{Travel time} - 2.08) \times 30 / 2.71 + 0.3 \times (\log \text{Residential density} - 1.98) \times 30 / 4.86 + 40 \times (\log \text{Population} - 2.78) / 6.70$
Connectivity	$((\log \text{Internet} + .71) / 6.34) + \log \text{Corporations} / 6.7 + (\log \text{Tourism} - 3.42) / 5.75 + (\log \text{Flights} - 4.33) / 5.27 - 0.07 / 3.3$

At their most basic, GIS are multilayered spatial databases that provide additional capabilities for those collecting and maintaining local data collections.

a variety of information, including those related to urban indicators. The Internet revolution is one of networked computing—the linkage of a global array of individual (“distributed”) computers via communication networks. Penetration, as the Internet indicators in this report suggest, is global, albeit currently slanted toward those economically more advanced and wealthier regions and cities. As the Internet matures, opportunities that are emerging include

- *general city networks* reporting best practice and other information in more standardized formats than currently exist. Joint programs, staff exchanges, and technology transfer can be arranged through remote interchange (e-mail) and learning;
- *distributed indicators databases* allowing municipalities, as well as metropolitan and state agencies, to build and maintain their own sets of spatial indicators databases. These indicators comprise a core set, common to all within some agreed network of agencies (that is, via ADB, UN or some world cities associations) as well as a specialist set of particular relevance to the locality and their concerns (for example, Sustainable Seattle);
- *improved data modeling and analysis capabilities*. The simple linking of documents and indicators via hypertext is a major advantage and a potential step forward. If we create an indicator (for example, Housing Affordability) as a single document where links to other indicators (documents) such as “Interest Rate” and “Household Formation” are also embedded, then it will be possible to establish links to all cross-specified indicators. This will assist in creating a model comprising all inter-linked indicators triggered by the initiating indicator; and
- *Internet portals providing urban indicator data* as well as a range of “higher order” services, including electronic reports, synthesized data from across the distributed network of participating organizations, and software tools for data analysis.

The world is also entering an era of technology convergence which is providing opportunities for creating new systems and products. Relevant technologies are the Internet (distributed computing) and geographical information systems (GIS). At their most basic, GIS are multilayered spatial databases that provide additional capabilities for those collecting and maintaining local data collections. Data on population, land use, housing, services, and routing analysis, can be georeferenced to allow a much richer data analysis and representation. Base data can be satellite imagery, aerial photos, or digital maps.

Higher level GIS functionality makes it possible for urban managers to

- *create their own indicators for subcity areas*, based on local maps, and ascertain the geographical effects and relationships of their policies;
- *construct time series* and show in graphical or map-based output the impact of policies; and
- *create geographically based indicators* which can be standardized to offer more insightful comparative analysis. This permits comparative analysis to search for variations between cities which reflect differences in input endowments and levels of development and human behavior. It also reflects the way ahead.

A compendium of web-based statistical collections and indicator resources is in Appendix 1.

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CHAPTER 3:

THE CDB PROCESS: DEVELOPING AND APPLYING URBAN INDICATORS

Matthew Westfall and Giles Clarke

I. A TOOLKIT FOR URBAN MANAGERS

Previous chapters have been devoted to the theoretical underpinnings to measuring human progress and reviewing of previous and ongoing indicators approaches and systems. For the CDB exercise, a key intention has been to create a framework for an urban indicators system that can be easily replicated and applied by city administrators and urban managers on the ground in the fast growing cities of Asia's developing countries. The CDB, then, has two primary outputs: an urban indicator formulation and collection exercise in 18 selected cities as a pilot of the process; and development of an urban indicator toolkit for replication—in whole or in part—in other cities in the Asian region.

The formulation of the CDB approach attempted to incorporate real-world constraints and issues that confront those tasked with policy making in Asia's poorer cities. To be sure, the demands of day-to-day city management in many of these resource-constrained cities do not allow for wasteful or pointless exercises that generate data for the sake of data; any efforts, if they are to be successful and sustained, must be practical, tempered by reality, and must deliver meaning-

ful results. At the same time, as Peter Newton aptly noted in his workshop presentation, there are two basic truths to any indicators exercise of this sort: (i) you cannot properly measure what you don't understand; and (ii) you cannot improve what you don't measure. The CDB urban indicators exercise was an exploration of these two truths, and a search for a means to address them.

For potential users of the CDB process, it is not expected that the full slate of urban indicators will be either applicable or appropriate in their entirety. This may present some conflict over time in data gaps and comparability of collected data between cities in the region and elsewhere—a function of the system that donor institutions and others involved in comparative analysis are keen to support—but participating cities should be driven by their own local demands and concerns. Users should distill from the CDB process the urban indicators that are most important for their respective cities, and which address their city's priority concerns such as poverty reduction, job creation, and governance.

Before attempting to apply the process, consider a few tips and pointers. At the city level, everyone involved in the process should understand clearly the reasons for establishing an urban indicators system. The system should support the strategic planning

"...you cannot properly
measure what you don't
understand; and you
cannot improve what you
don't measure."

Peter Newton

The outputs of the exercise should be a stream of usable, useful information that meets a clear need and promotes improved and more efficient urban management.

process of the city, helping provide answers to the important questions of “Where are we?”, “Where do we want to go?”, and “How can we get there”? The system should be developed based on local issues and conditions and established through intensive consultations with stakeholders. The urban indicators system, and the performance measurement and benchmarking that can be derived from it, will help make cause-and-effect relationships visible by aligning goals and policies with the programs, projects, and external factors impacting the city. Senior management leadership and support will be vital. Buy-in and support by local government staff and acceptance and ownership by different stakeholders of the process will be crucial to sustain the effort.

A key lesson learned from the CDB process is that developing an indicators system requires considerable time and effort. A major impediment to sustaining an effective urban indicators and performance measurement in cities has been insufficient capacity and resources, so it is recommended to start on a manageable scale, by starting small with one or two sectors where data collection and analysis are reasonable and moving on to more complex topic areas at a later stage. Once the system is in place, it should be refined as an ongoing, iterative task. Continual reassessment of the competing demands of cost and performance data precision, simplicity, and timeliness will be required, while preserving the level of confidence in the comparative data.

The outputs of the exercise should be a stream of usable, useful information that meets a clear need and promotes improved and more efficient urban management. The exercise should support sustainable urban development by increasing efficiency, increase the involvement of people and communities in managing and developing their cities, and strengthen the linkages of economic, social, and environmental issues in decision making. To revert to the two basic truths, the CDB exercise should help illuminate issues that are to be measured and point a way forward to improvements in the cities.

II. THE CASE STUDY OF ASIAVILLE

The following case study is presented to illustrate the CDB process and the steps needed to link the urban indicators data collection effort to (specific) city goals and urban policies. Many of the indicators used are presented in Chapter 4 with descriptions of their formulas and the significance of the data. A warning trend is provided to flag a negative trend or concern that may grow into a larger problem over time if not addressed. The explicit connection to policy, as will be outlined, enables a city to highlight a goal, develop a core indicator to measure progress towards that goal, set a measurable target to monitor improvements or progress, and support a process of results reporting to the senior management and city residents. The system also promotes accountability by sharing with the city’s constituents the progress being made by urban managers towards the city’s strategic vision.

Consider for example “Asiaville,” a hypothetical medium-sized city of two million, growing at some 4 percent per year and located in the low-lying floodplain of a major river delta. Migration accounts for some 60 percent of this growth, and contributes to a thriving informal economy located in poor environmental conditions in many areas. Asiaville is growing physically by both urban expansion and densification and is experiencing air and water pollution and overcrowding. Garment and service industries are fast expanding while the provision of serviced land and institutional frameworks has fallen behind so that the city’s administration is in disarray and budgets are pressured by many competing demands.

There has been a start to privatize solid waste collection and disposal services, but other services such as water supply and sewerage are still in the public sector and are inefficient. Despite the new companies providing employment, there are still some 20 percent of households living below the poverty line. The lack of serviced land for commercial and residential use is a constraint on

efficient land use development, but the Asiaville authorities are beginning to address the problem through new forms of public–private partnerships.

While there has been a start to discussions on urban management at the local level, in reality there is little interdepartmental liaison. Asiaville receives very little income from local taxes, the bulk of which is derived from very low and poorly collected real property taxes. Instead, Asiaville relies on the sometimes erratic transfer of funds from central government. As a result, the city cannot arrange for a rational program of infrastructure investment, and there is little incentive to generate forward-looking strategic plans. At the same time, the central government has initiated decentralization of various functions, but the city has not yet been able to take over these functions in a satisfactory way. Many mandates have been devolved without the necessary resources, and while the city is supposed to lead on the urban development front, it lacks the requisite capacity. There has also been much discussion on greater community involvement in decision making at the local level, but as yet, improved institutional procedures which could provide a forum for partnerships with nongovernment organizations (NGOs), community-based organizations (CBOs), and civil society at large have not been established.

At a regional level, the Asiaville administration has now realized that with globalization trends, it must compete with neighboring cities for potential inward investment. So far it has had some success with the garment industry and some services sectors, but now wants to attract other new industries by forming public–private partnerships to provide the high quality road, utilities, and other infrastructure needed to attract such firms. It also realizes that it should be providing better communications, hotels, and information on the city's potential advantages for new investors.

For the purposes of the case study it is assumed that the city authorities have or are developing goals, strategies, and targets which will address these shortcomings and

needs, but they still have to convince some key figures in the city administration. Sector plans have been prepared for utilities, roads, and the electricity sector, but in each case ultimate responsibility is with central government.

III. LINKING URBAN INDICATORS TO CITY GOALS

The above conditions in a hypothetical city in Asia apply to varying degrees to most cities in the Asian and Pacific region. For Asiaville to develop and apply the CDB urban indicators system, it would first review its priority concerns as outlined in their various strategic planning documents, and then draw on the extensive list of urban indicators presented in Chapter 4. The importance of the strategic plan cannot be overemphasized, in which both short- and long-term city performance goals and objectives need to be identified.

Progress can be measured, for instance, in sectoral strategies, institutional reforms, and financial forecasting, depending on the city's priority concerns. Benchmarking the performance allows the city to provide a standard or reference by which it can measure or judge its own performance—against other cities, government averages, or even its past performance. Resistance of city officials, department heads, and employees may prove to be the biggest obstacles to benchmarking, which can be overcome with strong leadership and commitment to achieving goals and improving city performance.

The following chart illustrates the tasks carried out under the CDB exercise. Once objectives are identified through a participatory process, and a commitment from stakeholders is achieved, an appropriate urban indicators system can be developed. The methodology is discussed in Chapter 2 for identifying the long-list of indicators, the contents and method of using the consultant's kit (consisting of a worksheet, definitions and significance of indicators, notes and sources, and calculation assistance), and a summary of the potential

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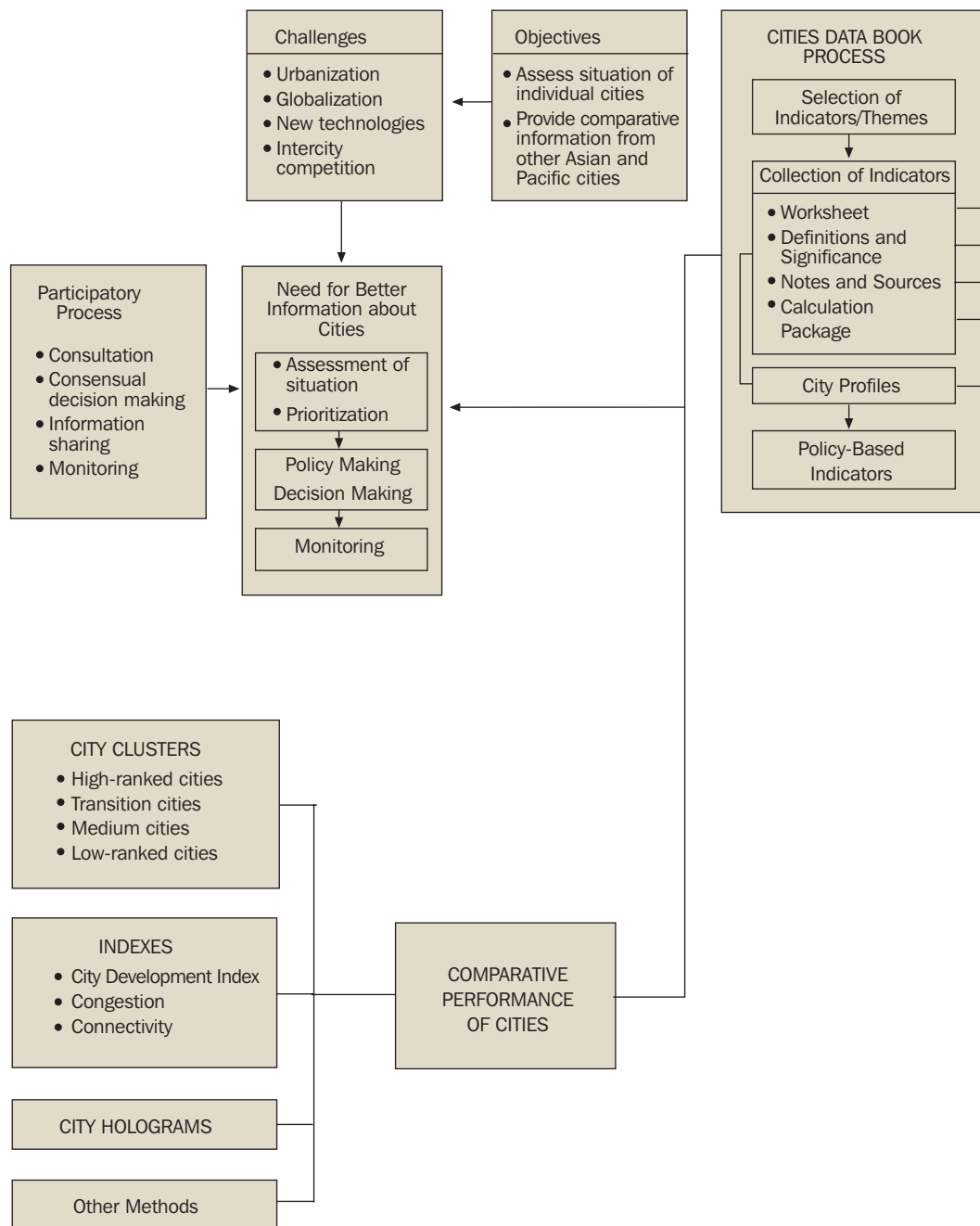


Figure 3.1. Urban Indicators for Managing Cities

WORKSHEET



The worksheet on Excel '97 is CDB's survey instrument. Divided into 13 themes, the worksheet provides data entry spaces for 122 quantitative indicators. A copy of the indicators worksheet is found in Appendix 3.

DEFINITIONS AND SIGNIFICANCE



Definitions provides brief descriptions of the indicators presented in Chapter 4.

NOTES AND SOURCES

A screenshot of a document page titled 'Notes and Sources'. It contains a table with multiple columns, likely listing data sources for different cities. The text is dense and organized in a structured format.

Notes and Sources contains documentation of the sources of data for 18 cities as shown in Chapter 7. CDB data are mostly for 1998. Time series data and special methods for calculating the figures are also noted here. The Notes also provides a brief background or distinction of the information provided (e.g. cultural, geographic, etc.)

CALCULATION ASSISTANCE

A simple **Calculation Assistance** package may be used to calculate a few of the more difficult indicators, e.g. rates of growth, house price to income ratio, etc. *See downloadable Calculation Assistant in the Consultants Kit under Resources of the Cities Data Book on CD-Rom.*

CITY PROFILES



City Profiles in Chapter 6 contains basic information about the city.

It should be emphasized that where city resources are limited it may be only realistic to collect data in two or three phases, starting with the most urgent data needs of that city.

problems in the collection of data for the CDB. Many of these resources are provided in the appendixes, and are available in CD-ROM and in the CDB website.

For the CDB exercise, a number of additional outputs were pursued in each city, such as the drafting of a city profile to place the data in context. While not necessary to the establishment of an urban indicators system, this narrative summary of the city's resources, strengths, and concerns helped focus the CDB exercise. It also helped identify which aspects are required in data collection as they relate to the analysis on the comparative performance of cities.

The CDB process provides a comprehensive approach to urban indicators for a city administration to draw upon to meet its particular needs. Thus, for example, City A in the low-income group of cities as described in Chapter 4 may be prioritizing job creation and appropriate infrastructure support, in which case it will be particularly interested in the indicators groupings on urban productivity, new technology, and municipal services. Poverty mapping exercises, for example, may be assisted by the results of the survey on income and poverty. City B however may be concerned with financial self-sufficiency and administrative reforms, in which case it may be interested in the groupings addressing local government, urban governance, and indicators related to municipal services which measure efficiency and effectiveness.

It should be emphasized that where city resources are limited it may be only realistic to collect data in two or three phases, starting with the most urgent data needs of that city. In addition, such a phased program allows time for city officials to evaluate the usefulness of the initial data collected, apply the knowledge gained to subsequent collection phases, and decide whether to allocate more resources to a particular topic. Where the city plans to carry out wide-ranging collection, it may be helpful to publicize the objectives and procedures that will be used through the media, chambers of commerce, NGOs, and CBOs. While the city may choose to hire a consultant to collect data, it

will be important that the appropriate department in the city administration, such as the strategic planning office, is clearly in charge of the work and can quickly decide on queries raised during the work.

As an example of the application of indicators to policy making and improved city management, Table 1 shows the relationship of CDB urban indicators to the goals, strategies, and targets needed to address the issues affecting Asiaville. In this example, the city authorities decided to comprehensively review city development and planned to collect data under eight headings. It is emphasized that many of the figures are arbitrary and not taken directly from the CDB. They do, however, illustrate how performance indicators can be used to measure progress in achieving targets, which in turn can realize strategies and goals. In addition, much of this table is relevant to achieving the goals of ADB's Urban Sector Strategy (see Appendix 5).

IV. FOLLOW-ON WORK, REPLICATION, AND SCALING UP

The CDB findings were presented at ADB headquarters in February 2001 to participating cities, and to representatives from international agencies. In discussions on the CDB, there was general agreement that a more permanent network of cities involved in the use of indicators was necessary, and that broad dissemination of the findings and outputs of the CDB exercise should be undertaken. ADB prepared a CD-ROM version of the CDB, and installed a website with an interactive version of the book. These efforts will help to disseminate the findings, and make the approach accessible to a greater number of candidate cities.

Increasingly, as city governments throughout Asia concern themselves not just with what they do, but how well they do it, policy-based urban indicators will become commonplace. While modest, the CDB exercise puts forward a locally driven framework for key urban indicators in a number of thematic areas of urban management and

Table 3.1. ADB's Urban Sector Goals, Strategies and Targets, and Cities Data Book Indicators

Goal	Strategy	Target	CDB Performance Indicator
Alleviation of Urban Poverty	Implement poverty reduction programs	Increase access to poverty funds by city residents by 50%	■ Expenditure on poverty reduction per head ■ No. of households below poverty line ■ Improvement in household income distribution
	Improve access to micro-credit	Disburse \$2 million in first year	■ No. and value of small business loans*
	Strengthen gender equity	Improve access by women to urban services, employment, health and credit by 30%	■ Labor force participation of women* ■ Women's housing loans ■ Access to services by gender*
	Develop public-private community-based poverty programs	Allocate minimum of \$0.5 million to antipoverty programs in first year	■ No. of formal and informal jobs created ■ No. of public-private meetings held per month ■ Program outcomes
Improved Quality and Quantity of Social Infrastructure	Improve access to health and education services	■ Improve life expectancy by 10% over next decade ■ Reduce deaths from infectious diseases by 20% over next decade. ■ Achieve full adult literacy over next decade ■ Achieve full school enrollment of eligible children over next decade ■ Reduce class size by 20% over next decade	■ Life expectancy ■ Child mortality rate ■ Infectious diseases mortality ■ Adult literacy rate (male and female) ■ School enrollment rates ■ No. of school children per classroom
	Promote social integration	Achieve success in crime prevention campaign with 25% drop in reported crime over 3 years	■ Reported crime
Urban Productivity and Competition	Support measures to improve competitiveness of city	■ Increase share of employment in key areas of business services ■ Increase inward investment in all sectors, with objective of minimum 5% growth per year for city GDP	■ Change in employment share by sector ■ City product per head ■ No. of corporate headquarters ■ Volume of freight by road, rail and air ■ City investment by sector, including R&D ■ No. of commercial flights arriving per year ■ Cost of business overnight stay ■ No. of business permits granted per year ■ Level of business satisfaction with city and wider urban area
	Increase city attractions to national and international tourists	Attract 25% more tourist visits and extend average stay by one night over next 3 years	■ No. of tourist nights per year ■ Tourist expenditure per year ■ List of attractions
	Increase use of computerization and automation in city administration	Convert all departments to computer-based systems within 3 years	■ Level of computerization compared to agreed department standards
	Encourage investments in R&D in the city	Create high quality working environment for new/existing firms	■ R&D expenditure per year
	Invest in high quality new communications systems	Establish joint ventures for \$20 million new systems in next 3 years	■ Telephone calls per year ■ Growth of Internet connections per year
	Provide adequate land to help improve the economic efficiency and quality of life in the city	■ Assist market to reduce cost of serviced land to no more than 3 times the cost of unserviced land ■ Reduce public sector housing expenditure in favor of infrastructure spending ■ Assist market to stabilize cost of prime land through planning, controls etc., ditto for prime rental commercial space ■ Ensure minimum of 2 years supply of vacant land with planning permission ■ Reduce amount of unused public sector land by 50% over 3 years ■ Maximize share of infrastructure costs to be paid by developer ■ Ensure minimum ratio of open space to built-up areas of city	■ Land development multiplier ■ Cost of m² of land in prime commercial location ■ No. of business permits granted per year ■ Cost of business overnight stay ■ Total net expenditure on housing by the public sector ■ Prime land cost ■ Prime rentals ■ Amount of vacant land with planning permission ■ Amount of vacant land held by the public sector ■ Level of developer's contribution ■ Proportion of public open space to built-up area, per year
		Improve systems for land regulation, land transfer, structure planning, and planning / building controls	■ Time for obtaining planning permission

Table 7 continued.

Goal	Strategy	Target	CDB Performance Indicator
Urban Services (water, electricity, sanitation, and solid waste management)	Establish or improve procedures for public participation	Level of involvement of all stakeholders at each stage of planning process	■ Amount of access to city information ■ Public meetings
	Support innovative housing schemes and owner/builder construction which incorporate incremental standards and better compliance	Increased share of legal, affordable housing available for low-income households; better balance between housing by dwelling/tenure type and affordability	■ Distribution by dwelling and tenure type ■ Distribution by tenure type ■ House price to income ratio ■ House rent to income ratio ■ Level of compliance with modified planning and building codes ■ Floor area per person ■ Dwelling construction and investment
	Recognize informal housing areas as legitimate parts of the city	Legalize all informal housing (except those in dangerous locations) over next 3 years	■ Informal housing, squatters, and dwellings in compliance ■ No. of households regularized or resettled per year ■ No. of homeless people
	Leverage financial resources, minimizing use of subsidies	Establish lending programs for housing in community-based finance institutions over next 3 years	■ Ratio of total mortgage credit to all credit, per year ■ Proportion of houses with mortgages ■ New loans* ■ Housing subsidies*
	Improve quantity, reliability, and quality of supply	Undertake commercialization of supply organization within 5 years, including private sector participation, increased institutional autonomy, and improved finance resource management	■ Number of household connections and ratio to number of households ■ Investment per head of population ■ Share of budget spent on operations and maintenance ■ Output of service per staff member ■ Consumption of service per head ■ Median price of water (and other services*)
	Reduce unaccounted for supply and/or interruptions in supply	Reduce unaccounted for supply by 50% over next 3 years	■ Amount of unaccounted supply and disruptions over 3-year period
Environment	Improve financial resources	Achieve break-even operations by year 3, with revised tariff and well trained staff in place	■ Level of cost recovery ■ Level of investment ■ Staff to output ratio ■ Recurrent expenditure
	Maintain qualities and quantities at safe levels	Establish standards for air, water, noise and ground pollution to be achieved by 2005	■ Levels of air pollution concentrations ■ No. and type of noise' complaints
	Manage domestic solid and liquid wastes	Achieve 50% sustainable domestic waste collection and disposal within 3 years	■ Amount of solid waste generated, per year ■ Current levels of household liquid waste disposal ■ Current levels of household solid waste disposal ■ Current percentage of wastewater subjected to some form of treatment ■ Current percentage of BOD removed from wastewater
Urban Transport	Provide for disaster mitigation	Establish preparedness programs in all city districts to help reduce losses during earthquakes, floods, severe weather, accidents, and man-made disasters	■ No. and extent of disasters over past 10 years
	Maximize benefits of transport infrastructure	Implement traffic management on existing road network and use new transport infrastructure, particularly roads, to guide urban expansion. Reduce congestion by 50% over 5 years	■ Expenditure on road infrastructure ■ Extent of road congestion ■ Automobile ownership ■ Median travel time ■ Existing mode of travel ■ Transport-related deaths
	Generate competitive markets; in particular develop market-based skills among state-owned transport enterprises	Develop more equitable tariffs with prices reflecting as far as possible the full impact of externalities	■ Cost recovery from fares
	Develop public transport alternatives	Need to develop mass rail transport as a vital tool in structuring city, but requires associated property development to boost incomes; an alternative solution is the use of high capacity bus lanes	■ Transport mode

Table 7 continued.

Goal	Strategy	Target	CDB Performance Indicator
Urban Governance and Management	Incorporate in city activities the four principles of good governance: accountability, predictability, transparency, and participation	Set benchmark indicators for delivery of services by city and contracted out to the private sector (e.g., not less than 90% of buses on service at any time)	■ Ratio of city employees per ¹ 000 population ■ Share of wages in city budget ■ Realization of annual plan/budget ■ Proportion of current expenditure spent on services contracted out ■ Revenue from city enterprises
	Increase predictability in the application of legal and administrative procedures, with particular application to the poor	Set standards and regulations, e.g., for land transfer, which are clear and unambiguous, particularly as they relate to the poor	■ Functions of local government ■ City plans
	Increase transparency in public-private dealings	For example, make land market data freely available at local offices; computerization will assist transparency	■ Extent of computerization of functions, e.g., land registration
	Increase community participation, including demand management to improve service delivery	Establish procedures for ensuring all stakeholders have the opportunity to participate in the development cycle Develop effective systems for communication, replication, and feedback	■ Access to relevant information; authority given to stakeholders to make decisions and act on them ■ Extent of contact between city authorities and public; e.g., public meetings, senior management discussions, etc. ■ Voter participation rates
	Promote decentralization as an instrument for achieving more effective service delivery and increasing stakeholder participation	Establish decentralization of key functions within 3-year period, including private sector participation in some sectors	■ Extent of decentralization, e.g., no. of local government units in wider urban area, and no. of decentralized units in core local government ■ Functions carried out independently of higher government ■ No. of elected and nominated councilors
	Promote financial independence of local government	Increase share of city revenues from property and business taxes, as well as user charges. Assess potential for new sources of funds, including private capital, as well as city's long term access to capital markets	■ Sources of local government revenues, by year ■ Capital and recurrent expenditure per head ■ Costs of collecting property tax ■ Level of debt service charge
		Increase use of market-based pricing of services in designated service sectors such as water supply, and allow for cross-subsidy to maintain the poor's access to service	■ Extent of impact of more efficient financial management on profitability and tariffs
	Define clear roles for public and private sectors in strategic planning, financing, and delivery of services; in particular, consider new cross-sectoral responsibilities for policy making	Where possible assign roles for a service to one level of government, to the community, or to the corporate private sector	■ Functions of local government
	Give strong support for skills training and other capacity-building initiatives	■ Develop training programs, especially in urban management ■ Review salary structure and status of staff ■ Promote regional cooperation by bringing city staff from different DMCs together to share best practices, problem solving, and networking.	■ Proportion of city staff undergoing training per year*

Note (*) Not included in the current collection.

BOD - biological oxygen demand, DMCs - developing member countries (of ADB), R&D - research and development

governance. Its initial success may be in part to its limited scope; rather than a grandiose scheme to generate an unsustainable laundry list of indicators in numerous cities, a limited array of indicators that are linked to clear policy concerns were tackled in a manageable number of cities.

Significant effort was spent on cleaning the data for comparability, avoiding the common problem of data that is “apples-to-oranges” and therefore unable to be compared. In this first effort, the data can be characterized as “apples-to-apples.” Whether problems will emerge in the future depends on the

Truly successful replication of the CDB exercise in other Asian cities would be due to the inherent strengths and utility of the urban indicators system as designed, which would be self-replicating on its own merits and accord.

manner in which the CDB process is scaled up, and for what purposes. Ideally, the process would remain locally driven, with the objective of generating information and providing a toolkit for analysis to urban managers on the ground. Truly successful replication of the CDB exercise in other Asian cities would be due to the inherent strengths and utility of the urban indicators system as designed, which would be self-replicating on its own merits and accord. This, of course, remains to be seen.

The CDB has noted the various distributed indicators databases already in place that will enable municipalities to establish their own sets of indicators databases. Such databases would include a core set of indicators, common to an agreed network of cities and agencies in the region or further afield, as well as a specialized set of relevance to a particular network member. For example, there are some 75 organizations dealing with some aspects of urbanization in Asia, many of which have their own databases and would be likely candidates for networking with the CDB.

ADB will continue to explore the opportunity for follow-on activities to build on the network established to date, and to incorporate indicators in its operational lending and technical assistance activities. An important outcome may be the formulation of a core urban indicators system for cities involved in ADB's urban sector operations, which would support baseline measurement and monitoring trends and intervention impacts over time.

Another area for application of the CDB urban indicators approach would be in the city development strategy (CDS) planning initiated in a number of cities in Asia under the Cities Alliance, a multi-donor coalition which has the primary objective of urban poverty reduction. CDS is essentially a participatory strategic planning process intended

to help cities take stock of their endowments, their role in the current production or service function, and to link outputs to choices that may improve the city's competitive position. The CDS is both a process and a product, which together identify ways of creating conditions for attaining sustainability, as well as priority areas for donor support and intervention. A recent assessment of CDS, however, has found that more work is needed on monitoring and performance indicators, both as a guide to decision making and managing cities, as well as to help the Cities Alliance gauge the impact of its efforts. The CDB urban indicators process may be a readily usable tool to meet this need.

Matthew Westfall is a senior urban development specialist in ADB's Southeast Asia Department. An urban policy expert and environmental planner with over 17 years of experience in the international development field, he has developed parallel, and highly complementary, expertise as an award-winning documentary producer of television programming focused on development issues. He is country coordinator for ADB's urban sector projects in the People's Republic of China, and is currently mission leader in several urban poverty reduction projects in the Philippines. Since September 1999, he has been leading the Cities Data Book exercise.

Giles Clarke is an urban development specialist with particular interests and experience in urban management, sustainable urban development, land and shelter policy, and capacity building. He has directed two strategic planning projects in Asia and has developed urban expansion and upgrading projects in Asia, Africa and the Middle East. He has directed national shelter strategies for Jordan, Nepal and Moldova. He served as co-team leader during the first stage of the Urban Management Programme and assisted UNCHS in a midterm review of the Global Shelter Strategy, as well as in the start-up of the Sustainable Cities Program and in the use of urban indicators in assessing urban policies. He was co-editor of an ADB book on megacities management in Asia and more recently drafted ADB's Urban Sector Strategy. Mr. Clarke is Managing Director of PADCO Europe Ltd., London, UK.

CHAPTER 4:

THE CDB DATABASE

URBAN INDICATORS

The following presents the CDB indicators in detail. Each indicator shows the indicator definition, warning trend, and significance. Charts and tables are shown for each indicator and scattergrams have been plotted as relevant. Sources of data, methods of calculation, and time period of the indicator data are detailed in the Notes and Sources of each city indicator in Chapter 7.

Definitions and Significance

Indexes

CITY DEVELOPMENT INDEX

The City Development Index ranks cities in the development spectrum and combines city product with infrastructure, waste management, health and education indicators. The CDI can be calculated using the following formula:

Formula = **(Infrastructure index + waste index + health index + education index + product index) / 5**

Infrastructure 25* water connections + 25* sewerage + 25* electricity + 25* telephone

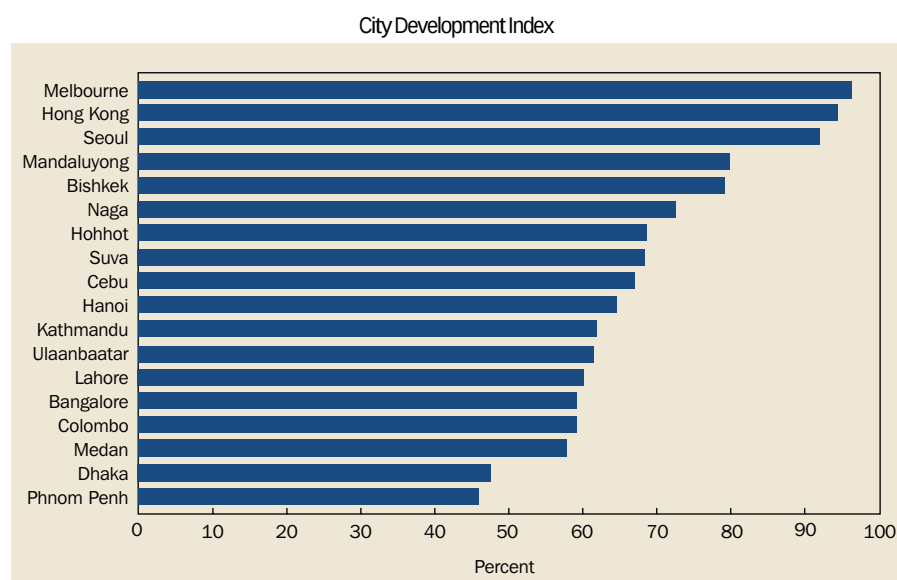
Waste Wastewater treated* 50 + garbage collection* 50

Health (life expectancy-25)* 50/60 + (32-child mortality)*50/31.92

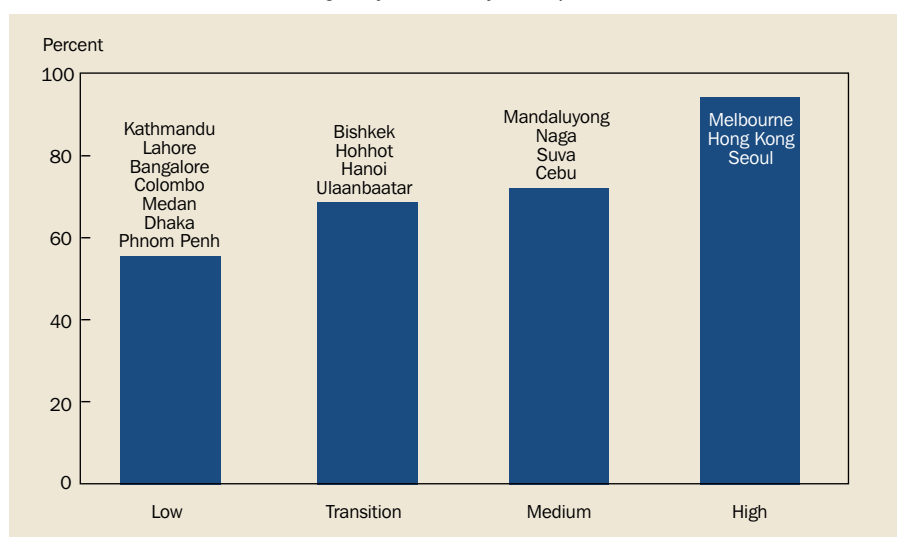
Education Literacy* 25 + primary enrollment* 25 + secondary enrollment* 25 + graduates /350

Product (ln city product -4.61)*100/5.99

City Development Index



Clustering Analysis of the City Development Index



Definitions and Significance

CONNECTIVITY INDEX

It includes: flights, international phone calls, tourism, headquarters of large corporations, and internet hosts per 1,000 population. The index measures the extent to which the city is connected to the rest of the world.

Formula = $(\log \text{internet} + .71)/6.34 + \log \text{corporations}/6.7 + (\log \text{tourists} - 3.42)/5.75 + (\log \text{flights} - 4.33)/5.27 - 0.07/3.3$

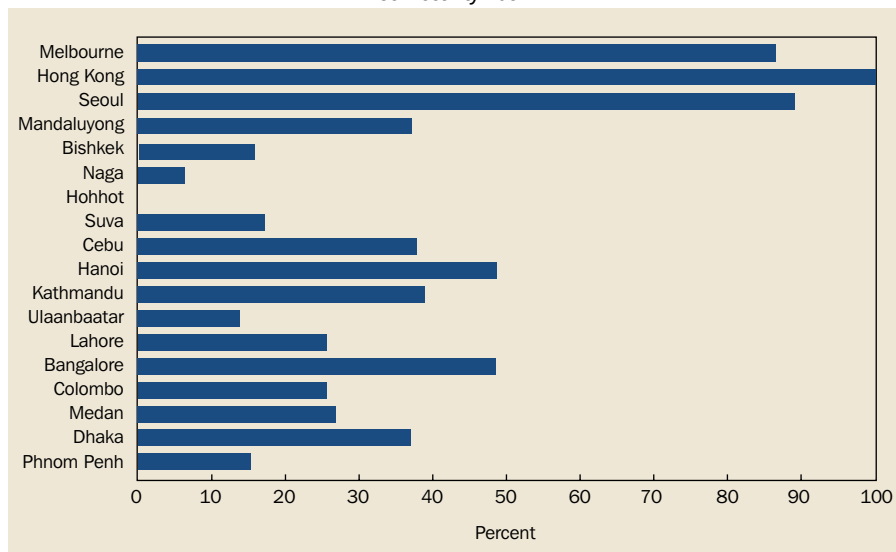
CONGESTION INDEX

The congestion index measures crowding. It is uncorrelated with the CDI, favoring smaller, more dispersed cities with good transport networks.

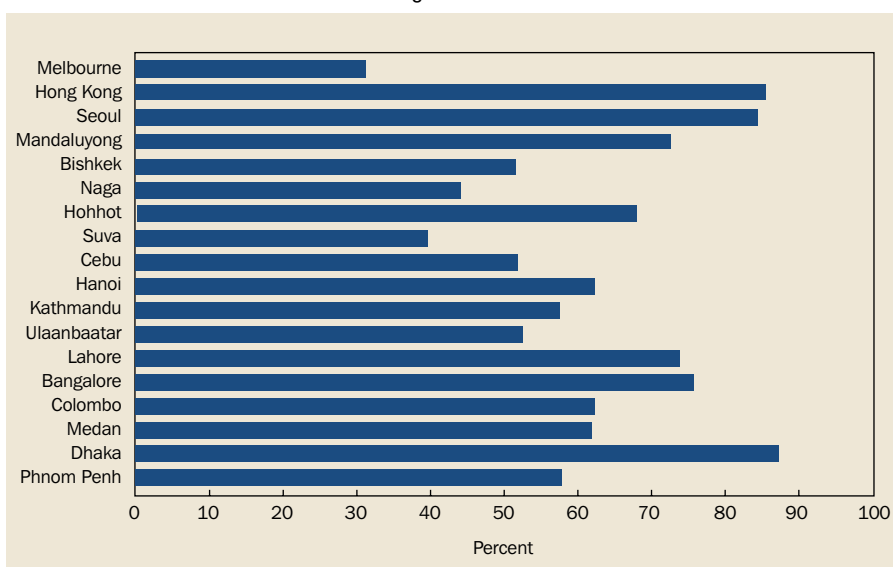
Formula = $(\log \text{travel time} - 2.08) * 30/2.71 + 0.3 * (\log \text{residential density} - 1.98) * 30/4.89 + 40 * (\log \text{population} - 2.78)/6.7$

City Development Index

Connectivity Index



Congestion Index



Indicators

POPULATION

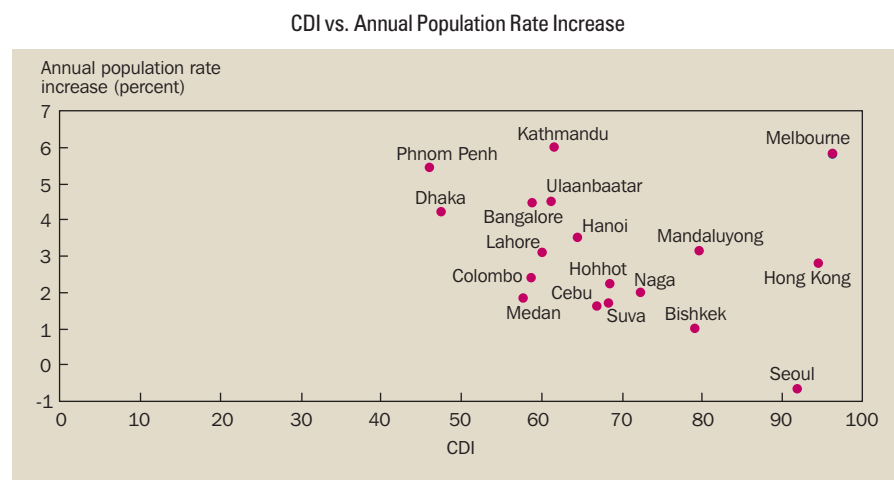
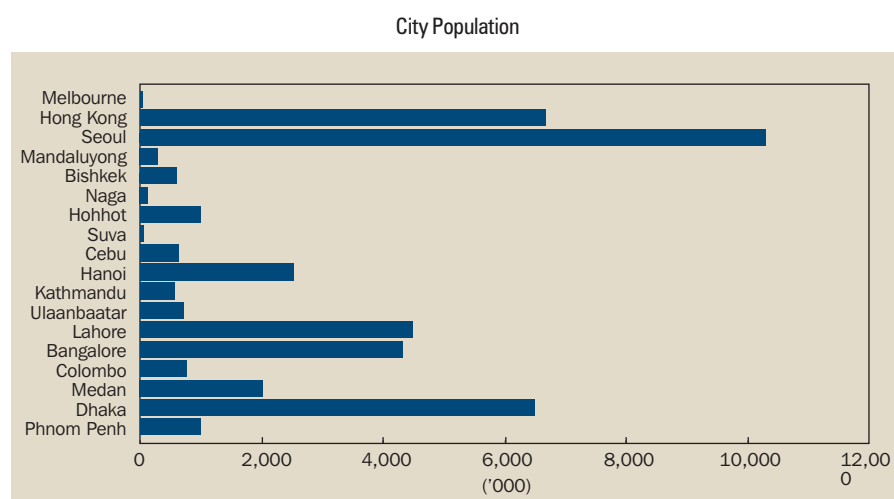
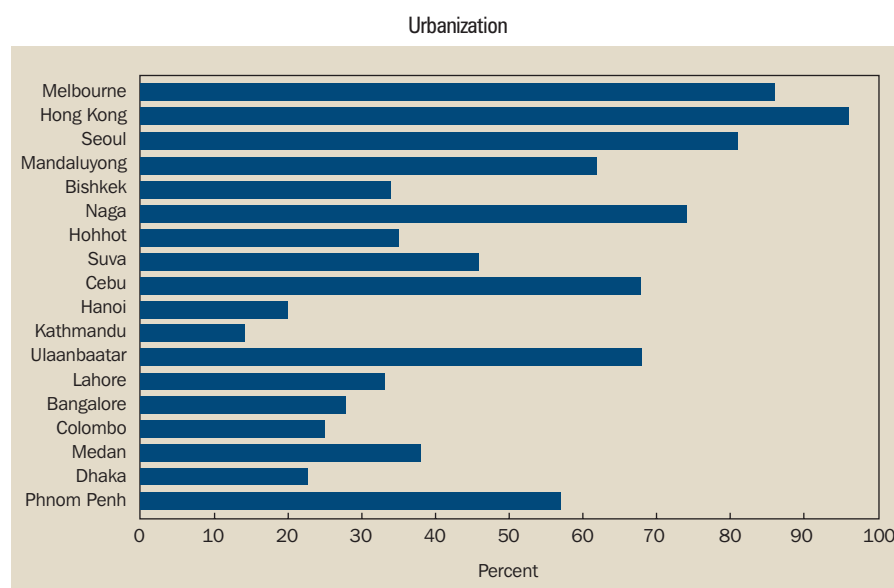
Urbanization. This covers the percentage of national population in urban areas. Urban areas are defined as settlements over 1,000 people. *Warning trend:* Overly rapid urbanization will lead to pressure on infrastructure and resources. Negative urbanization generally corresponds to a fall in national income. *Significance:* Rapid urbanization has been the major phenomenon of the 20th century, which will continue into the 21st. Urbanization is the background against which other changes to most cities in developing countries are taking place.

City Population. This includes (a) the resident population of the municipal area; (b) the population during daytime working hours, if substantially different; and (c) the annual rate population increase. *Significance:* Population is the denominator for many indicators, and is a measure of demand for services. Daytime populations of city centers can be much higher than resident populations, because of the presence of the workforce. This will affect demand for services.

NOTES

- There is a need to distinguish population increase due to internal migration and natural increase.
- Women-headed households are defined in some cities.

1. Population



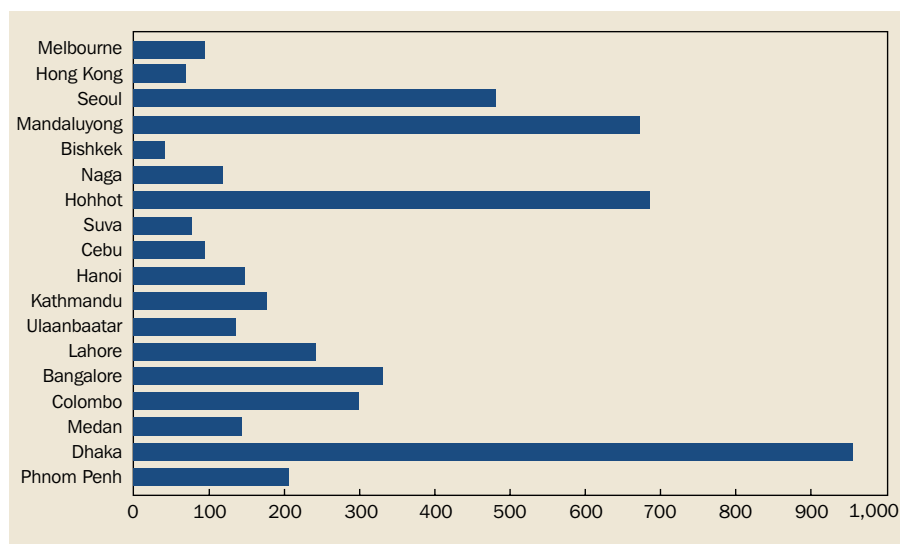
Definitions and Significance

Population Net Density, Persons per Hectare. City

Population divided by Net Residential Land in hectares. Net Residential Land includes all built-up land zoned as residential, including open space and roads. A proportion of mixed-use land has been added, according to an estimate of the relative floor space usage by business and residential. In estimating population net density, the land for the informal settlements can be added to the residential land, and a proportion of the mixed-use land based on floor space for residential and other uses. *Warning trend:* Too high – crowding can lead to health risks, and pressure on transport and services. Too low – becomes expensive to provide services, and mass transit is not viable. *Significance:* Urban density is a measure both of crowding and the viability of services.

1. Population

Population Net Density

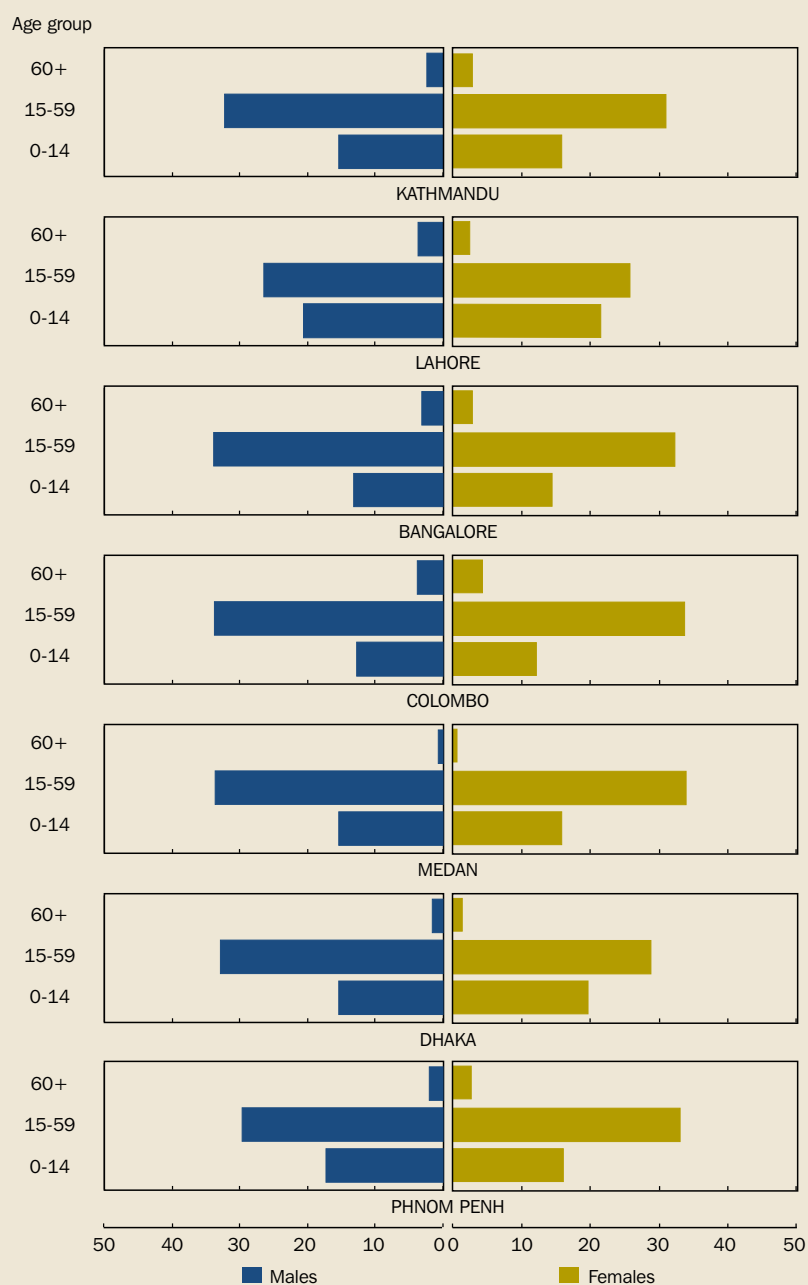


NOTE

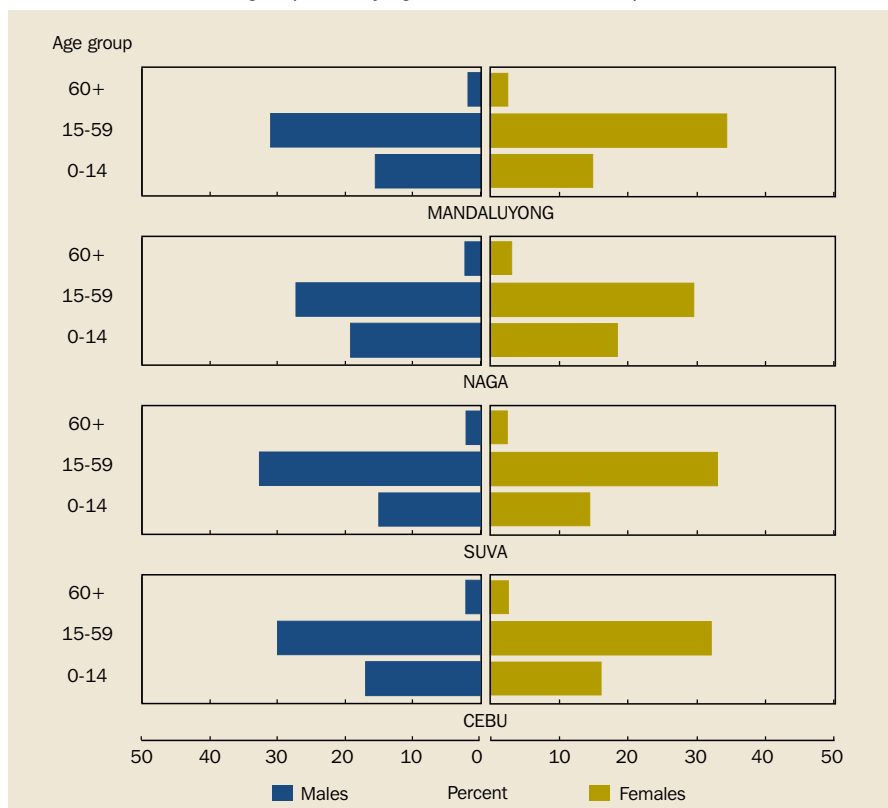
- Data on net population density depends on what has been netted from residential land, i.e., whether informal settlements are included and how mixed land use is handled.

Age Pyramid. This covers the number (thousands) of males and females in age categories: (a) Persons 0-14, (b) Persons 15-59, and (c) Persons over 60. The total matches with city population. The age distribution is known as a pyramid because if, say, numbers are expressed as a two-way bar chart for 5-year age groups, with the youngest at the bottom, it usually shows a pyramid structure when the population is growing. *Warning trend:* High proportions of aged and children will put pressure on various services and on the workforce, to support them. *Significance:* Children and old people require special services.

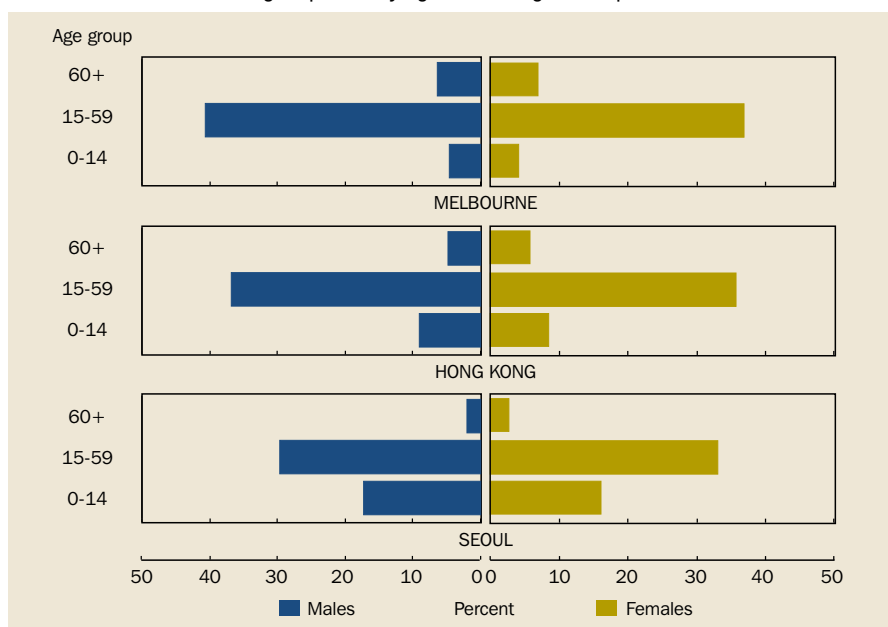
Average Population by Age Bracket, Low-Developed Cities



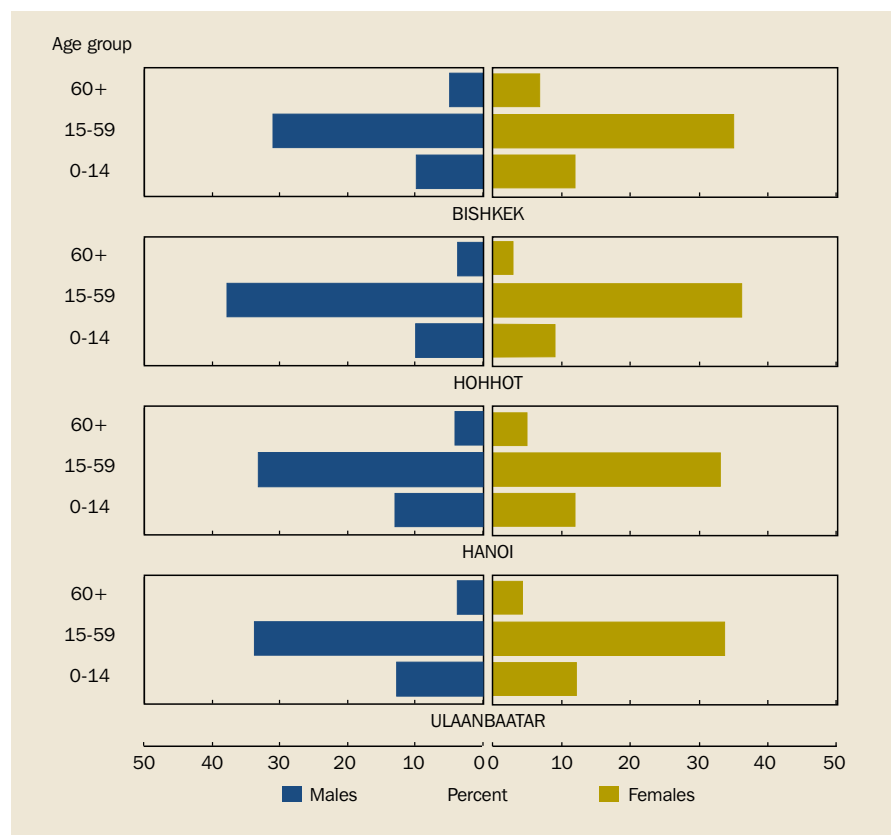
Average Population by Age Bracket, Medium-Developed Cities



Average Population by Age Bracket, High-Developed Cities



Average Population by Age Bracket, Transition Cities



Definitions and Significance

Average Household Size. The city population is divided by the total number of households. If a full census of households is not available, the number of households and number of occupied dwellings can be taken as the same (presuming there are not too many multi-household dwellings). Alternatively, a survey is used to estimate average household size between censuses. *Significance:* Attitudes to large households are culturally determined; large households may be extended families, large numbers of children, or overcrowding, depending on circumstances. Small households may be a sign of prosperity, but may indicate a future problem of declining population.

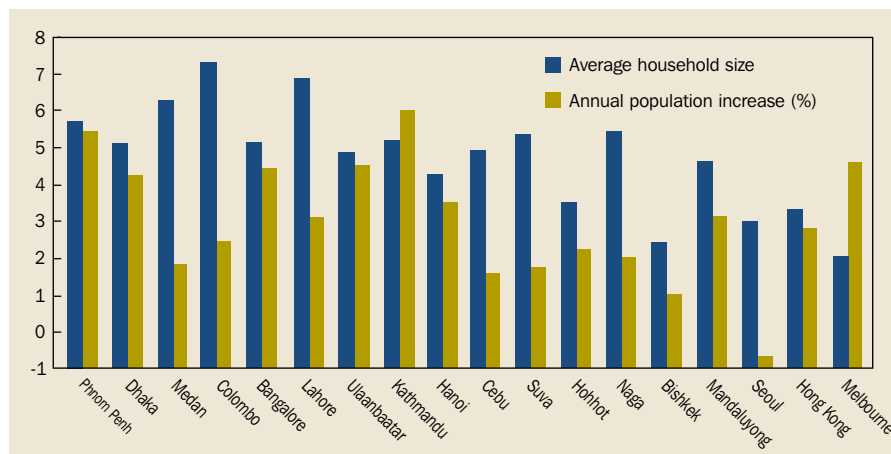
Household Formation Rate. This is the annual rate of increase in number of households. *Warning trend:* If less than the population growth rate, an increase in household size is implied, which may imply crowding, a lack of housing, and probably worsening economic conditions. *Significance:* It represents the implied demand for housing. If as is normal, it is increasing faster than the population, this represents the division of existing households to form new ones.

NOTE

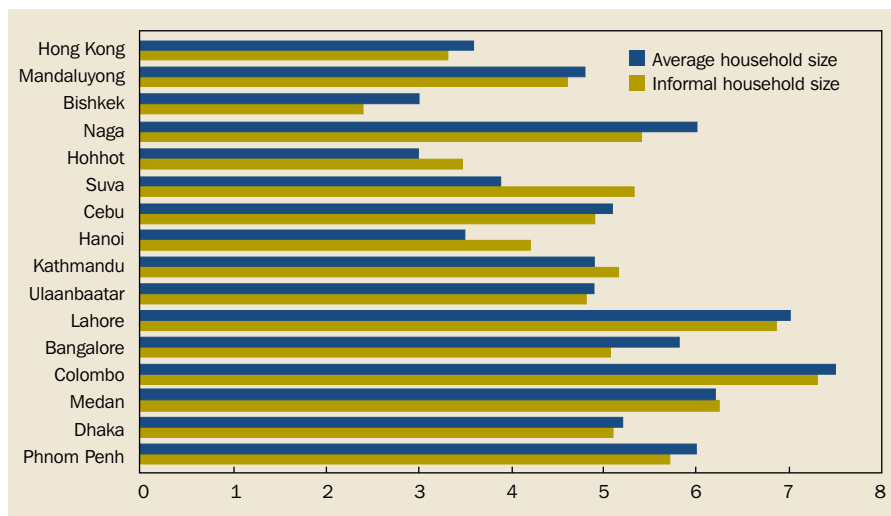
■ Long intercensal periods used to calculate household formation rate may not reflect the current situation.

1. Population

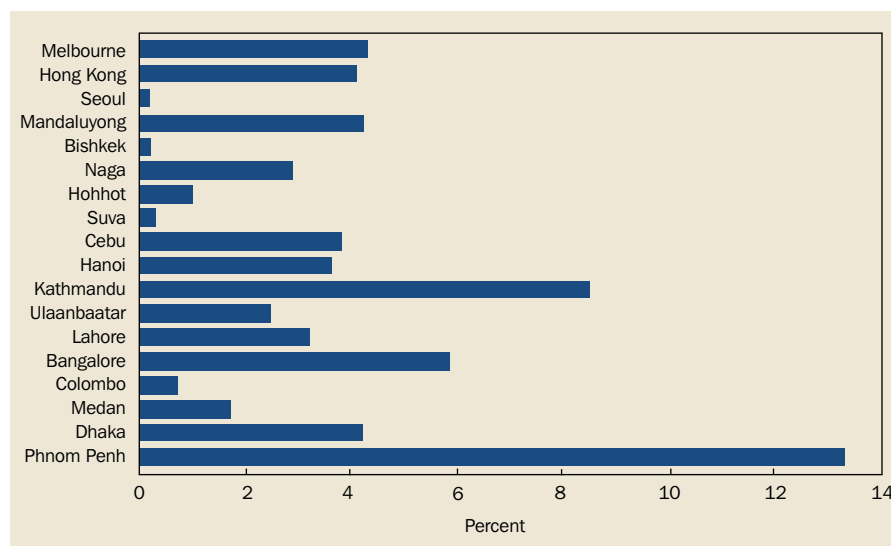
Average Household Size vs. Annual Population Increase



Average Household Size vs. Informal Household Size



Household Formation Rate



Definitions and Significance

Women-Headed Households. This is the percent of households headed by women. *Warning trend:* High proportions of women-headed households are indicative of social breakdown or an absent male population. *Significance:* Women-headed households have special problems: in many parts of the world they are significantly poorer, and if they are sole parent households, are more likely to have difficulty with rearing children.

Household Types. Types of household include (a) single person; (b) adults only; (c) single parent family, and; (d) adults and children. *Significance:* The prevalence of different family types describes much of the social structure of a community.

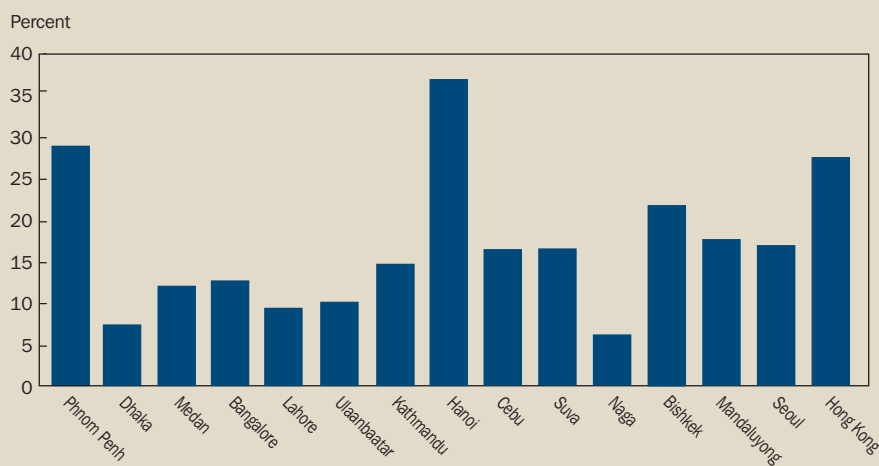
Informal Settlements. For informal settlements (a) population, (b) households, and (c) land occupied have been used to calculate persons per household and population density. *Warning trend:* A large proportion of the population living in informal settlements may imply that much of the population is living illegally and in crowded, unhealthy conditions. *Significance:* Informal settlements are a prime symptom of rural-urban migration that is too rapid and cannot be dealt with by urban management. Once established, they can last for a very long time if ignored by the establishment. Population densities and persons per household are generally much higher in informal settlements. This often corresponds to substandard living conditions. There will be future pressure for regularization, upgrading or resettlement. On the other hand, informal settlements provide genuinely affordable housing to poorer residents, particularly recent immigrants to the city, and have formed much of the core of older European cities in the past.

NOTE

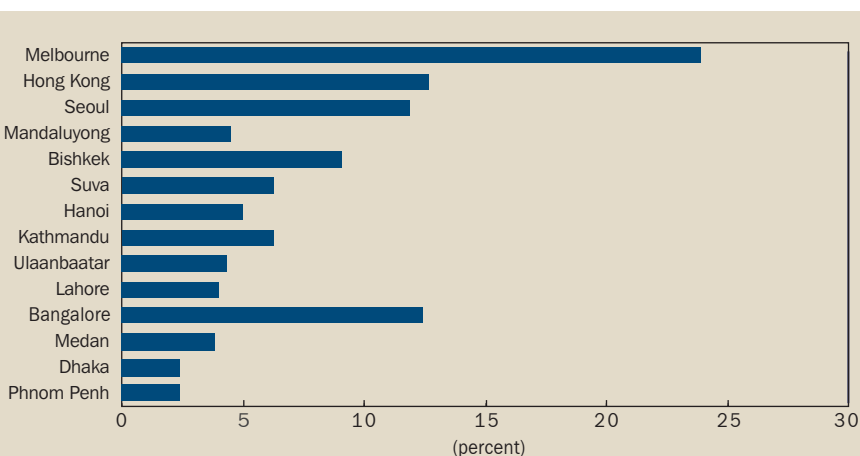
- Definition and boundaries of informal settlements are not clear.

1. Population

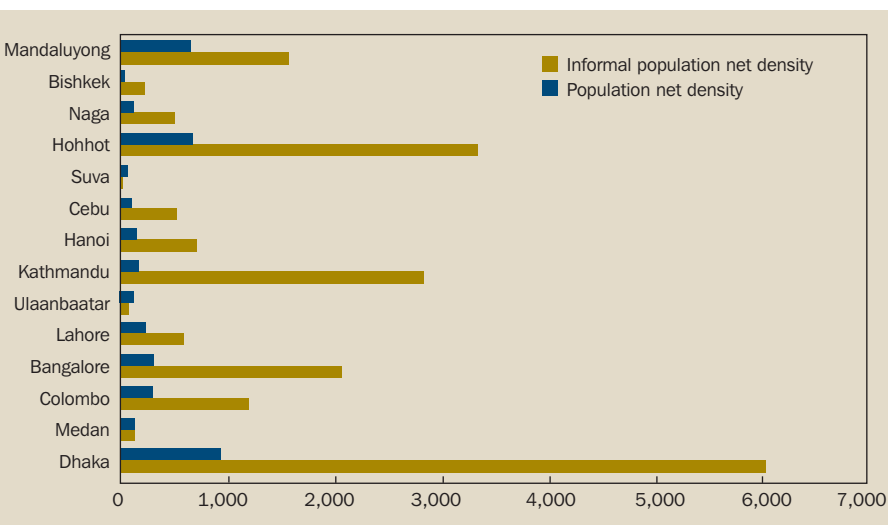
Women-Headed Households



Single-Person Households



Informal Population Net Density vs. Population Net Density



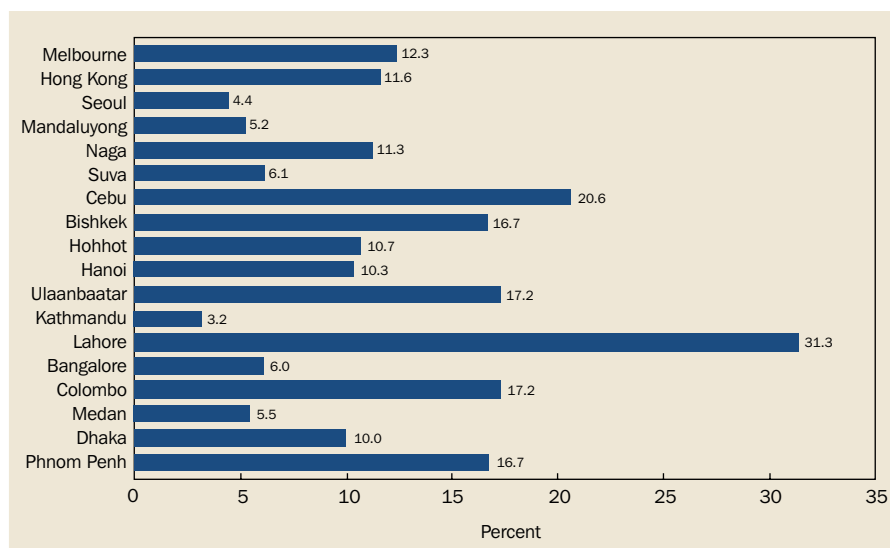
Definitions and Significance

EQUITY

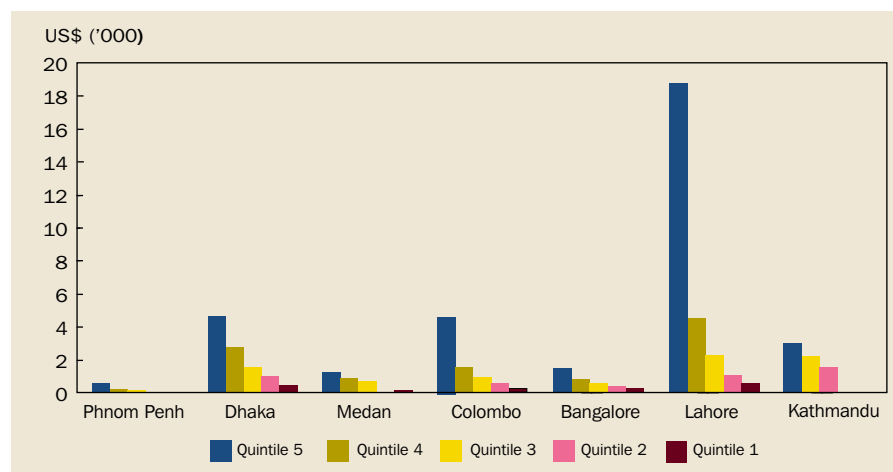
Income Distribution. This shows annual household income by quintile: income range (maximum and minimum) and average income in the quintile, in US\$. (a) Q5. Top 20%; (b) Q4. Next 20%; (c) Q3. Middle 20%; (d) Q2. Next bottom 20%, and; (e) Q1. Bottom 20%. Quintiles are obtained by dividing households into 5 equal groups ordered by income. It is particularly important to know the average income of the top 20%. *Warning trend:* Increasing inequality indicates that part of the community is not participating in social wealth. Inequality is often associated with social unrest and increases in crime. *Significance:* This information can be used to calculate several different measures of income dispersion—the Gini Index, and the Income Inequality Ratio, which take the ratio of the income of the top 20% to the bottom 20%. Note that the median household income can be taken as the average income in the third quintile—which is useful for other indicators.

2. Equity

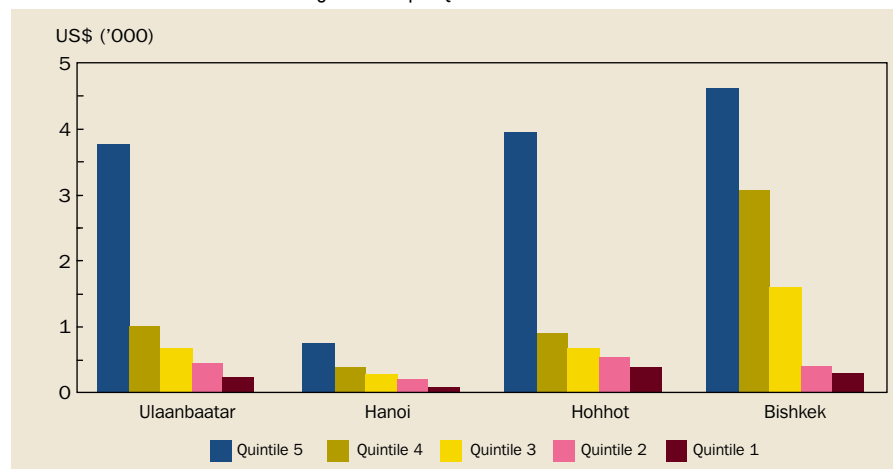
Income Inequality Ratio



Average Income per Quintile: Low-Developed Cities



Average Income per Quintile: Transition Cities

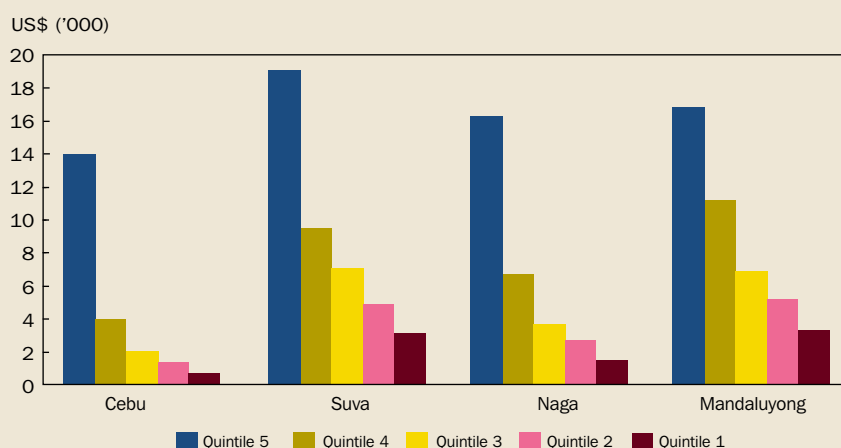


Definitions and Significance

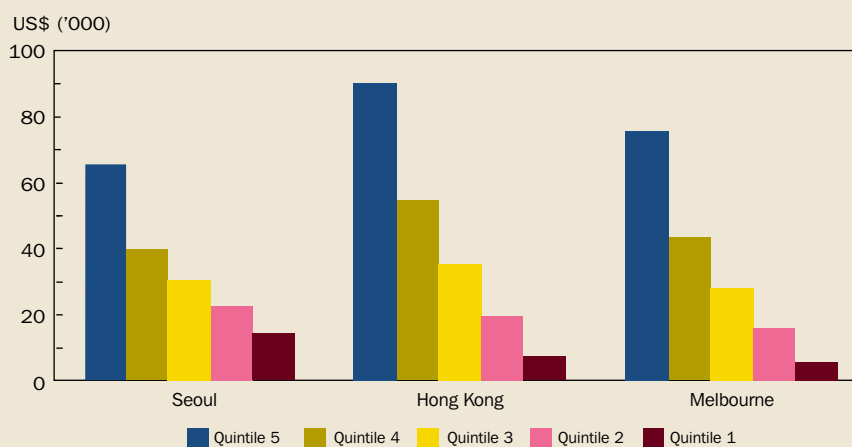
Income Distribution. This shows annual household income by quintile: income range (maximum and minimum) and average income in the quintile, in US\$. (a) Q5. Top 20%; (b) Q4. Next 20%; (c) Q3. Middle 20%; (d) Q2. Next bottom 20%; and (e) Q1. Bottom 20%. Quintiles are obtained by dividing households into 5 equal groups ordered by income. It is particularly important to know the average income of the top 20%. *Warning trend:* Increasing inequality indicates that part of the community is not participating in social wealth. Inequality is often associated with social unrest and increases in crime. *Significance:* This information can be used to calculate several different measures of income dispersion—the Gini Index and the Income Inequality Ratio, which take the ratio of the income of the top 20% to the bottom 20%. Note that the median household income can be taken as the average income in the third quintile—which is useful for other indicators.

2. Equity

Average Income per Quintile: Medium-Developed Cities



Average Income per Quintile: High-Developed Cities



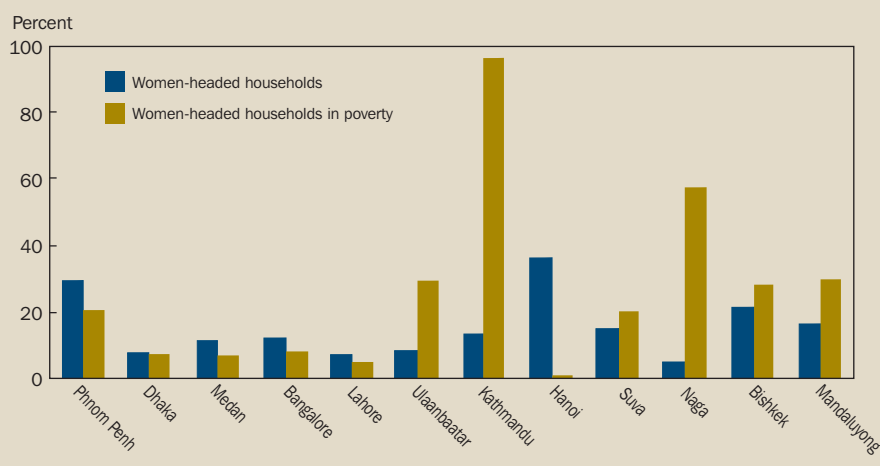
Definitions and Significance

HOUSEHOLDS BELOW POVERTY LINE

Women-Headed Households in Poverty. This refers to the proportion of households below the poverty line. Households with income of US\$ 1 a day. *Warning trend:* Rising poverty means either greater income inequality or lower national incomes, and an increase in all the major pathologies associated with poverty. *Significance:* Poverty alleviation is a major objective of all governments and the major objective of development aid agencies. Poverty is associated with malnutrition, illiteracy, social and economic exclusion, and in some cases, crime and social breakdown. Women-headed households are considered to be more vulnerable to poverty than other households in many places.

2. Equity

Women-Headed Households in Poverty vs. Women-Headed Households



NOTES

- Poverty lines can vary from one city to another. It is important to clarify the basis for the poverty line.

Definitions and Significance

Child Labor. This refers to the number of employed or economically active persons under 15 years of age. Children should be considered as employed if they are working largely in producing goods or services for sale, even where they are nominally in a “school” or similar. *Warning trend:* Ideally, child labor should be nonexistent under international treaties. *Significance:* Child labor is used because it is cheap, in occupations where children may be effective in producing goods and services. However, this particularly vulnerable group is liable to exploitation, and may not receive proper education.

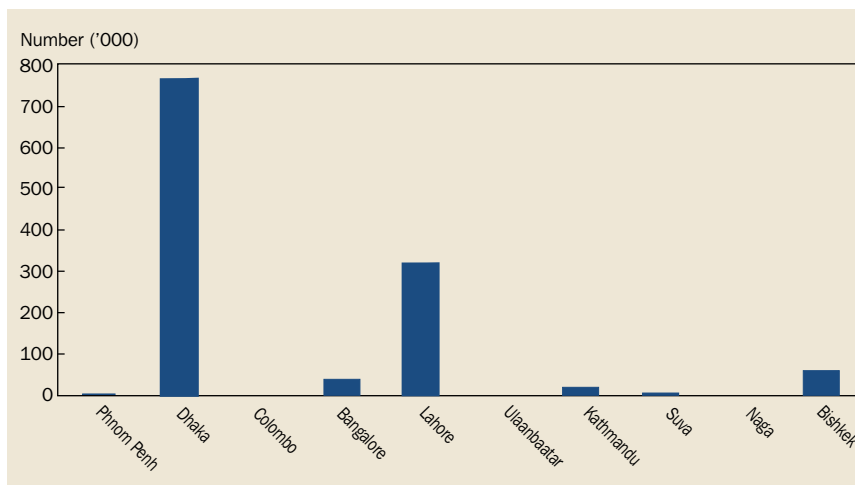
Unemployment. This is defined as those above 15 “without work, currently available for work and seeking work,” as a percentage of the full time workforce (employed + unemployed). *Warning trend:* High unemployment is a primary indicator of weakness in the formal economy. *Significance:* In industrialized countries, unemployment rates are probably the most familiar indicators of all expressing the health of the economy and the success of government economic policy. Unemployment is usually regarded as structural (due to changes in the structure of economy, firms closing, etc.), frictional (due to migration of people, firms, etc.), and temporary (due to the short-term nature of some kinds of employment).

NOTE

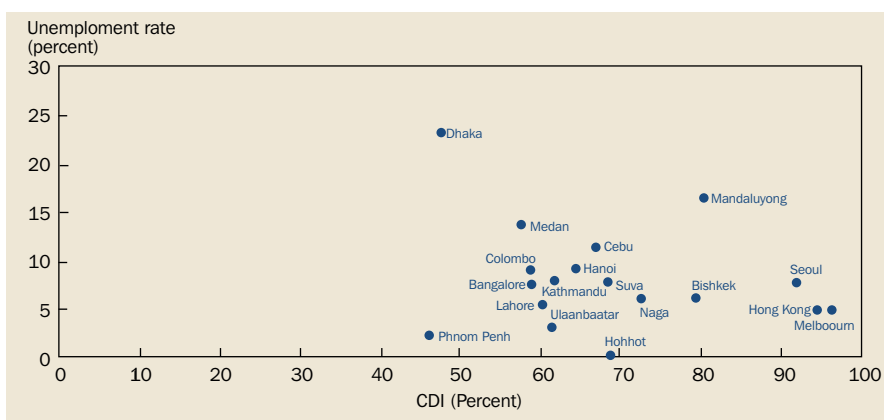
- Employable age groups and /or labor force participation rates may also vary and it is necessary to understand local definitions which some cities tend to adopt.

2. Equity

Child Labor



City Development Index vs. Unemployment Rate



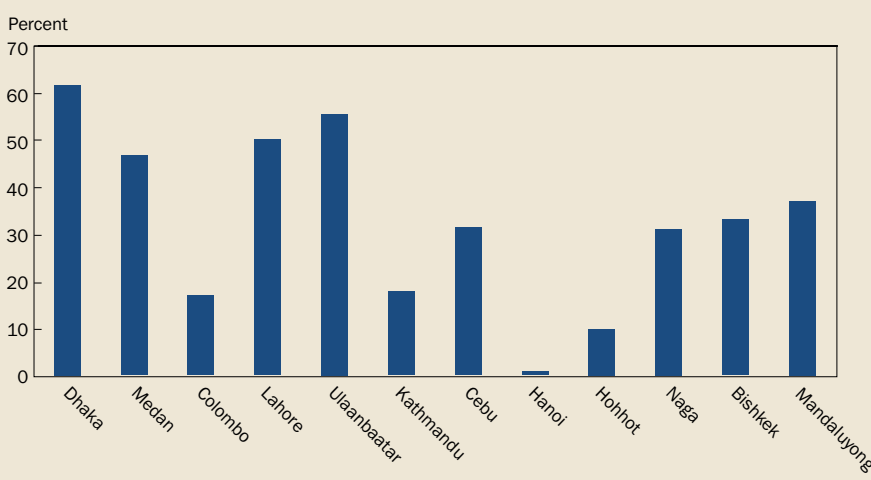
Definitions and Significance

Informal Employment. This shows percentage of the total workforce whose major income earning activity is part of the informal sector. The informal sector “consists of persons engaged in the production of goods or services with the primary objective of generating employment and incomes to the persons concerned. These units typically operate at a low level of organization, with little or no division between labor and capital as factors of production and on a small scale. The informal sector includes (a) all unregistered commercial enterprises, and (b) all non-commercial enterprises that have no formal structure in terms of organization and operation.” Essentially, it consists of unregistered enterprises, and enterprises with no formal structure. *Warning trend:* A large informal sector is a sign of an undeveloped economy. *Significance:* The informal sector has played an increasing role in the expansion of production in rapidly growing cities in developing countries. The informal sector has great freedom of action, being by definition free of government interference, and will tend to deliver labor resources to productive areas of the economy. Nevertheless it is typically under-capitalized, with no access to business finance, little access to the formal parts of the economy, and lacking resources for export development or for expansion. Workers in the informal economy have no legally defined rights, no access to government welfare in the event of illness or old age, may work under unsafe conditions, and are usually dependent on their wits for survival.

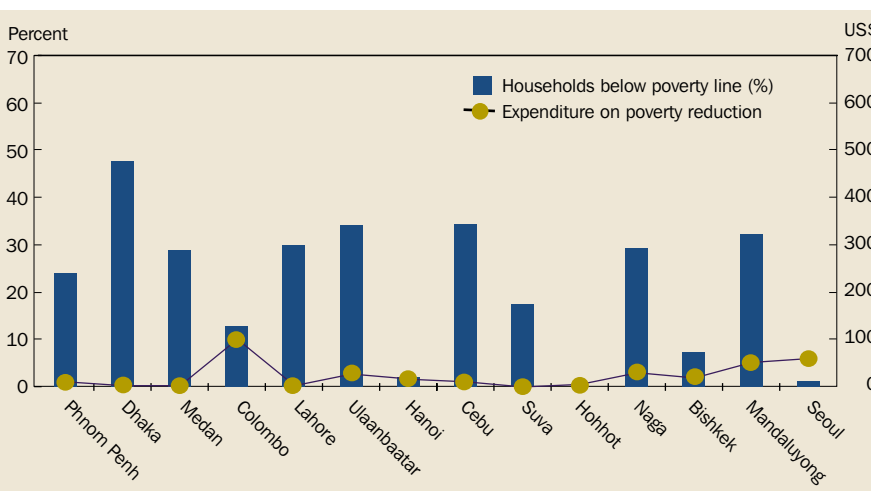
Expenditure on Poverty Reduction. This covers capital and recurrent expenditure on poverty reduction programs in 1998, all sources including government and NGOs, per poor person. Capital expenditure includes building of housing, shelters, slum relocation, service upgrading, etc. Recurrent expenditure includes food, income, rent and medical assistance, operating expenses of shelters, etc. Only direct subsidies are included. More general expenditures such as basic education, primary health care, safe drinking water, adequate sanitation, family planning, etc. applying to the whole community should be included only if they are delivered primarily to the poor. *Warning trend:* Low expenditure per person ensures that poverty will continue; with other associated undesirable effects such as illiteracy, diseases, malnutrition, etc. *Significance:* This expenditure is the primary response to poverty.

2. Equity

Informal Employment Rate



Households below Poverty Line vs. Expenditure on Poverty Reduction



Definitions and Significance

HEALTH AND EDUCATION

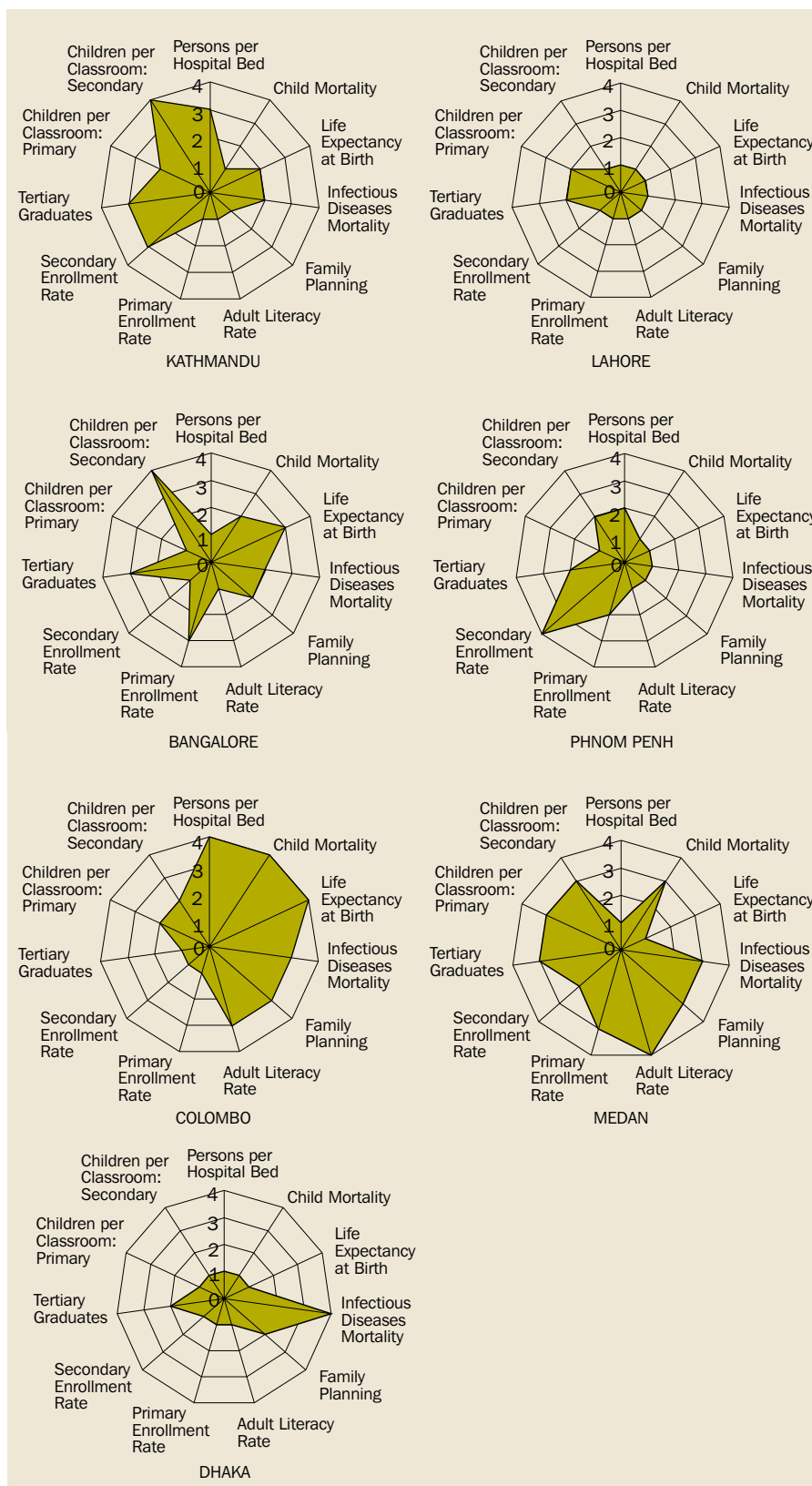
Persons per Hospital Bed. This is the city population divided by total number of hospital beds in the city. Includes both public and private hospitals. *Warning trend:* High ratios imply crowded hospitals and poor health service. *Significance:* Primary measure of adequacy of health infrastructure.

Child Mortality. This refers to the probability that a child will die before its fifth birthday, as a percentage. *Significance:* Child mortality is a primary outcome of inadequate health care and sanitation.

Infectious Diseases Mortality per Thousand Population. This can be computed as (Deaths from infectious diseases x 1,000) divided by City Population. Infectious diseases include all those that can be passed down from person to person. *Warning trend:* Rising death rates imply that medical care is failing, sanitation is worse, or that an epidemic is under way. *Significance:* Infectious diseases are passed on mostly through water, food or insect vectors, and reflect the quality of water and food, the control of insect pests, and the standard of medical care.

3. Health and Education

Health and Education, Low-Developed Cities



NOTES

- It is important to consider past population as well as current data.
- Re "Infectious Disease Mortality," note that not all patients are necessarily residents of the city.

Definitions and Significance

Family Planning. This is the percentage of married couples with females in the fertile age group that practices family planning in some form. *Warning trend:* Lack of family planning corresponds to high birth rates, large families and older mothers with children who have higher rates of congenital deformity. It may also correspond to the spread of venereal diseases including AIDS. *Significance:* Family planning is strongly encouraged in countries where the population is increasing faster than economic capacity. Prevalence depends on family planning programs, religious practices and the education level of women.

Adult Literacy Rate. This refers to the percentage of adult population who are literate. Literacy is defined as being “able to read and understand a simple paragraph in their first written language.” *Warning trend:* High or increasing. *Significance:* Illiterate people are unlikely to be able to improve their economic or social situation. A high illiteracy rate will mean that few people are available for modern economic activity or administration.

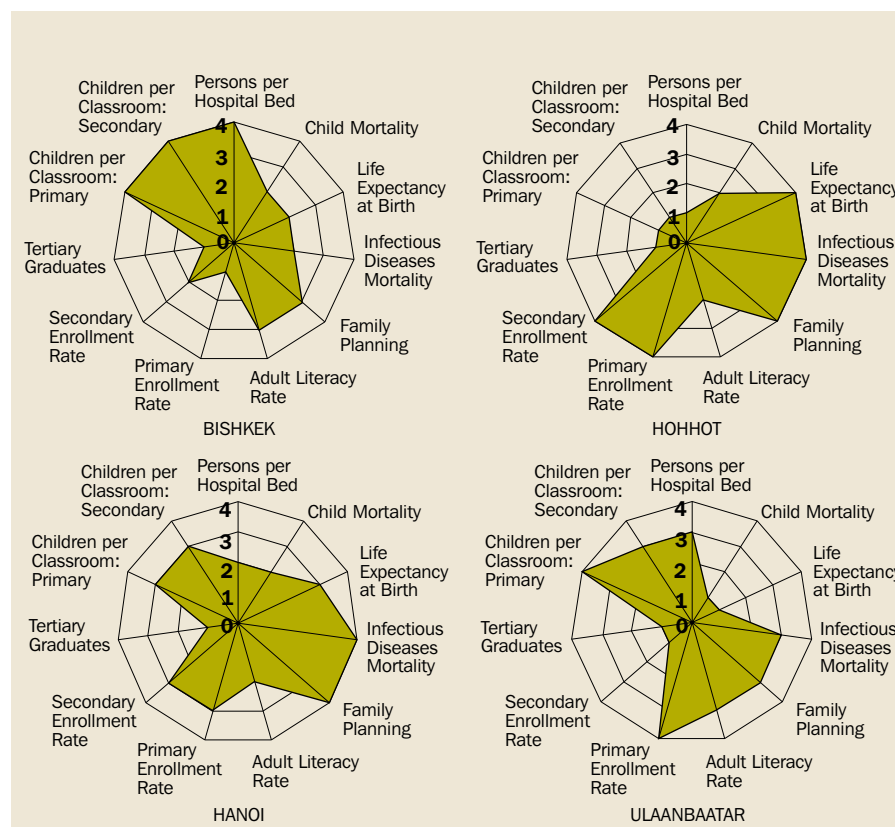
School Enrollment Rates. This covers percentage of children of eligible age, by sex who are enrolled in: (a) primary school, and (b) secondary school. The ages at which enrollment for primary and secondary education is expected to differ between countries, but are generally 6-12 years and 12-17 years of age, respectively. *Warning trend:* Low school enrollment rates correspond to a lack of literacy and numeracy in the population. *Significance:* The success in retaining children in school is a major measure of social development and the ability of society to sustain human resource investment. Many countries have different enrollment rates for boys and girls, particularly in secondary school, which reflects cultural attitudes and differential access to educational opportunities.

NOTES

- It may also be important to analyze type of graduates being produced (e.g., new technology-based) by local universities aside from determining the number of tertiary graduates.
- Some cities employ shift arrangements, in which case apparent classroom overcrowding may not be so.

3. Health and Education

Health and Education, Transition Cities

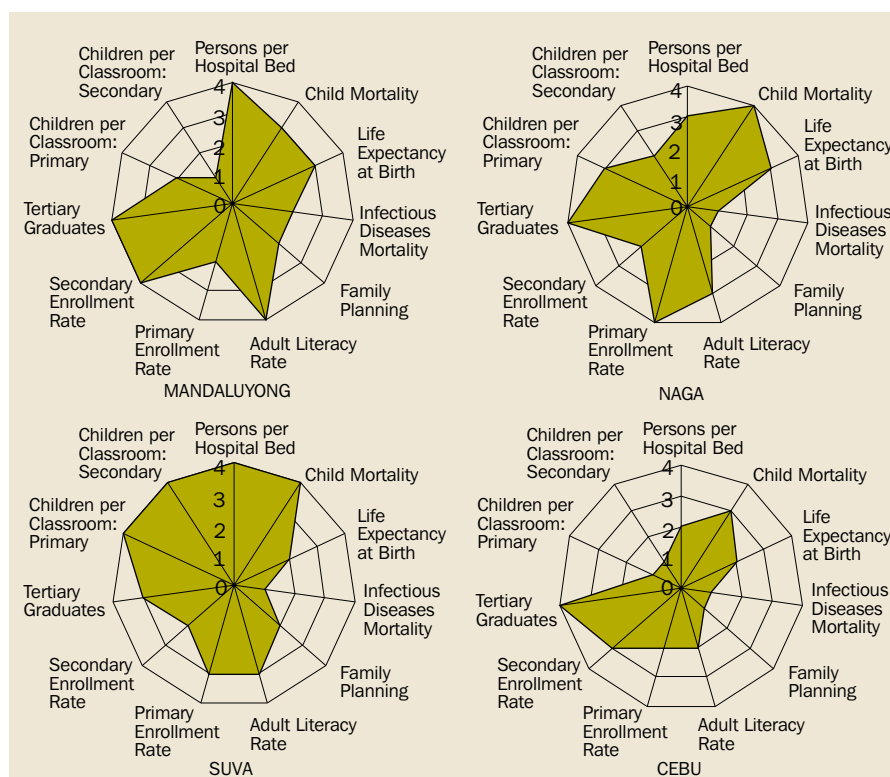


Definitions and Significance

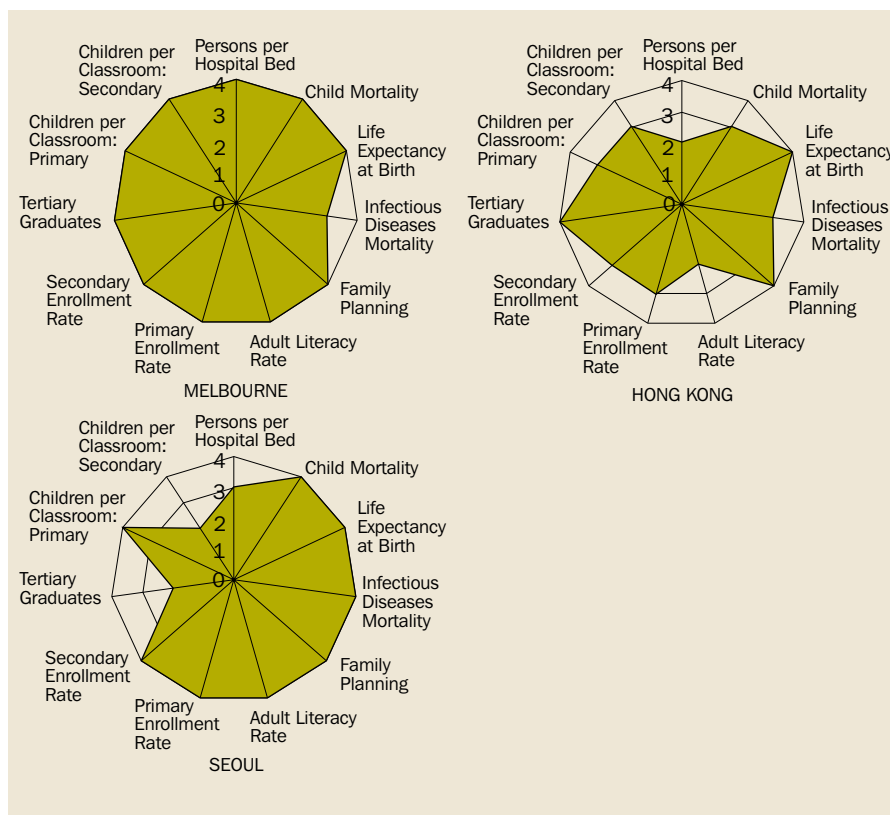
School Children per Classroom. This covers the total number of school children divided by total classrooms: (a) primary, and (b) secondary for all kinds of school. *Warning trend:* Large class sizes indicate crowding and lack of capital funding for educational facilities. *Significance:* It is difficult for children to receive a proper education when classroom sizes are very large.

3. Health and Education

Health and Education, Medium-Developed Cities



Health and Education, High-Developed Cities



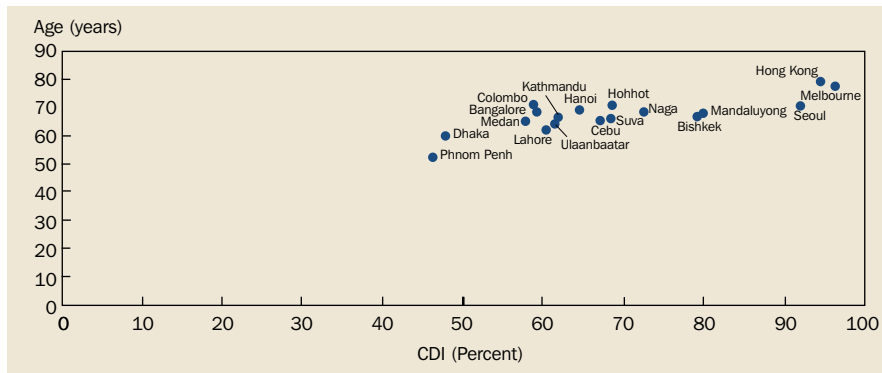
Definitions and Significance

Life Expectancy at Birth. This refers to the expected age that a newborn child expects to reach. *Warning trend:* Low life expectancies are symptomatic of low quality of life. Increasing life expectancies will cause the population to increase, if the birth rate stays high. *Significance:* Life expectancy is considered to be the best single indicator of human development, reflecting levels of medical care, sanitation and nutrition.

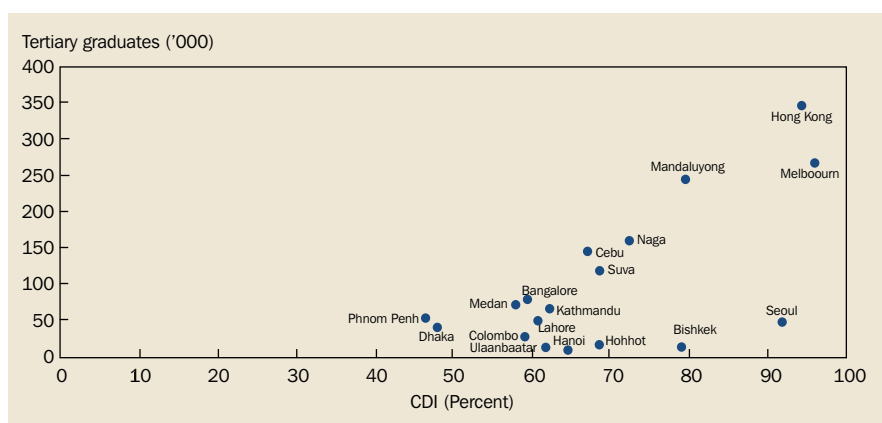
Tertiary Graduates. This refers to the proportion of tertiary graduates in the adult population, male and female. Defined as the proportion of male graduates to all adult males, and female graduates to all adult females. Tertiary graduates include graduates and diplomats from universities and all other accredited tertiary level institutions. It does not normally include graduates from vocational private colleges unless they are fully accredited. *Warning trend:* Low numbers of graduates will provide only a small pool of people for management, training, the professions, and for new technology. *Significance:* The indicator measures higher level education achievement and human capital development.

3. Health and Education

City Development Index vs. Life Expectancy



City Development Index vs. Tertiary Graduates



Definitions and Significance

URBAN PRODUCTIVITY

City Product per Capita. It is defined as total city product per year divided by population. This figure is not usually directly available, despite its importance. It can be approximated from national figures by several fairly straightforward procedures. The city income person is usually substantially above national GDP per person figures. If it is not, then an estimation error has probably been made. *Warning trend:* Falling city product per person. *Significance:* This indicator is the most important single indicator of urban productivity, being essentially the GNP of the city. It will fall if economic growth fails to keep pace with population growth.

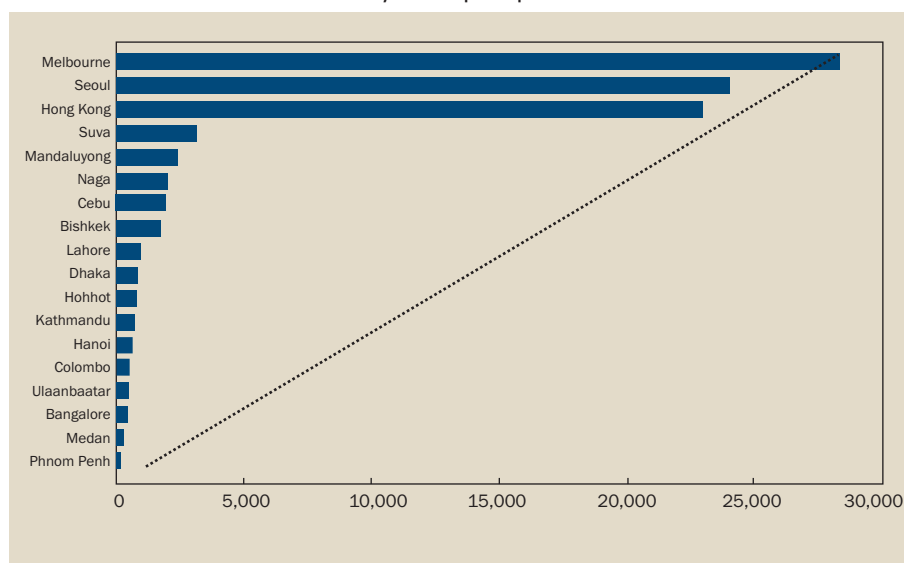
Employment by Industry. This includes total employment, for each category: (a) Secondary and infrastructure – Manufacturing, Construction, Utilities; (b) Consumer services – Wholesale and retail, transport, personal services; (c) Producer services – Finance and business services; (d) Social services – Education, health government, and (e) Others – Agriculture, mining and defense. This is a version of Singleman's classification, which is generally regarded as the best way of organizing the services sector. *Significance:* The services sector is the major growth area in the world economy, and low levels of participation, particularly in the key business services sector, will not encourage growth.

NOTE

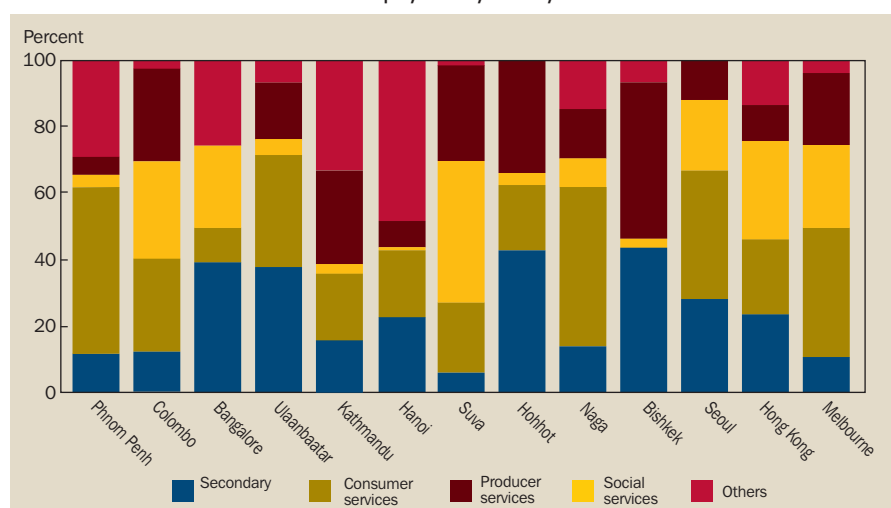
■ Data on household expenditures are usually at the national or regional level. City surveys done by business or private groups covered limited samples and were not regularly done.

4. Urban Productivity

City Product per Capita



Employment by Industry

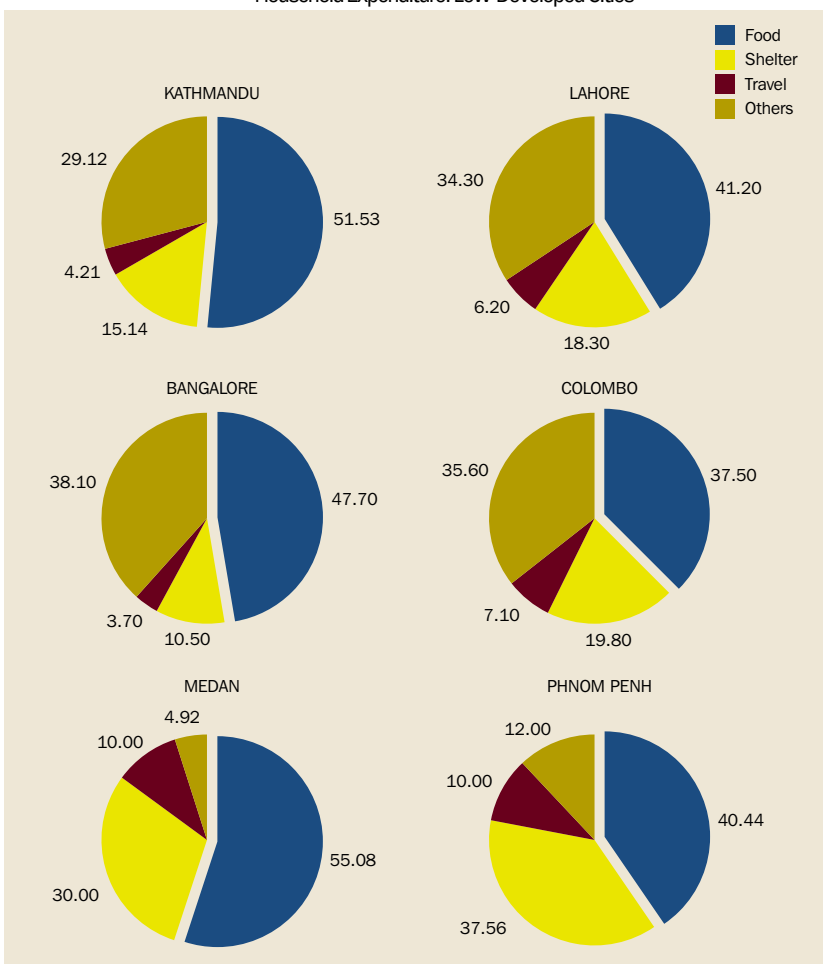


Definitions and Significance

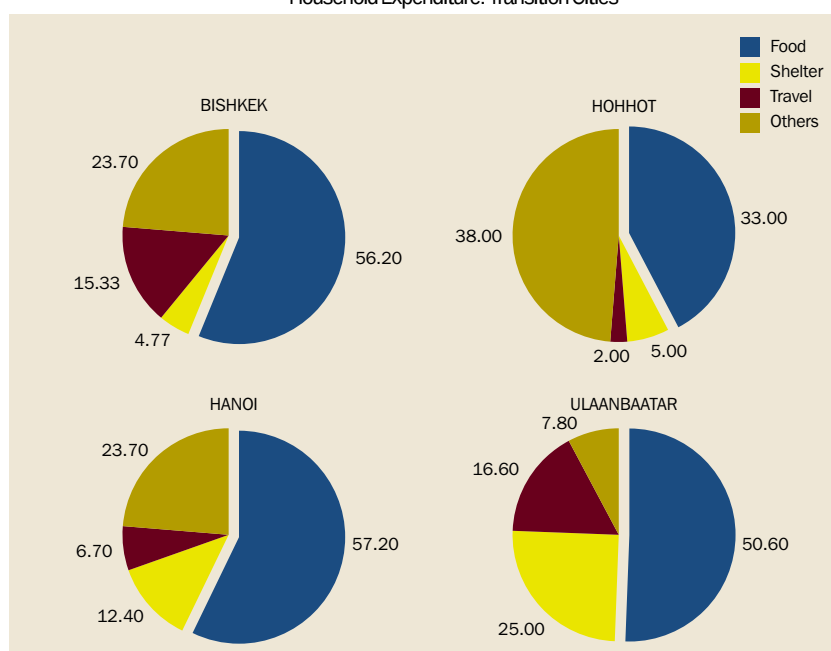
Household Expenditure. This refers to the proportion of average household income spent on (a) food, (b) shelter, (c) travel, and (d) others. The breakdown must be obtained from a recent household expenditure survey, usually for some higher jurisdiction. *Warning trend:* Increasing expenditure in any of the first three categories indicates declining affordability. *Significance:* Household expenditure on a range of commodities is a major determinant of demand. For lower income households, the necessary costs of major items in the budget may place the household below the poverty line.

4. Urban Productivity

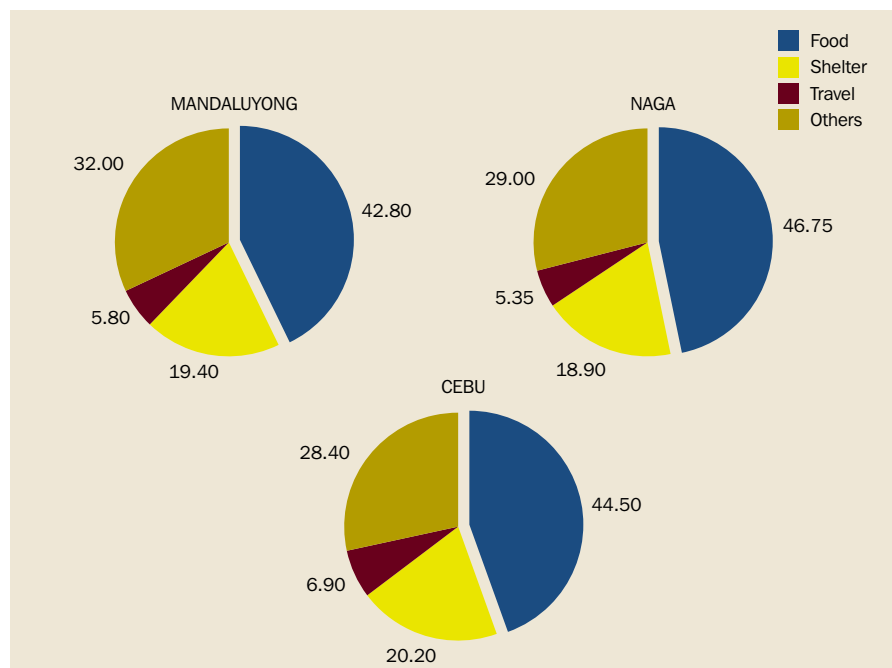
Household Expenditure: Low-Developed Cities



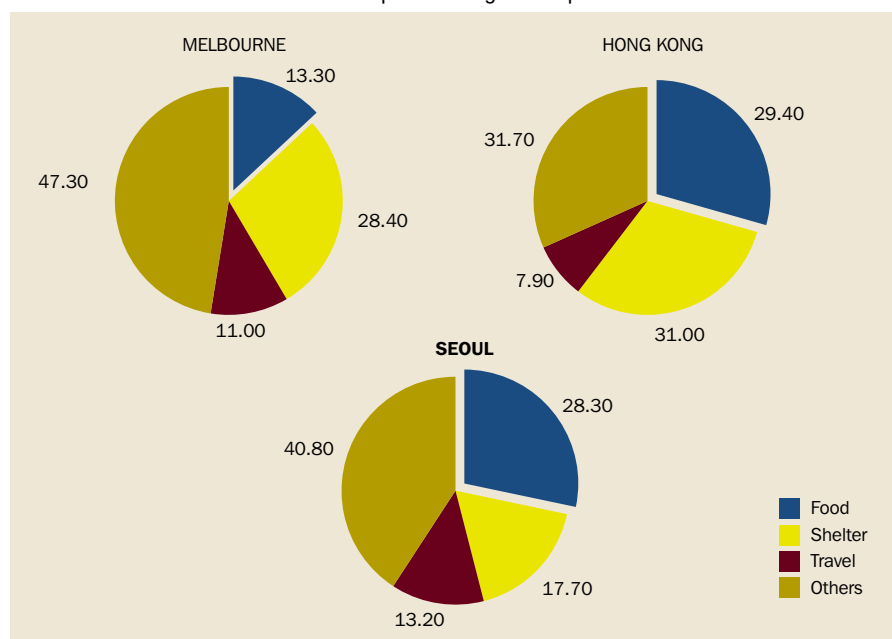
Household Expenditure: Transition Cities



Household Expenditure: Medium-Developed Cities



Household Expenditure: High-Developed Cities



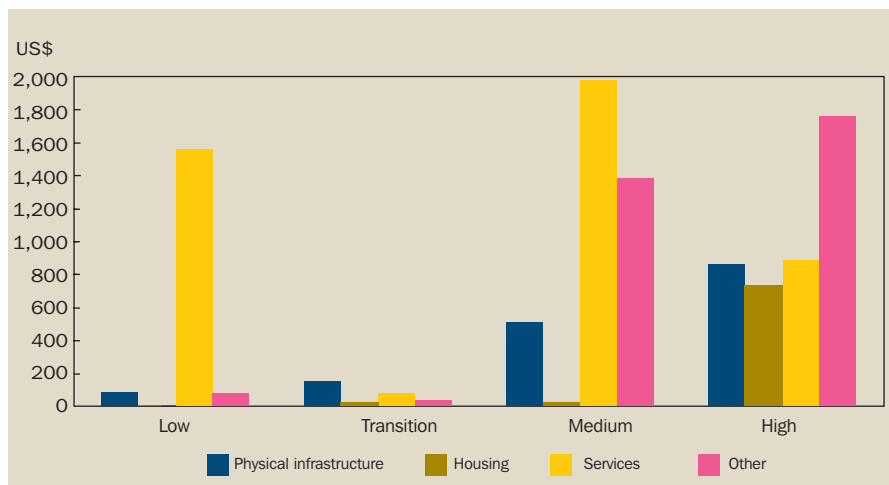
Definitions and Significance

Investment by Sector. These are funds invested per person by economic sector, US\$ per annum, on (a) physical infrastructure, (b) housing; (c) manufacturing, (d) services, and (e) others. *Warning trend:* Falling investment indicates a lack of confidence in the local economy, or a general lack of funds. *Significance:* Investment is vitally necessary for economic growth.

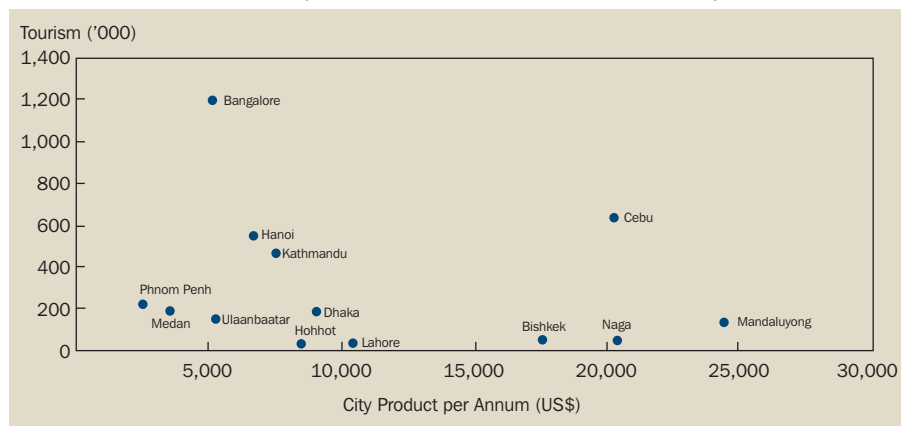
Tourism. This includes (a) persons (thousands) and (b) expenditure (US\$ millions) of tourists visiting the city, both international and national. *Significance:* Tourism is a major growth industry and generator of foreign exchange.

4. Urban Productivity

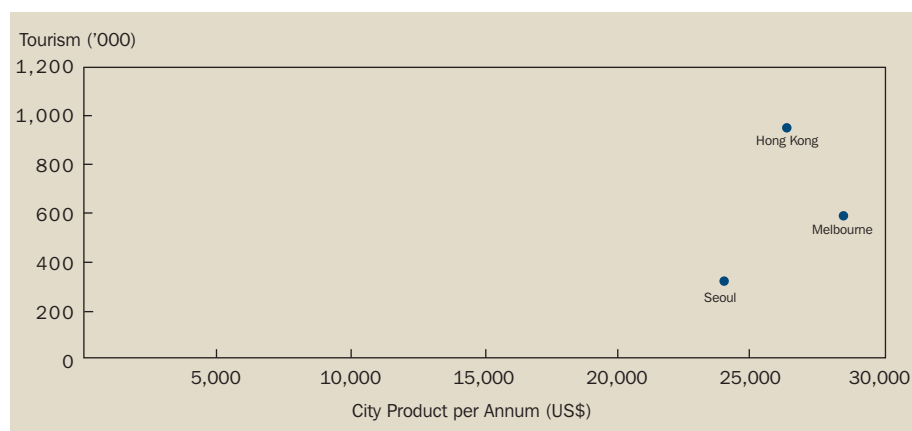
Investment by Sector per Capita per Annum



Tourism Arrivals vs. City Product: Medium, Transitional and Low-Developed Cities



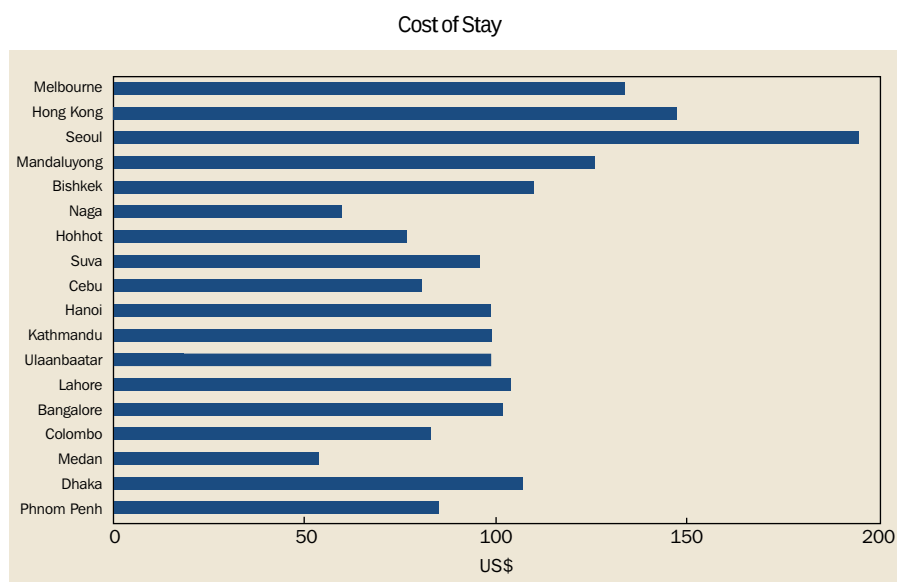
Tourism Arrivals vs. City Product: High-Developed Cities



Definitions and Significance

Cost of Stay. This includes the expected cost per stay per day of executives visiting the city, including normal hotel and living expenses. *Significance:* Many cities are quoting affordable costs as a means of attracting investors and expatriates away from the most expensive cities. *Source:* CDB has provided this indicator from ADB and UN sources.

4. Urban Productivity



Definitions and Significance

NEW TECHNOLOGY

Tourism. This refers to persons (thousands) and expenditures (\$ millions) of tourists visiting the city, both international and national. *Significance:* Tourism is a major growth industry and generator of foreign exchange.

Corporate Headquarters. This covers the number of major national and regional corporate headquarters of businesses with an annual turnover of US\$100 million or over. *Warning trend:* Declining number of

headquarters indicates the city is being replaced as a corporate center. *Significance:* A measure of the extent to which the city is a business center.

Telephone Traffic. This refers to the number of telephone calls per annum per person: (a) local, (b) international, and (c) mobile or cellular phone. Includes both private and business calls. *Significance:* Major indicator of technological connectivity.

Commercial Flights. This refers to the number of flights leaving per month, for national and international destinations.

Internet Hosts per 1,000. This refers to the number of internet hosts per 1,000 population. *Significance:* The Internet is commonly regarded as the way business will be done in the future.

5. New Technology

Connectedness

City	Tourism	Tourist Expenditure (\$)	Large Corporations	Telephone Traffic			Households connected to phone (%)	Commercial Flights			Internet hosts per 1,000	Connectivity (%)	Congestion (%)
				Local calls per person	International calls per person	Mobile phone calls per person		Nat'l Flights	Int'l Flights	Total Flights			
Bangalore	1,200.00	300.0	25.00	130.0	2.00	1.40	66	690	52	742	8.00	48	74.8
Bishkek	59.36	2.4	NAV	270.0	3.20	0.04	73	386	269	655	4.30	16	51.6
Cebu	634.74	158.7	NAV	28.0	0.12	10.40	15	2,900	19	2,919	6.00	37	52.5
Colombo	381.00	45.7	NAV	64.0	1.20	5.00	53	150	250	400	9.63	26	62.6
Dhaka	182.00	56.0	5.00	17.0	0.40	0.50	9	NAV	NAV	NAV	9.23	34	86.2
Hanoi	500.00	85.3	13.00	88.0	1.20	1.00	37	2,645	245	2,890	6.30	47	61.4
Hohhot	39.60	126.0	NAV	55.0	0.19	7.00	9	155	8	163	0.85	NAV	67.4
Hong Kong	9,574.71	6,853.0	819.00	420.0	71.00	132.00	99	0	6,800	6,800	278.00	100	69.3
Kathmandu	463.68	152.5	NAV	100.0	0.40	0.60	52	1,905	395	23,00	15.40	39	57.4
Lahore	42.00	3.0	1.00	78.0	1.90	1.20	62	977	244	1221	16.60	24	73.1
Mandaluyong	140.00	48.0	2.00	210.0	3.30	4.40	87	332	1,170	1502	18.00	34	72.5
Medan	191.39	21.6	NAV	60.0	2.10	7.00	41	567	187	754	10.00	27	61.9
Melbourne	5,917.40	1,150.0	38.00	594.0	11.00	80.00	99	10,064	1,449	11,513	131.90	85	32.0
Naga	50.41	13.1	NAV	90.0	0.44	38.02	54	76	0	76	4.73	05	44.5
Phnom Penh	218.84	43.7	3.00	3.5	0.10	1.10	2	300	150	450	0.49	16	57.8
Seoul	3,188.00	1,912.8	120.00	340.0	11.60	84.00	95	6,450	8,310	14,760	150.00	88	83.3
Suva	30.60	15.3	NAV	76.0	2.10	2.80	40	240	28	268	26.64	17	40.1
Ulaanbaatar	150.70	27.8	NAV	63.0	0.80	1.00	34	121	42	163	4.14	13	53.3

NOTES

- There should be a clear basis for definition of telephone traffic, e.g., does connectivity only relate to calls outside the city, or all calls?
- An alternative indicator for connectivity, i.e., the cost to the household of getting connected (phone/internet), may be considered.

Definitions and Significance

URBAN LAND

Urban Land. This covers land in hectares zoned as (a) residential, (b) business, (c) services, (d) transport, (e) mixed use, (f) others, and (g) total area.

Prime Commercial Land Price. This refers to the cost of a square meter of land in a prime commercial location, in US\$. The most expensive was used. *Warning trend:* High and rising prices indicate a very active pressure for commercial space; however, it may also be a sign of excessive planning controls or lack of land. *Significance:* The price is the measure of demand vs. supply in commercial areas.

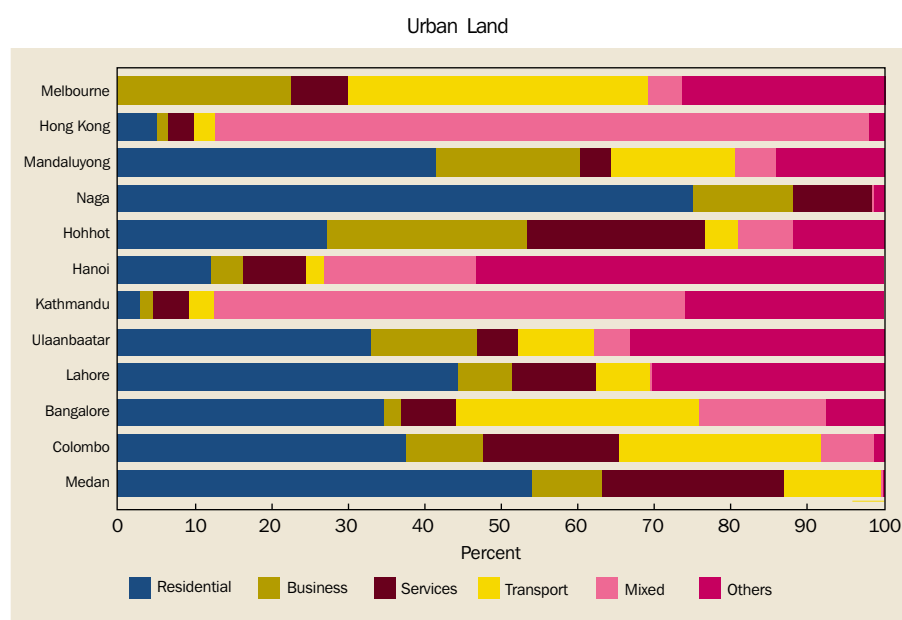
Prime Rental and Occupancy Cost. This refers to the average costs of occupying prime commercial space, per square meter, in constant US\$. (a) prime rental per month, (b) operating costs per month, and (c) statutory charges per month. *Warning trend:* Rising prices indicate a shortage of office space. Falling prices (particularly rentals) imply a glut and overbuilding. *Significance:* The cost of occupying office space is a major concern of businesses wishing to locate in the city.

Land Development Multiplier. This gives the ratio between the median price of land in a developed plot at the urban fringe in a typical subdivision and the median price of raw, undeveloped land in an area currently being developed (i.e., with planning permission). The comparison should be raw and serviced land in typical urban fringe areas where residential development is allowed (i.e., where planning permission is given and zoning regulations for residential development is in effect). Prices refer to typical 50-200 unit subdivisions on the urban fringe. This indicator does not apply to local government areas that do not contain part of the urban fringe. *Warning trend:* High and rising ratios. *Significance:* The mark up on serviced land can be very much greater than the cost of the services provided—300% is typical—and reflects the slow pipeline for development and restrictions in the planning process.

NOTES

- There is a need to assess urban land figures from survey results, not from plans.
- On "Prime Commercial Land Price," data to be obtained should be from a representative sample of locations.
- On "Prime Rental and Occupancy Cost," the definition of operating costs should be laid down clearly.

6. Urban Land



Prime Commercial Land Price; Prime Rental and Occupancy per Month; Land Development Multiplier

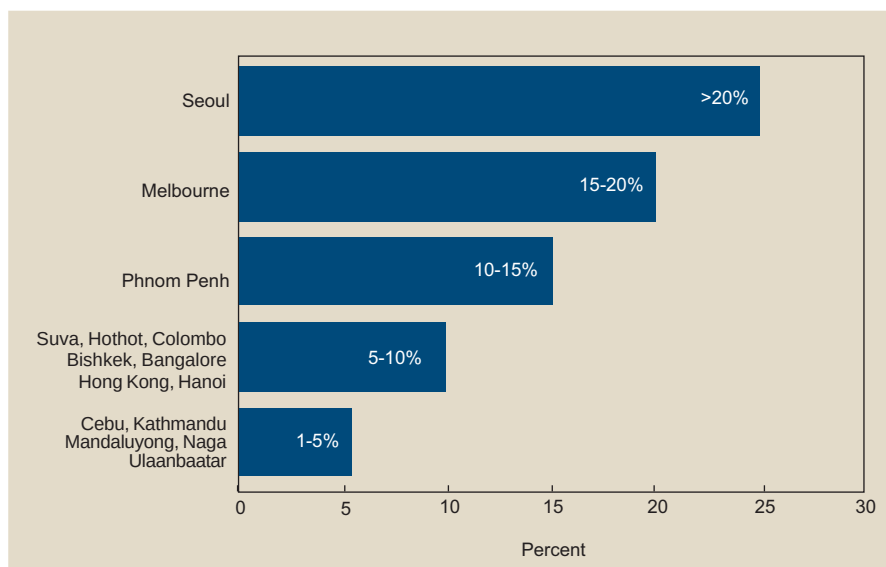
City	Prime Commercial Land Price (US\$ per m ²)	Prime Rental Cost per Month (US\$ per m ²)	Land Development Multiplier
Phnom Penh	400.0	NAV	13
Dhaka	1,225.0	5.0	6
Medan	199.7	15.0	3
Colombo	875.0	11.6	2
Bangalore	780.0	5.2	15
Lahore	532.0	45.0	1
Ulaanbaatar	9.4	8.0	1
Kathmandu	714.0	7.3	3
Hanoi	2,256.0	35.0	NAP
Cebu	367.0	245.0	2
Suva	553.7	32.7	3
Hohhot	108.0	0.3	3
Naga	1,222.7	10.3	5
Bishkek	10.5	12.0	4
Mandaluyong	1589.5	11.2	4
Seoul	23,253.0	NAV	NV
Hong Kong	27,539.0	74.1	NAP
Melbourne	2,588.0	100.0	5

Definitions and Significance

Public Open Space. This refers to the proportion of public open space in the built-up area (sometimes known as “green space”). Should include public parks, gardens, reserves, recreation areas, beaches (but not private golf clubs and similar). *Warning trend:* Low proportion of public open space. *Significance:* A minimum level of public open space is regarded as necessary both for the quality of life and for environmental regeneration.

6. Urban Land

Public Open Space (Percent to Total Land Area)



NOTE

- In calculating government landholdings, it may be more useful to investigate all levels of government.

Definitions and Significance

HOUSING

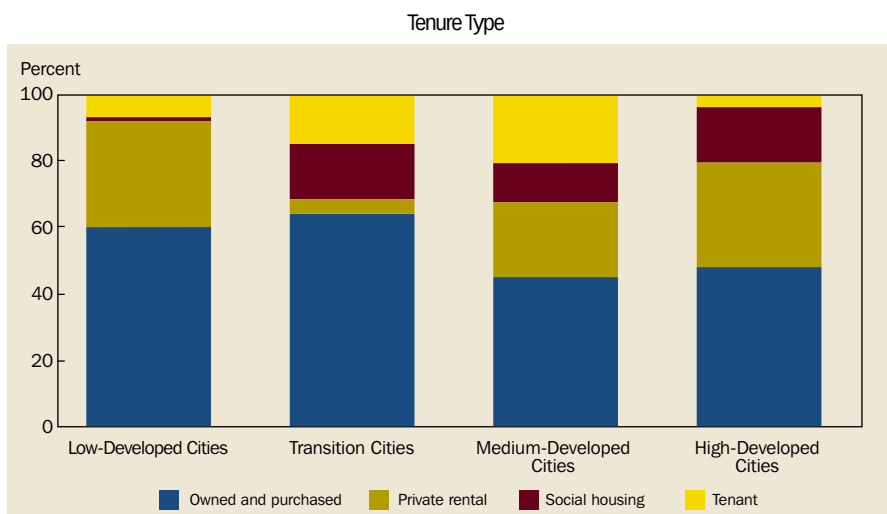
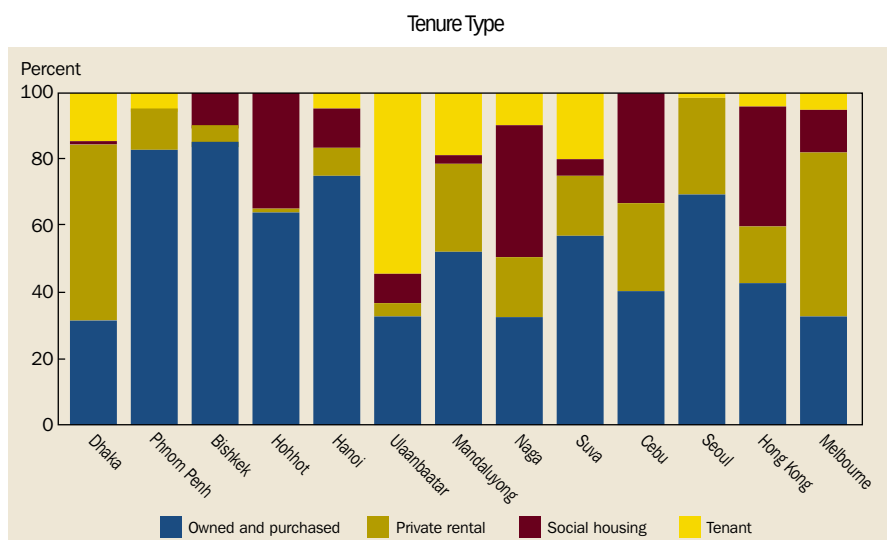
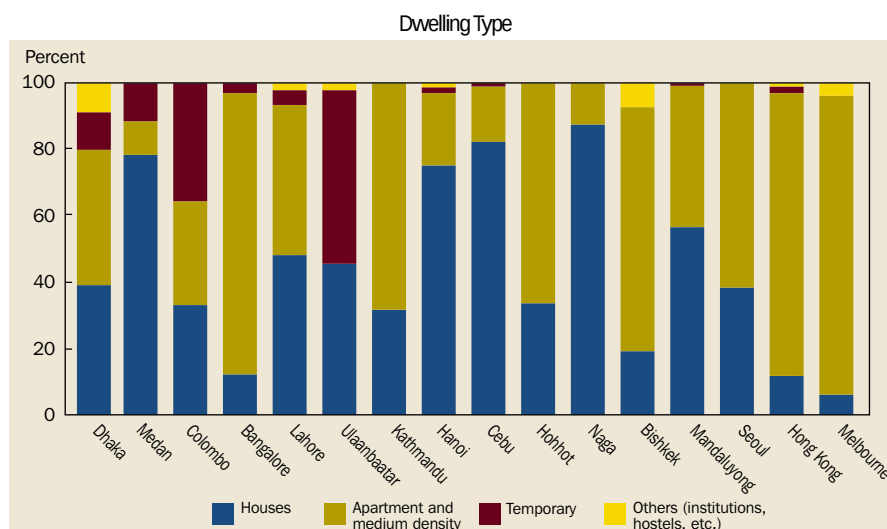
Dwelling Type. This covers the percentage of (a) single family houses, (b) medium density, (c) apartments, (d) temporary dwellings, and (e) others (institutions, hostels, etc). See the Glossary for a definition.

Tenure Type. This covers the percentage of households in housing tenures (a) owned or purchased. These are households with a clear title or ownership (formal housing) of the house and land they occupy, possibly through a company structure or as condominiums or strata title or long leasehold of land, and possibly encumbered by a mortgage (purchasing). It also covers (b) private rental. These are households in formal housing for which rents are paid to a private landlord who is the legal owner. They include backyard shacks, if the main property is owned. (c) Social housing covers all housing in public, parastatal, or NGO owned or operated housing, including government employee housing and housing owned or operated by cooperatives or housing associations. (d) Sub-tenant households are those renting from another household who is renting the premises. (e) rent-free. Households occupying housing formally owned by someone else and who do not pay rent. (f) Squatter – no rent households are in squatter housing, or housing that has no title to the land on which it stands, and who do not pay rent. (g) Squatter – paying rent are households in squatter housing who pay rent. (h) Others includes nomads, persons in institutions, boarding houses or hotels, and other tenures. *Significance:* The tenure structure represents the legal relationship between households and their dwellings.

NOTE

- Cities differ in their form and function and enough flexibility should be given to capture these distinctions, e.g. develop their own classification by form, density or tenure.

7. Housing



Definitions and Significance

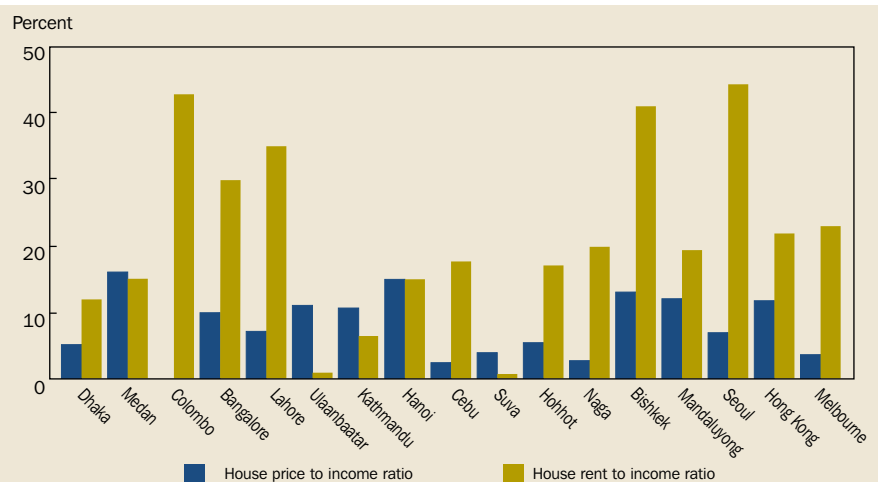
House Price to Income Ratio. This refers to the median house price divided by median household income. It is the ratio of the median free-market price of a dwelling unit to the median annual household income. *Warning trend:* Very high or rising ratios imply either that there is no effective housing market (as in the formerly socialist countries) or that land is extremely scarce, generally due to regulatory inefficiencies or restrictions. *Significance:* This is generally regarded as the single indicator that gives the greatest amount of information about housing markets.

House Rent to Income Ratio. This is the median annual rent divided by median annual renter household income. Expressed as percentage. Incomes are median gross incomes of private and public renter households. Rents are contract rents, or the amount paid for the property alone and not for utilities such as electricity, heating, etc. *Warning trend:* High values imply that supply is not keeping up with demand and affordability is poor. Low values usually imply controlled tenancies or a high proportion of public housing. *Significance:* It is a key measure of housing affordability.

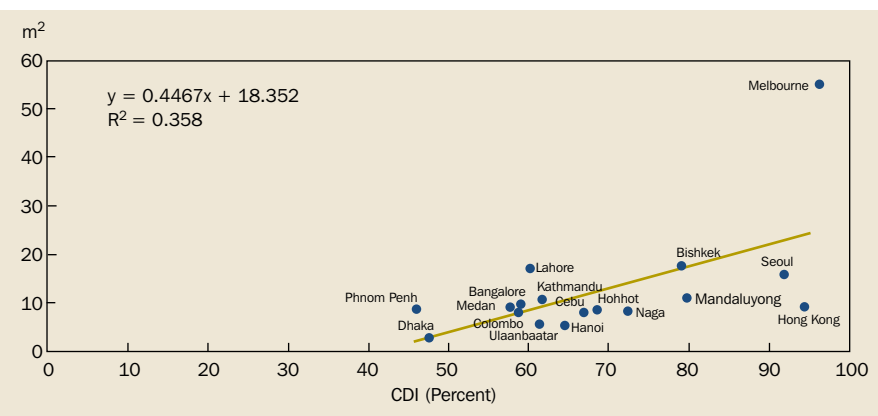
Floor Area per Person. This is the median floor area per person in m². The floor area should include all living space, along with bathrooms, internal corridors, and closets. Covered semiprivate spaces such as inner courtyards or verandahs should be included if used by the household for cooking, cleaning, etc. *Warning trend:* Very low levels imply overcrowding, while falling levels imply that not enough new housing is being produced. *Significance:* It measures the adequacy of living space in dwellings, and is a primary measure of consumption.

7. Housing

House Price to Income Ratio vs. House Rent to Income Ratio



City Development Index vs. Floor Area per Person



Definitions and Significance

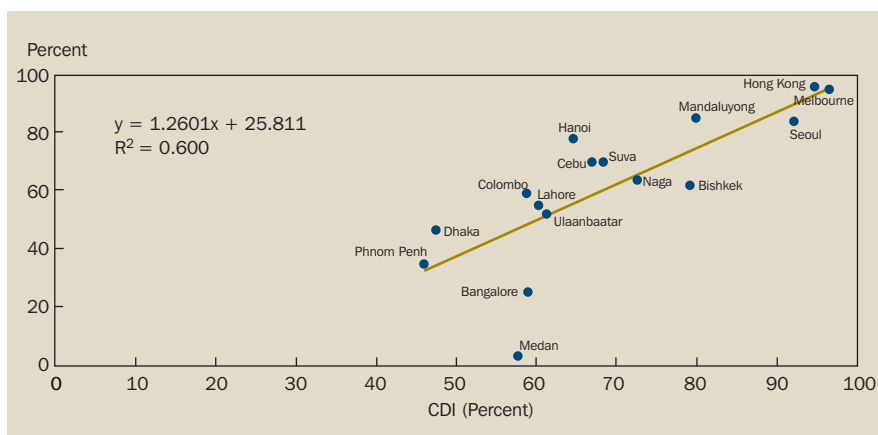
Housing in Compliance. This is the percentage of housing stock in compliance with local codes. Only housing which has both a clear title to the land on which it stands, and which is constructed with all required building, land use, or land subdivision permits, should be regarded as being in compliance. *Warning trend:* Low or falling values may mean that development is proceeding without proper government controls, and that government is either tolerant of housing that does not comply with its regulations or is unable to prevent trespasses. In some cases, it may imply that codes are excessively restrictive or inappropriate. *Significance:* It measures the extent to which the urban population is legally housed.

Net Housing Outlays by Government. This includes the total net housing expenditures by all levels of government on dwelling construction, rent support, etc., per person. *Significance:* It is the total response by the government to housing problems.

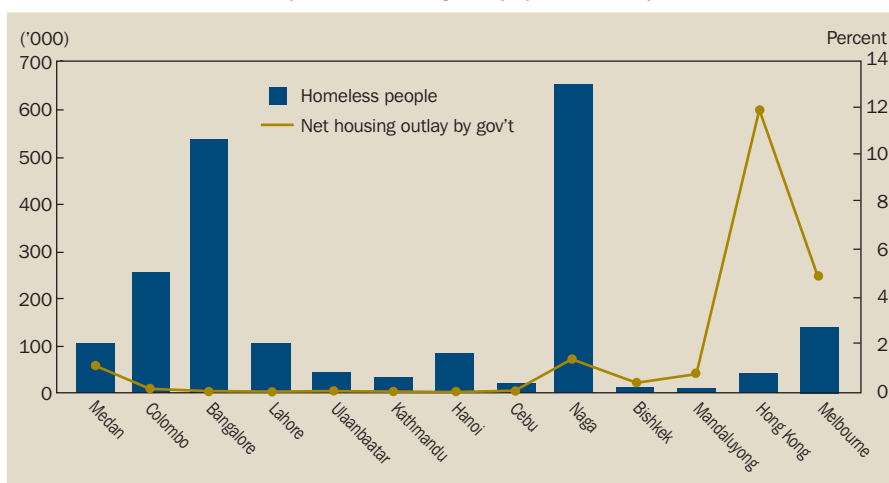
Homeless People. This is the number of homeless or street people, on an average night. It is defined as the number of people who sleep outside dwelling units (e.g., on streets, in parks, railroad stations, and under bridges) or in temporary shelter in charitable institutions. Includes people without shelter, without any recognized address, living temporarily in hostels or shelters, and "street children". *Annual trend:* High or rising. *Significance:* The homeless are the most poorly housed and vulnerable group in cities, and the ones to whom many social programs are addressed. They may indulge in socially undesirable practices such as begging or crime in order to survive.

7. Housing

City Development Index vs. Housing in Compliance



Homeless People vs. Net Housing Outlay by Government per Person

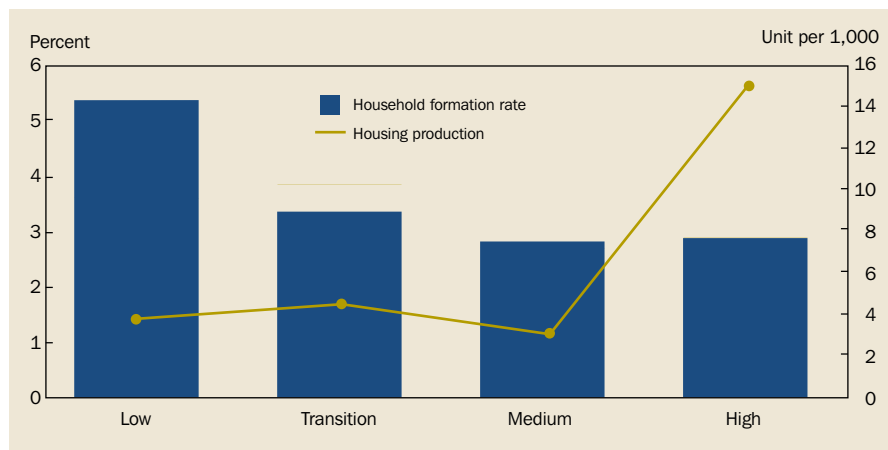


Definitions and Significance

Housing Production. This concerns the number of dwellings produced annually, both formal and informal, per 1,000 population (a) on new vacant land, and (b) as net conversions or infill from other uses (can be negative). The latter consists of new units completed on land which was not formerly vacant, plus subdivisions of existing units, less any units destroyed or converted. *Warning trend:* Low rate of production while the population is rising implies a looming housing problem. Even if population is not rising, low construction will limit the possibility of new households forming and will put pressure on rents. *Significance:* This is the traditional measure of the ability of the housing supply system to increase and replenish the housing stock.

7. Housing

Household Formation Rate vs. Housing Production



NOTES

- On "Housing Production" it is important to emphasize all production, such as owner-builder's informal areas which may form a majority of production.

Definitions and Significance

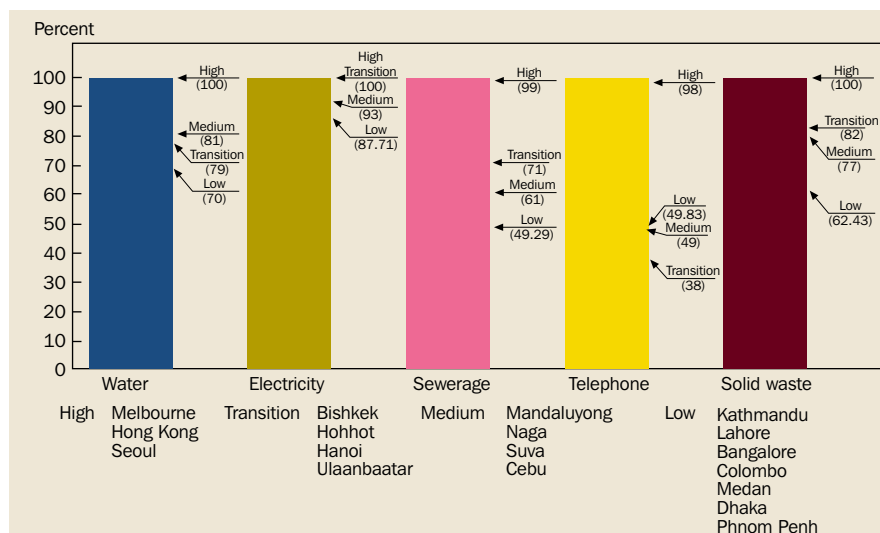
MUNICIPAL SERVICES

Household Connections. This refers to the percentage of households connected to water, electricity, sewerage/wastewater, telephone, and solid waste collection or percentage of households receiving regular garbage collection. *Warning trend:* Low or static level of connections. *Significance:* Low or static level of connections to basic services indicates poor access to critically-needed basic services by urban residents, and an insufficient system of service provision.

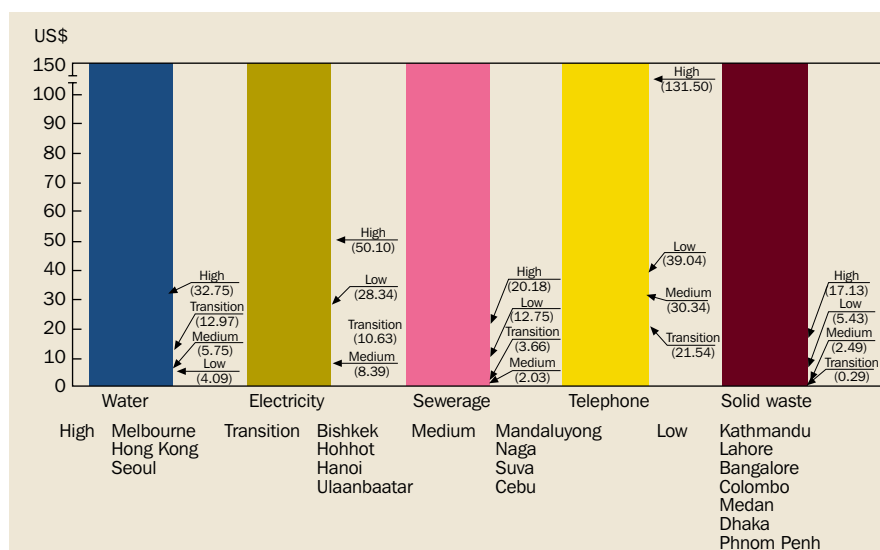
Investment per Capita in each service. This covers the annual capital expenditure on water, electricity, sewerage/wastewater, telephone, and solid waste collection per person in US\$. *Warning trend:* Low capital expenditure. *Significance:* Low capital expenditure implies depreciation of the network, obsolete technology, and possibly a very limited service.

8. Municipal Services

Connections to Municipal Services



Investment per Capita



NOTES

- Connections or level of connections are checked against consumption per capita to determine the efficiency of delivery of that service.
- Emphasize need to calculate households with / without phone and show clearly the percentage of cellphones.

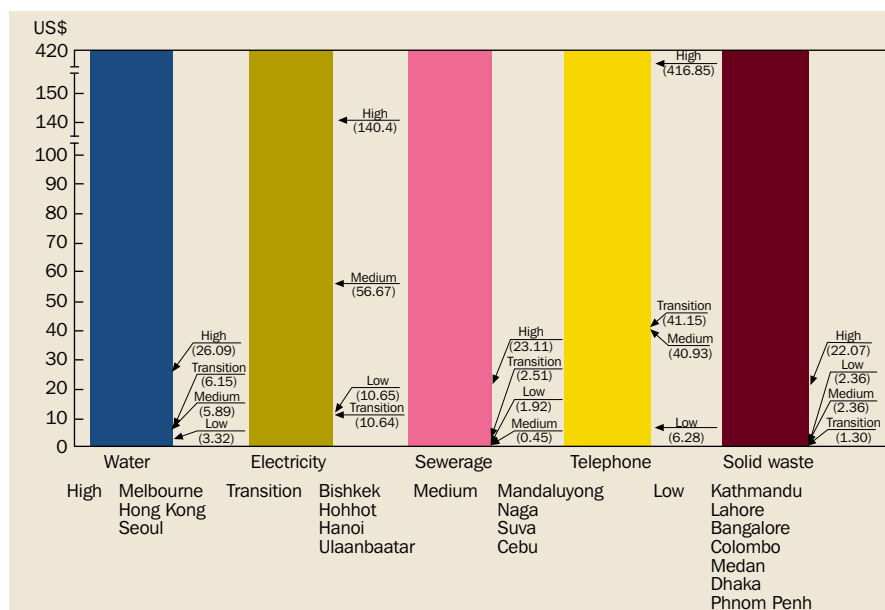
Definitions and Significance

Operations and Maintenance Expenditure on each service. This covers the annual total operations and maintenance expenditure on water, electricity, sewerage/wastewater, telephone and solid waste collection, per person in US\$. *Warning trend:* Low O&M expenditure may correspond to a very low level of service, while high expenditure may suggest inefficiencies. *Significance:* Expenditures is necessary to maintain infrastructure and services. The level and efficiency of this will vary a great deal between countries and authorities.

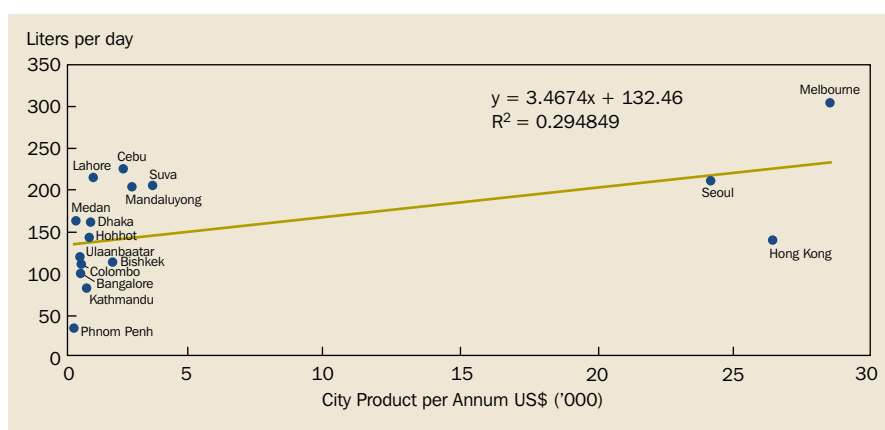
Consumption of Water per Capita. This pertains to domestic water supplied or used, in liters per person per day. *Significance:* Consumption of water depends on the availability and price of water, the climate, and the uses to which water is customarily put by individuals (drinking, bathing washing, gardening). Consumption of water corresponds well with city income, and can be very high in places where the price is effectively zero.

8. Municipal Services

Operations and Maintenance Expenditure



City Product per Capita vs. Water Consumption per Day



NOTES

- Data on operations and maintenance costs of certain services may be difficult to collect particularly when these are covered by private utility companies which may be reluctant to release such data.

Definitions and Significance

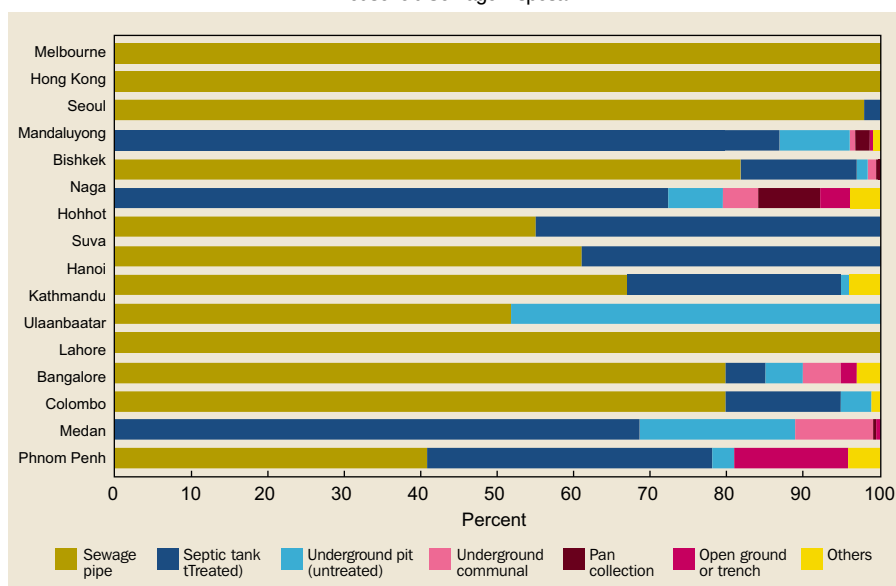
URBAN ENVIRONMENT

Household Sewage Disposal. This is the percentage of households using different disposal methods: (a) sewage pipe, (b) septic tank (treated), (c) underground pit (untreated), (d) underground communal, (e) pan collection, (f) open ground or trench, and (g) others. *Warning trend:* High levels of untreated disposal are a health risk. *Significance:* The type of latrine facilities which households use reflects strongly on hygiene, health the quality of life, and the environment.

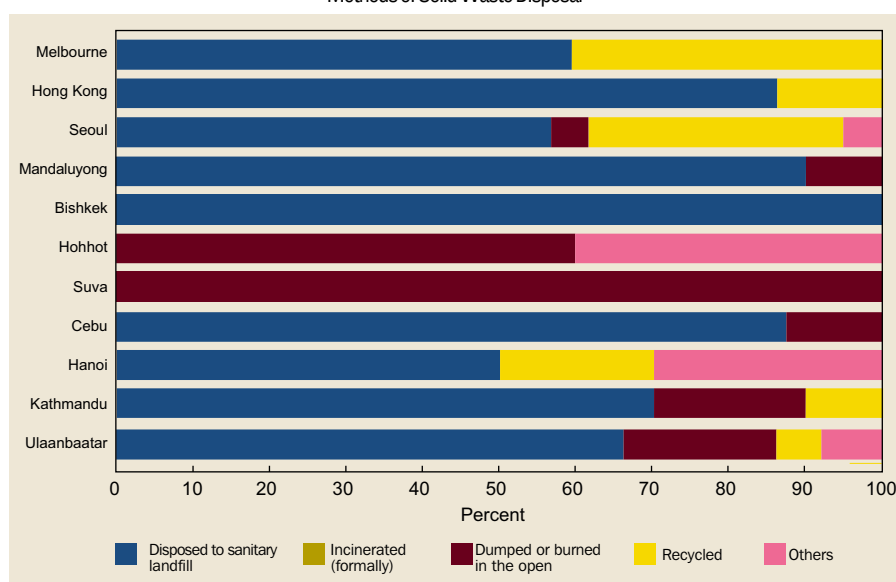
Methods of Solid Waste Disposal. These cover the total solid waste generated (and disposed of both formally and informally) including: (a) percent disposed to sanitary landfill; (b) percent incinerated (formally); (c) percent dumped or burned in the open (and other informal disposal); (d) percent recycled (formal or informal); and (e) others (any other formal means of disposal).

9. Urban Environment

Household Sewage Disposal



Methods of Solid Waste Disposal



NOTES

- On sewage disposal. Confusion may arise in places where wastewater is collected into pipes and dumped untreated. Where septic tanks are in widespread use the level of treatment is not known.
- On informal methods. Little knowledge of informal practices on solid waste collection and sewage disposal is common.

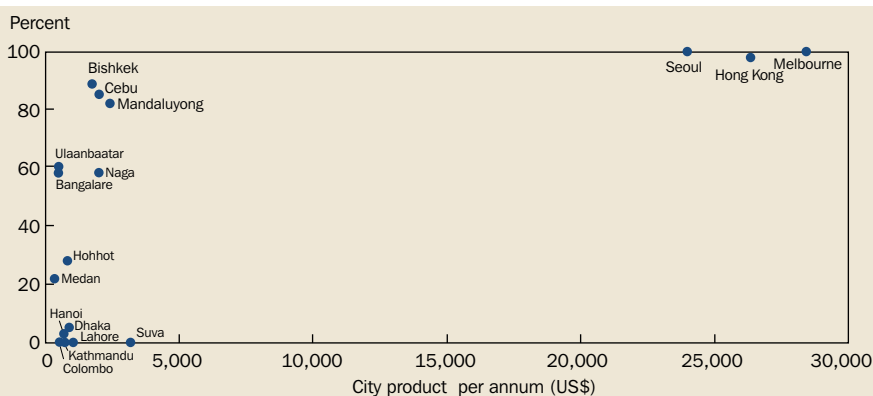
Definitions and Significance

Wastewater Treated. This is the percentage of wastewater undergoing some form of treatment. *Warning trend:* Low percentage of treatment. *Significance:* Much wastewater in developing countries and even in some industrialized cities such as Venice, is not treated. This gives rise to significant health risk and pollution and odor problem, which may well be the most obvious sign of poor local conditions to visitors.

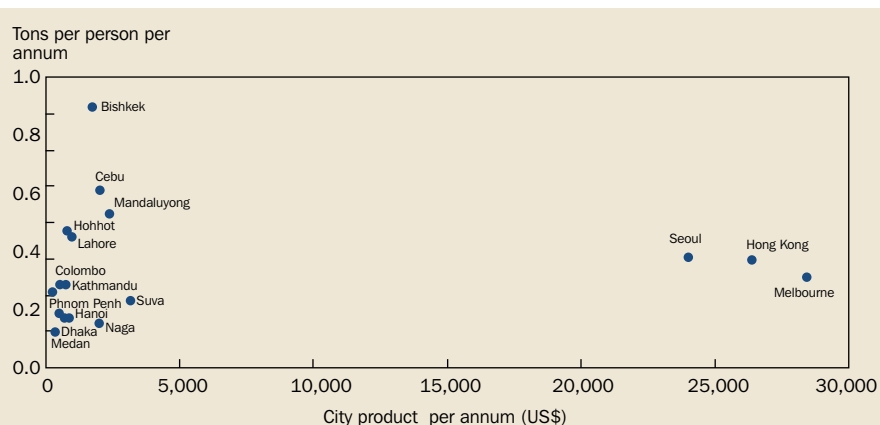
Solid Waste Generated. This includes solid waste generated per person in tons per annum. It does not just include the waste that is collected, but all solid wastes produced by households. *Significance:* It is the major measure of the pressure on the environment due to solid waste.

9. Urban Environment

City Product per Capita vs. Wastewater Treated



City Product per Capita vs. Solid Waste Generated



Definitions and Significance

URBAN TRANSPORT

Mode of Travel. This covers percentage of trips to work by (a) private automobile; (b) train, tram or light rail; (c) bus or minibus; (d) motorcycle (two- or three-wheel motorized vehicle); (e) bicycle, including pedicab (pedal-powered vehicle); (f) walking; and (g) others (including boat, taxi, animal or rickshaw). Where several modes of transport are used for a given trip, the hierarchy: train, tram bus, car, not motorized is employed to determine the principal mode. **Significance:** The type of transport used by commuters for trips to work is a key indicator of transport policy at all levels. Whether people use car, bus, train, or non-motorized transport is a major concern for traffic and public transport planning and for energy use. The average time taken on work trips is another key indicator both of urban congestion and of location of the workforce relative to jobs.

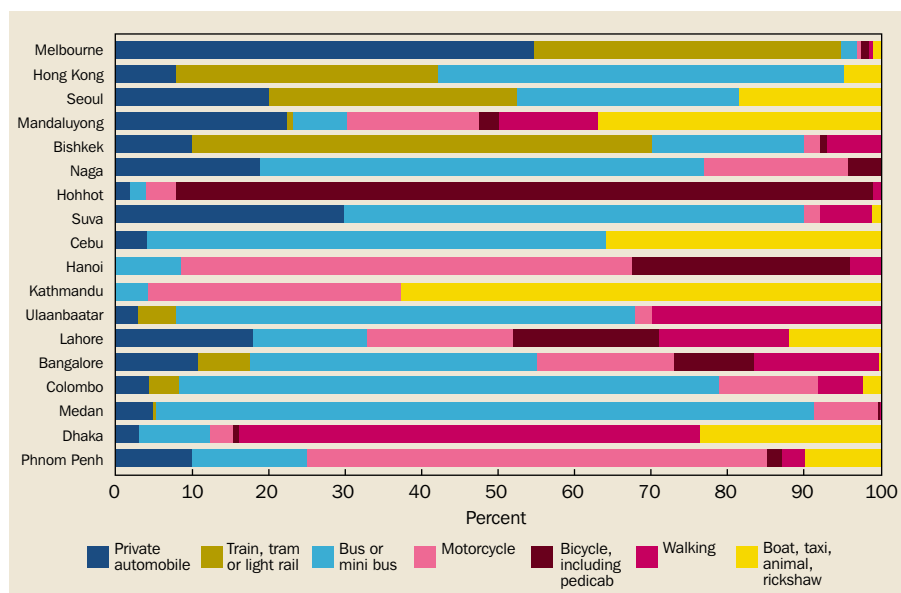
Median Travel Time. This indicates the average time in minutes for a work trip, over all modes. Train and bus times should include average walking and waiting times, and car times should include parking and walking to the workplace. **Warning trend:** Increasing travel times indicate (a) the city is expanding and people are moving outward faster than jobs or facilities; (b) car ownership is increasing; or (c) the road infrastructure is inadequate for the task. **Significance:** Long travel times are a major frictional cost to both for individuals and the economy. Increasing times indicate that road capacity is not enough.

NOTE

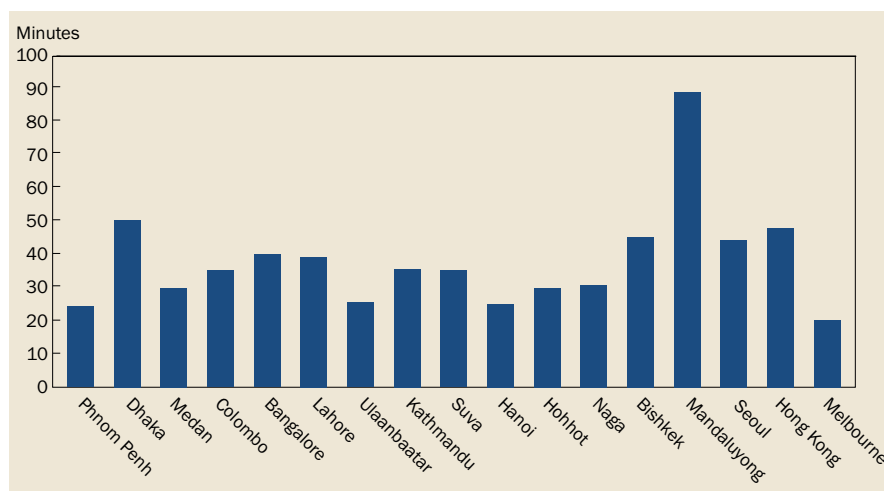
- Base data on transport tend to be traffic counts.
- Nonmotorized roads for walking are estimated.

10. Urban Transport

Mode of Travel



Median Travel Time



Definitions and Significance

Expenditure on Road Infrastructure. This covers the per capita expenditure on roads (3-year average). Expenditure should include capital and maintenance expenditure on all roads in the urban area, averaged in constant value terms over three years. *Warning trend:* Low expenditure will imply that roads are in poor repair and are not meeting increasing loads. Congestion will increase, vehicle damage will be more prevalent, and road safety will suffer. *Significance:* A necessary expenditure must be made to maintain and upgrade roads in the face of increasing traffic demand.

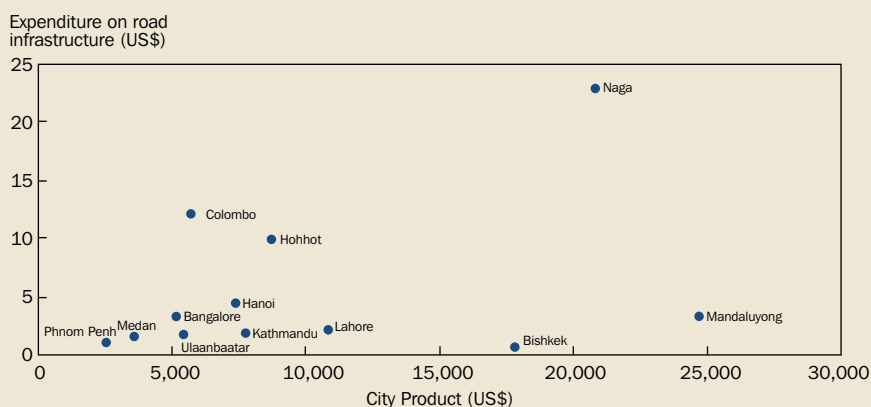
Automobile Ownership. It is defined as the ratio of automobiles to people of driving age. Automobiles in this case are taken to include all vehicles used for personal transport (including sedans used for business). Minimum driving age varies from 16 to 18 in different countries. *Warning trend:* Rising ownership will need to be accompanied by upgrading of the road infrastructure. *Significance:* Car ownership is a major consumption measure and indicator of road usage and gasoline consumption.

NOTES

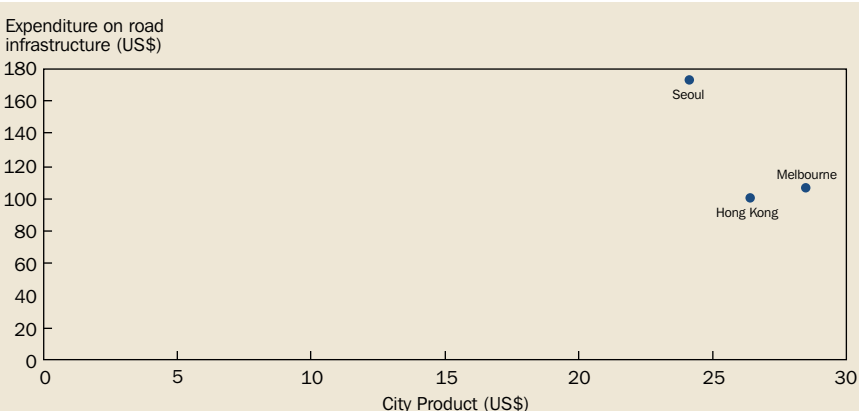
- Check all sources of road investment in city, not just local government's.
- Data on car ownership should take into account the vehicles registered in city but which are not using city roads, and vice versa.

10. Urban Transport

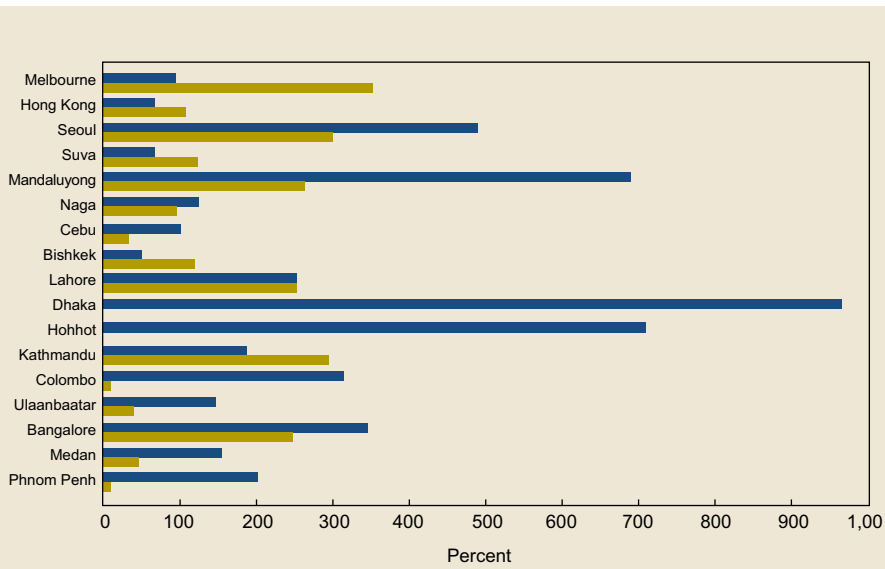
City Product per Capita vs. Expenditure on Road Infrastructure: Medium, Transition and Low-Developed Cities



City Product per Capita vs. Expenditure on Road Infrastructure: High-Developed Cities



Automobile Ownership per 1,000 Population vs. Population Net Density
Sorted by City Product per Capita



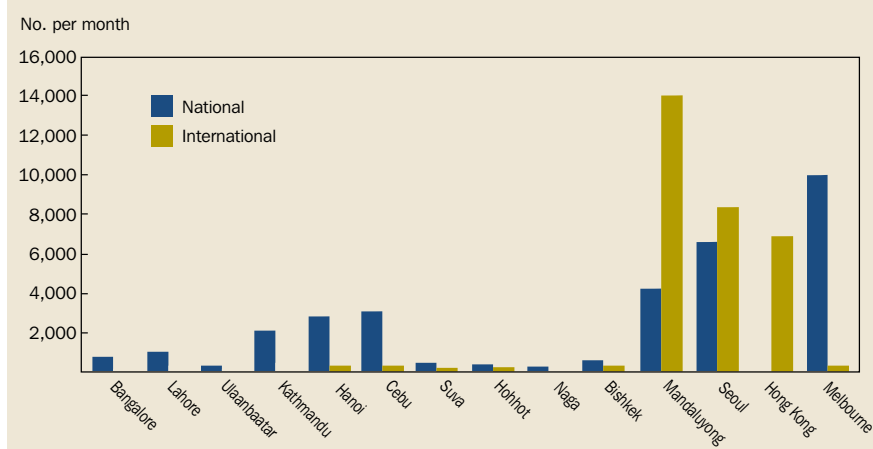
Definitions and Significance

Port/Air Activity. Where the city has either a port or airport this shows the (a) number of commercial ships leaving port (freight and passenger); and (b) number of commercial flights leaving per month, for national or international destinations. *Significance:* Cities with an international airport or port enjoy a major advantage in terms of trade and inter-connect-edness with the world.

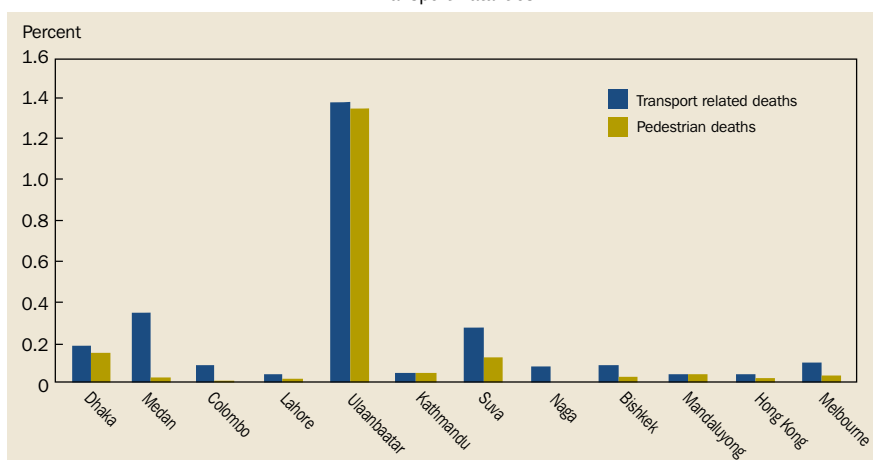
Transport Fatalities. This refers to (a) all transport-related deaths per 1,000 population, annually; (b) pedestrian deaths per 1,000 population, annually. *Warning trend:* Increasing fatalities. *Significance:* Traffic accidents are a major cause of fatalities in younger age groups, and the mortality rate for transport accidents of all kinds is a key indicator for the success of traffic control and of the safety of vehicles. Pedestrians are a particularly vulnerable group. A high proportion of pedestrian deaths may indicate either a dangerous situation for pedestrians.

10. Urban Transport

Commercial Flights Leaving, National vs. International



Transport Fatalities



Definitions and Significance

LOCAL GOVERNMENT

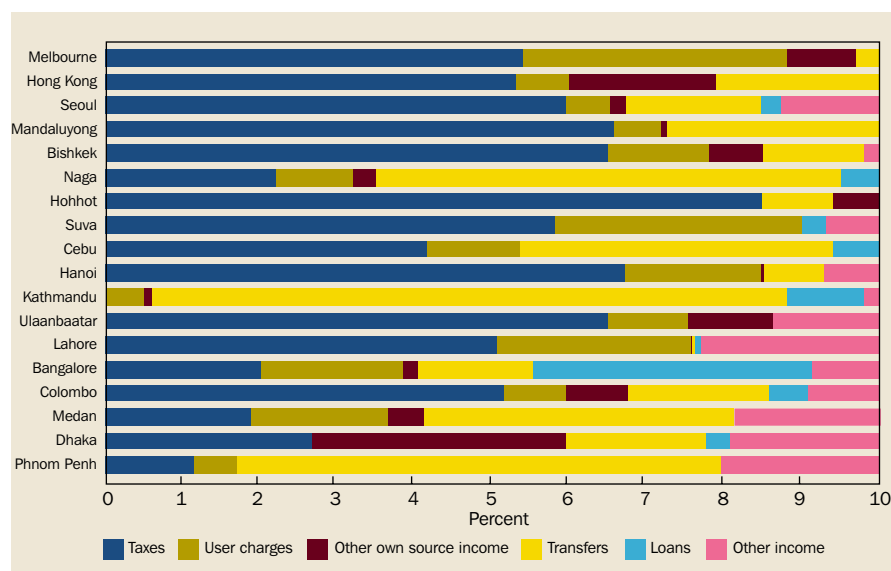
Sources of Revenue. These cover the percentage revenue in each category in 1998 including (a) taxes like municipal rates and levies, any local taxes on the transfer of property, and any other taxes such as entertainment or hotel taxes, motor vehicles taxes, and taxes on business, which do not reflect the direct provision of services; (b) user charges including any local government charges for services provided, such as water, refuse collection, building permits. Betterment levies should also be included; (c) other own source income including interest and principal received, sales of capital items, but not donations, voluntary contributions or aid; (d) transfers including formula driven payments (such as repatriation of income tax) or other grant donations from national or state governments; (e) loans including borrowing from all sources, including bonds; and (f) other income including any other income such as donations or aid. *Warning trend:* This includes (a) changing structure; (b) overdependence on one or two major sources; and (c) decreasing revenues from any source. *Significance:* It provides local governments with an overview of the diversity and relative importance of revenue sources, and indicates collection trend (growth/decline) or individual source. Overdependence on intergovernmental revenues in particular can be harmful. Local governments become vulnerable to changes in policies or financial conditions of other levels of government, particularly national government.

NOTES

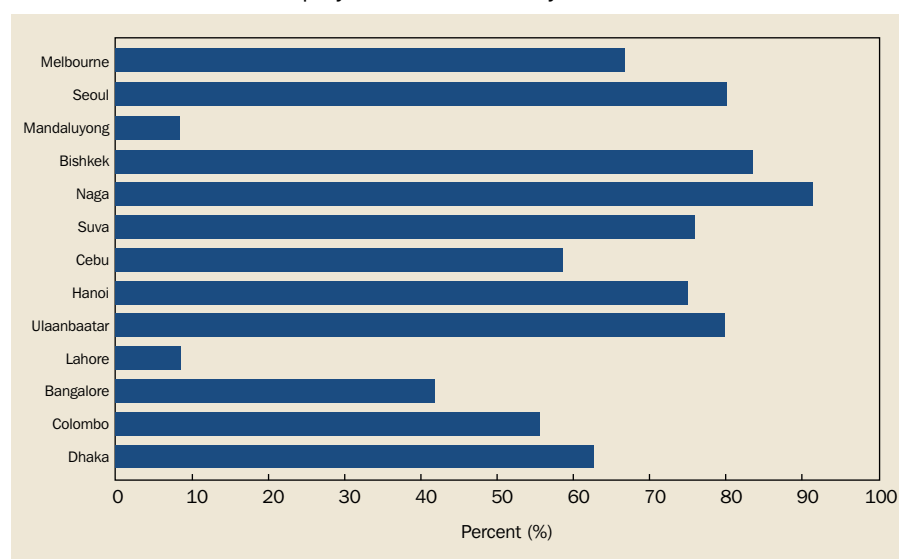
- Clarify where local government is collecting on behalf of central government but not keeping the money or have revenue-sharing arrangements.

12. Local Government

Sources of Revenue



Property Taxes: Liabilities Actually Collected

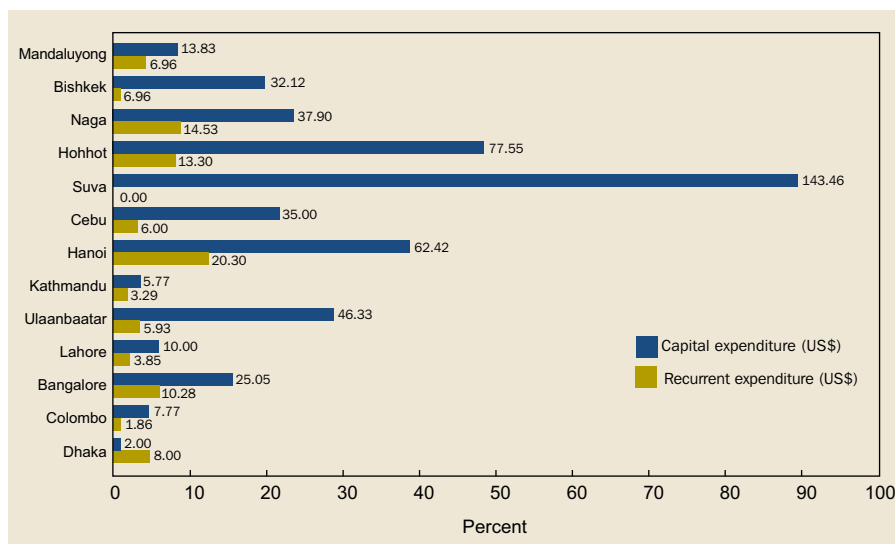


Definitions and Significance

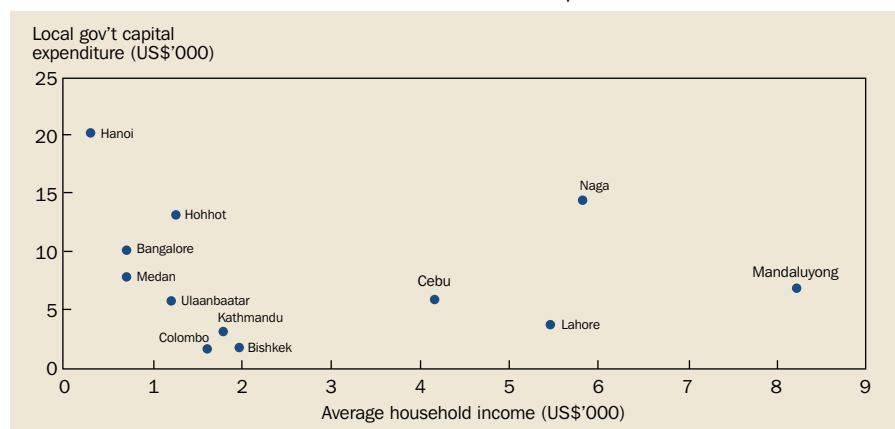
Capital and Recurrent Expenditure per Person. This includes the capital and recurrent expenditure in US dollars per person, averaged over the last three years covering (a) expenditure on both fixed capital and plant as per the capital account; and (b) all recurrent expenditure, including interest charges and depreciation. *Warning trend:* This includes declining capital outlays and rising recurrent outlays in the absence of better service. *Significance:* This indicator measures the degree of responsiveness of local government to the needs of business and residents. The amount of expenditure is largely determined by income, including loans and grants.

12. Local Government

Capital and Recurrent Expenditure per Person



Average Household Income vs. Local Government Capital Expenditure
Low, Transition, and Medium-Developed Cities



Average Household Income vs. Local Government Capital Expenditure
High-Developed Cities



NOTES

- Expenditure per person may be analyzed based on residents within the city proper and from the wider metropolitan area.

Definitions and Significance

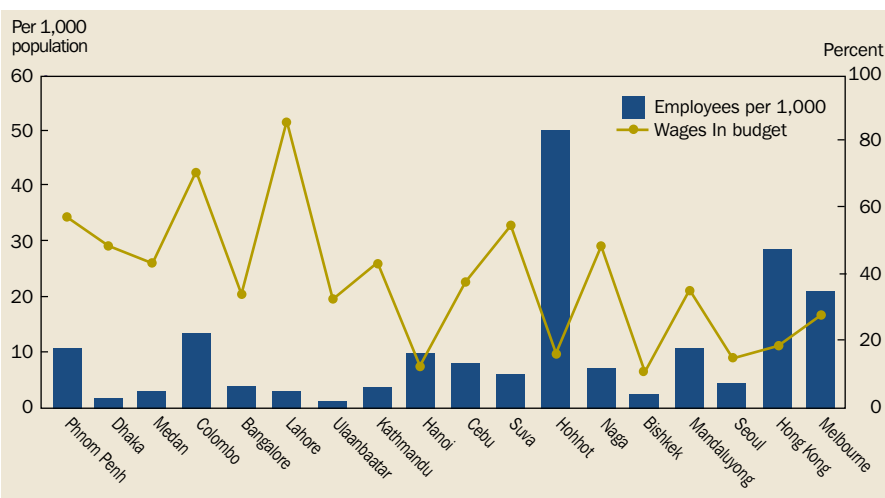
Employees. This covers the total local government employees per 1,000 population. *Warning trend:* This is an increasing ratio. *Significance:* It measures the number of employees required to deliver local services to the population, and is a crude measure both of productivity, and of the responsibilities of the local government. It will differ according to the number of services provided by local government, to the labor intensity of production, and to the level of contracting out of services.

Wages in Budget. This is the proportion of recurrent expenditure spent on wage costs. *Warning trend:* This is a rising value. *Significance:* A high value for this indicator implies that the city has very few funds left for operations, and there may be excessive employment.

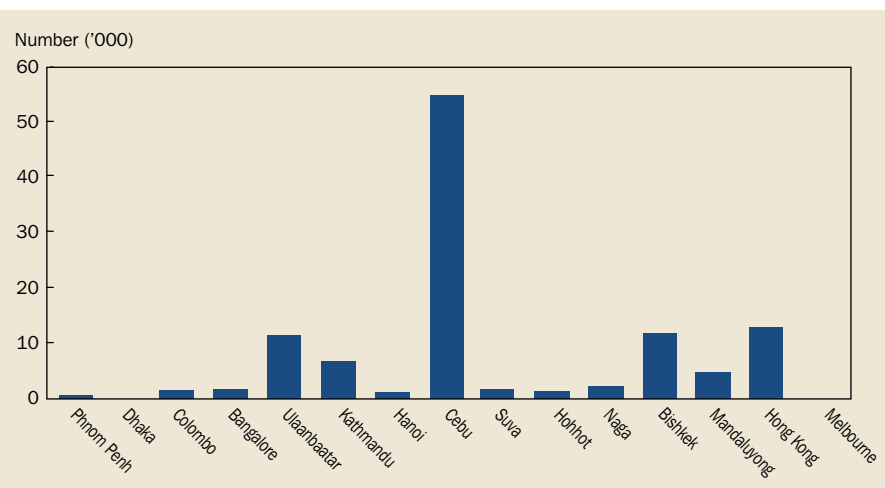
Business Permits. This recognizes the number of business permits issued in the past five years. *Warning trend:* This is mainly a decreasing number permits issued. *Significance:* It indicates change in prevailing local economic conditions, or impact of taxes, conditions of infrastructure and utilities, etc.

12. Local Government

Employees per thousand vs. Wages in Budget



Employees per thousand vs. Wages in Budget



Definitions and Significance

URBAN GOVERNANCE

Functions of Local Government. Checklist of functions of local government.

13. Urban Governance

	Water	Sewerage	Refuse Collection	Electricity	Telephone	Public/Mass Transport	Emergency	Road Maintenance	Education	Health Care	Public Housing	Recreation/Sport facilities	Police	Drainage/Flood Control	Livelihood Assistance
Bangalore									partial	partial		partial			
Bishkek															
Cebu	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV
Colombo															
Dhaka										partial					
Hanoi															
Hohhot															
Hong Kong				NAV	NAV										
Katmandu															
Lahore				NAV	NAV	NAV	NAV				NAV		NAV		NAV
Mandaluyong															
Medan															
Melbourne								partly yes							
Naga	partly yes	NAV							partly yes				partly yes		
Phnom Penh															
Seoul	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV
Suva															
Ulaanbaatar															

Yes
 No

Definitions and Significance

Reported Crimes. Number of crimes per 1,000 population reported: (a) murders, (b) drug related crimes, (c) thefts. *Warning trend:* Rising crime rates. *Significance:* Personal safety and absence of threat to property is a major prerequisite for economic activity as well as the quality of life.

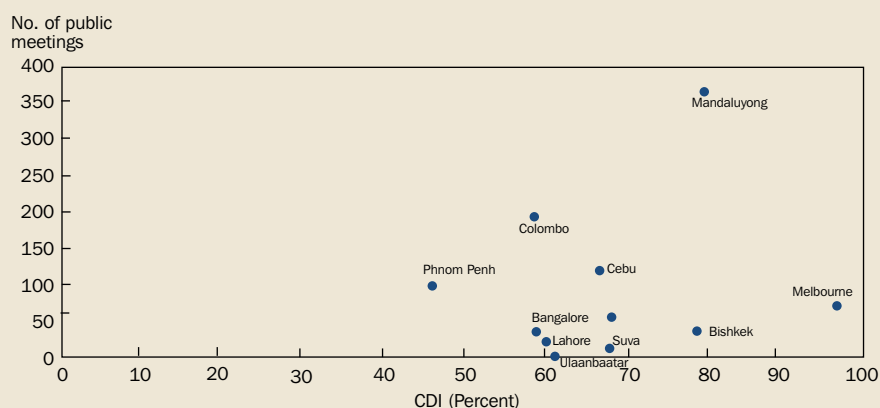
Contact with the Public. Annual number of public local government meetings and total attendance. *Significance:* Local governments are operating in very different ways. Some have many public or ward meetings, others few or none. Some mayors or CEOs/town clerks deal extensively with the public on a daily basis, others do not see the public at all. This indicator attempts to provide a measure of the contact of the senior members of the local government with the constituency.

13. Urban Governance

Reported Crimes
(per '000 population)

City	Total No.	Murders	Drug Related Crimes	Thefts
Phnom Penh	NAV	NAV	NAV	NAV
Dhaka	2.40	0.06	0.09	4.65
Medan	NAV	0.03	0.23	0.55
Colombo	NAV	0.08	22.60	0.62
Bangalore	3.20	0.04	0.00	0.70
Lahore	NAV	0.10	0.69	1.31
Ulaanbaatar	15.70	0.10	0.00	7.10
Kathmandu	0.32	0.02	1.52	0.94
Hanoi	3.20	0.01	0.42	3.40
Cebu	3.00	0.10	0.30	0.20
Suva	71.00	0.04	1.18	15.86
Hohhot	4.80	0.06	0.08	4.65
Naga	NAV	0.04	0.15	0.36
Bishkek	15.50	0.17	1.88	7.34
Mandaluyong	2.48	0.02	1.52	0.94
Seoul	NAV	NAV	NAV	NAV
Hong Kong	10.76	0.10	0.42	3.40
Melbourne	449.00	0.08	23.50	274.00

City Development Index vs. Number of Public Meetings



1. POPULATION

Migration. This refers to annual net migration in thousands from (a) other parts of the city—if the local government is part of a larger metropolitan area, there may some net movement to or from the local government. If the city boundaries changed in the period under study, include any; (b) other parts of the country also include any residents temporarily absent and returning (e.g., military, service, prison, etc.; arrival-departure; (c) international migration; (d) total net migration. Net migration refers to (immigrants-emigrants) = other parts of the city + other parts of the country + international migration. *Warning trend:* Rapid in-migration, or out-migration. *Significance:* Rapid in-migration may put pressure on services. New immigrants swell the ranks of “street people” and tend to occupy informal settlements and the poorer parts of town. Out-migration is a sign that economic activity is moving elsewhere, and may result in “ghost town” effects of underused services, closures of business, etc.

Minority Groups. These are recognized special groups with population more than 10% of total, together with percentages: e.g., ethnic Chinese, minority Christians, refugees from neighboring country. *Warning trend:* Large or powerful minorities may lead to social frictions. *Significance:* Minorities provide cultural diversity, but may require special representation or facilities.

3. HEALTH AND EDUCATION

Median Years of Education. It is defined as the average number of years spent in full-time education or equivalent by adults, for males and females. *Significance:* This is a standard indicator, which measures the success of past education policies, for males and females.

4. URBAN PRODUCTIVITY

List of Major Projects. This covers the list of ten major construction or engineering projects conducted in or affecting the city, together with the total budget of each. *Significance:* Major projects often set the standard for economic activity and investment, and are used as the yardstick for urban success.

5. NEW TECHNOLOGY

R&D Expenditure. This refers to the annual expenditure per person on research and development. *Warning trend:* Low expenditure implies few innovations and little research culture. *Significance:* It represents the involvement in new and growing areas of economic activity and knowledge.

6. URBAN LAND

Developer Contributions. This refers to the percentage of infrastructure costs which must be met by developers. Infrastructure costs refers to the provision of the typical services in Land Development Multiplier. *Significance:* When developers do not meet the costs of infrastructure, they have to be met from the common rating base, which is usually not adequate. This will slow down the provision of infrastructure and may limit the release of land, causing supply shortages and speculative profits. However, if the occupants ultimately have to meet the full costs of infrastructure, it may not be affordable for them.

Median Time for Planning Permission. This refers to the time taken to obtain planning permission for a typical subdivision. *Warning trend:* Long approval times create artificial bottlenecks and lead to much higher prices. *Significance:* Depending on the complexity of the approval process, approvals can take anywhere between three months and five years. This can be rapidly improved by streamlining the process.

Vacant Land with Planning Permission. This refers to the amount of vacant land that has planning permission, in hectares. *Warning trend:* Long approval times create artificial bottlenecks and lead to much higher prices. *Significance:* Depending on the complexity of the approval process, approvals can take anywhere between three months and five years. This can be rapidly improved by streamlining the process.

Vacant Government Land. This covers the (a) amount of land in hectares owned by government, parastatals or enterprises (all levels of government) within the built-up area, and; (b) proportion of this land which is vacant. *Warning trend:* High levels of vacant land. *Significance:* Vacant land within the built-up area contributes to speculative pressures and signifies

that the land is probably not being put to the best use, which might well be affordable housing.

Expenditure on Development. This refers to the total expenditure on development per annum, per person (three-year average). Development should include land development, civil engineering and building projects) which is within or directly affects the LGA. *Warning trend:* Low development implies economic stagnation or lack of funds, and may impact on future economic activity. *Significance:* It indicates the level of investment activity in fixed capital.

7. HOUSING

Mortgage to Credit Ratio. This refers to total mortgage credit divided by all outstanding credits in commercial and government financial institutions. *Warning trend:* If mortgages only form a small part of total credit, it is likely that housing finance institutions are poorly developed or face legal and institutional constraints making it difficult for them to offer housing finance. *Significance:* The ratio measures the relative size of the housing finance sector and its ability to provide funds to housing purchasers.

Houses with Mortgages. This refers to the proportion of dwellings that have mortgages. *Warning trend:* Low or falling (particularly, zero) implies that no effective system of housing finance is in place. *Significance:* The presence of an effective mortgage finance system is a major means of ensuring that people are adequately housed, given that few people have the resources to pay for a formal house outright. For a mortgage system to be widespread, there must be (i) effective title to the land; (ii) a system of assessing the creditworthiness of the general populace; (iii) a source of long term funds. Low incomes are not necessarily an impediment as long as they are steady.

Mortgage Loans for Women. Proportion of mortgage loans held by women. *Warning trend:* Low or falling proportions will mean that women are not gaining access to the financial system. *Significance:* The presence of an effective mortgage finance system is a major means of ensuring that people are adequately housed, given that few people have the resources to pay for a formal house outright. For a mortgage system to be widespread, there must be (i) effective title to the land; (ii) a system of assess-

ing the creditworthiness of the general populace; (iii) a source of long-term funds. Low incomes are not necessarily an impediment as long as they are steady.

Squatter Regularization or Resettlement. This refers to households regularized or resettled annually divided by total squatter households. Regularized means that title is provided to the residents. Resettled means that they are transferred to formal housing. *Significance:* It represents the government's response to squatter housing.

8. MUNICIPAL SERVICES

Cost Recovery in each service. This covers the total revenues divided by total current expenditure for water, electricity, sewerage/wastewater, telephone and solid waste collection. Revenues refer to all direct and indirect recurrent charges to users that do not come from the general tax base. These include user-pays charges, excess water, and connection charges but not levies on developers or on residents for headworks. Costs refer to all operating outlays including depreciation and interest but not capital outlays for the water reticulation system. *Warning trend:* Low cost recovery. *Significance:* Low cost recovery indicates a high level of subsidy and a lack of sustainability for the service. Service providers with an adequate revenue base involving user-pays charges are better equipped to respond to demand. As well, in a user-pays system consumers have a stake in the development of the local system and are likely to demand service in accordance with resources and needs.

Output per Staff Member in each service. This refers to liters of water per day supplied per employee and megawatt hours of electricity supplied per employee per year. *Warning trend:* Low productivity. *Significance:* Low output figures correspond to low productivity, and possibly old technology.

List of Providers. This gives a list of major providers by type of organization, together with percent supplied. Local, regional or national government, parastatal (independent part government owned authority), private sector, or other. *Significance:* Privatization in particular has been a major concern in recent years.

Nonrevenue water and electricity. This refers to the percentage of unaccounted for water. Unac-

counted for water (%) equals [total annual production (m^3) minus total annual consumption (m^3)] times 100 divided by total annual production (m^3). It refers to percentage of line loss for electricity for nonrevenue electricity. *Significance:* High percentage line loss indicates a faulty, overloaded or obsolescent network.

Interruptions and Line Loss – Water and Electricity. This gives the number of hours per month that service is not available or interrupted in water or in electricity. *Significance:* Areas with poor service have frequent interruptions and may disconnect service for part of the day.

Median Price of Water. This refers to median price of water (in dollars per cubic meters) in scarce season. Very high water price will consume most of the household budget. Very low price will result in over-use of water. *Significance:* This measures the cost of water at times when it is most scarce. The price of water may rise to very high levels in some areas at some times, and can take a significant proportion of the household budget.

9. URBAN ENVIRONMENT

Percent BOD removed from wastewater. This is defined as the average fraction of BOD removed in major wastewater receiving bodies. BOD (biological oxygen demand) is the amount of dissolved oxygen required to oxidize or neutralize biodegradable matter in water. *Warning trend:* Low or falling ratios imply poor efficiency of treatment. *Significance:* High BOD levels represent high amounts of contaminant matter, and the reduction of BOD is a common measure for determining the efficacy of water treatment.

Air Pollution Concentrations. It is defined as the number of days per annum that WHO standards are exceeded for (a) SO_2 , (b) NO_x , (c) CO , (d) O_3 , (e) suspended particulates; and (f) lead. *Warning trend:* Increasing pollution levels. *Significance:* Suspended particulates and lead are generally considered as the most harmful to human health.

Energy usage per person. This is the total energy usage per annum per person in metric tons of coal equivalent. This should be aggregated across all forms of energy usage using standard conversion rates. *Significance:* Increasing levels of energy usage are virtually synonymous with industrial activity and

resource usage. CO_2 emissions also correlate highly with energy usage.

Noise Complaints. This refers to the number of complaints on domestic, industrial or traffic noise received by local governments or other authorities during the year. *Warning trend:* This would be a rising number of complaints. *Significance:* Noise is one of the major urban nuisances. If excessive, as in industrial plants, it may damage hearing.

10. URBAN TRANSPORT

Road Congestion. This refers to the proportion of roads with volume divided by capacity divided by 0.8 during peak hour. Proportions should be calculated using length if possible. *Significance:* Roads typically have a registered carrying capacity, and a commonly used measure of excessive congestion is when the volume of traffic carried exceeds 0.8 times this capacity.

Cost Recovery from Fares. This covers revenue divided by recurrent costs, for all publicly owned or subsidized mass transport organizations operating in the city. *Warning trend:* Poor or falling recovery. *Significance:* Despite the problem of congested roads, mass transport has been decreasingly patronized, so that particularly in industrial nations, transit modes have required heavy subsidies to remain in operation. However, subsidies hamper efficiency and may limit the expansion of the service in response to need. This subsidy usually benefits peak-hour commuters at the expense of off-peak commuters who may have lower incomes. It is difficult to raise fares however, as patronage is very cost-sensitive.

Goods Carried. This covers millions of revenue tons of goods per annum carried by commercial carriers leaving the city, by (a) road, (b) rail, (c) air, and (d) sea. *Significance:* This is a major indicator of trade.

11. CULTURAL

Attendance at Public Events. These are major public events during year, attendance at five largest. Events may include: concerts, festivals, sporting events, conventions, celebrity visits, or political rallies and protests. *Significance:* The spirit of a city is to some extent determined by the events, which will bring the populace out into the public arena. The CDB seeks to capture part of that spirit.

Attendance at Galleries and Museums. This is the list of major museum and galleries, with annual attendance. *Significance:* The arts and cultural environments are key components of modern city infrastructure and contribute to a city's livability and image. A culturally vibrant city has an edge in attracting investment.

Participation in Sport. This refers to the percentage of population participating in organized sport. Sport can include non-physical activities like organized chess and bridge. Individual recreation activities, including gambling and video arcades, are not included. *Warning trend:* Falling participation. *Significance:* Sporting activity is a form of cultural participation that is universally approved and can improve fitness, health and concentration.

12. LOCAL GOVERNMENT

Collection Efficiency, Property Taxes. These include the (a) percentage of liabilities actually collected; and (b) costs of collecting property tax as a percentage of receipts passing to the local government. *Warning trend:* This includes (a) low or falling percentage collected; and (b) high or rising costs. *Significance:* It measures the efficiency of property tax collection.

Debt Service Charge. This shows the total principal and interest repaid, including bond maturations, as a fraction of total expenditure in 1998. *Warning trend:* This is a high or rising ratio. *Significance:* It represents the debt of the community. If excessively high, it will lower the credit rating of the government.

Contracted Recurrent Expenditure Ratio. This covers the proportion of recurrent expenditure spent on contracted activities. *Warning trend:* This is a falling value. *Significance:* This provides a measure of the involvement of the private sector in local government activities. It will not, however, indicate activities that have been completely privatized.

Enterprise Revenues. This includes enterprise profits or losses, listed for any major enterprises. *Warning trend:* Recurring enterprise losses. *Significance:* Recurring losses could indicate need to adjust the level of fees charged, re-examine the costs in providing/producing the goods/service, and evaluate/maximize the level of capacity utilization.

Computerization of Functions. This indicates whether or not various functions have been automated—(a) land registration, (b) rates collection, (c) salaries, (d) general finances, and (e) business permits.

13. URBAN GOVERNANCE

Delivery of Annual Plan. Percent of budgeted expenditure on annual plan delivered. In practice most government bodies deliver close to 100% of plan in the audited accounts, whether or not the budget has actually been expended as planned. *Significance:* Delivery of plan is key measure of effectiveness.

Voter Participation by Sex. Proportion of voters who voted in last municipal elections: (a) proportion of adult males; (b) proportion of adult females. *Significance:* Gives an indication of the interest and involvement of the public in local government.

Independence from Higher Government. Definition of in what circumstances local governments can make their own decisions or are subject to higher government in (a) closing down the council or removing councilors from office; (b) setting local tax levels; (c) setting user charges for services; (d) borrowing funds; and (e) choosing contractors for projects. Also, the percentage of grant funds from higher government known in advance of local budget setting. *Significance:* These questions attempt to determine the independence of action of local governments. The definition should be used in writing up the city report.

Elected and Nominated Councilors. Number of elected and nominated councilors: (a) female; (b) male. *Significance:* The number of representatives provides some idea of the level of local political representation, and the involvement of women in the local political process.

Representation of Minorities. Definition of mechanisms for representation of any substantial minorities. *Significance:* Representation of or by minorities is a fundamental expression of human rights. Minorities who feel they are not adequately represented may seek direct means of representation of their interests, which are less harmonious.

Planning Applications Refused. Proportion of planning applications refused, by local or higher government. *Warning trend:* Excessively high levels may be hampering worthwhile development or excluding

disadvantaged groups, while excessively low levels may represent a lack of responsible monitoring of planning. *Significance:* Represents the enforcement and the strength of planning legislation.

Consumer Satisfaction. Consultants are required to provide a description of whatever mechanisms are in place to measure consumer business and citizen satisfaction of local government services, as part of a general review that will be undertaken by the Cities Data Book. *Warning trend:* Satisfaction levels of less than 70% are generally regarded as inadequate. *Significance:* Measures of consumer and business satisfaction were nominated as very important by the Consultative Workshop for the Cities Data Book. Consumer satisfaction measures effective delivery to the public, while business satisfaction may have business location implications.

Perception as a Place to Live. Details of any survey or study that has done a comparative survey on perception of quality of life in the city, either for residents, business people, or expatriates, should be provided. *Significance:* The perception of the city as a place to live is a major subjective factor in both investment and relocation decisions of firms. As well, the urban quality of life is ultimately what urban indicators are seeking to measure.

Access to Information. Boxes should be checked for (a) annual report, (b) city strategy/vision, (c) economic strategy, and (d) social strategy. Any other significant publications for the year should be listed in *Notes*, as well as other methods of public communication such as web sites. *Significance:* Providing information to the constituency and stakeholders is a prime function of local government.

Decentralized District Units. (a) The number of local government areas within the larger metropolis, and (b) the number of decentralized or smaller district units within the local government. The functions of these smaller areas should be explained in *Notes*.

SUMMARY TABLES

Population, Migration, and Urbanization

City	1.1 Urbanization (%)	1.2 City Population			1.3 Annual Net Migration				1.4 Pop. Net Density (persons/ha)
		1.2.1 Resident Pop. of Municipal Area ('000)	1.2.2 Pop. During Daytime Working Hours ('000)	1.2.3 Annual Rate of Pop. Increase (%)	1.3.1 Other Parts of the City Net ('000)	1.3.2 Other Parts of the Country Net ('000)	1.3.3 Int'l Migration Net ('000)	1.3.4 Total Net Migration ('000)	
Bangalore	28.3	4,328.0	4,398.0	4.4	42.0	33.0	1.0	76.0	330.0
Bishkek	34.0	614.0	700.0	1.0	53,790.0	3.3	-2.0	1.2	41.6
Cebu	68.0	655.0	886.0	1.6	0.0	33.0	1.0	34.0	92.6
Colombo	25.0	800.0	1,200.0	2.4	NAV	NAV	861.0	NAV	298.0
Dhaka	23.0	6,500.0	NAV	4.2	NAV	800.0	NAV	NAV	953.0
Hanoi	19.7	2,553.0	NAV	3.5	60.2	20.5	1.0	NAV	146.0
Hohhot	34.9	1,017.7	NAV	2.2	9.9	6.8	0.0	16.7	684.0
Hong Kong	95.7	6,687.2	NAV	2.8	0.0	56.0	-19.3	36.7	67.0
Kathmandu	14.0	575.7	625.7	6.0	27.3	20.9	83.5	NAV	175.7
Lahore	32.5	4,502.0	4,802.0	3.1	NAV	NAV	NAV	NAV	240.6
Mandaluyong	61.7	314.0	970.0	3.1	0.6	3.2	0.1	3.9	670.0
Medan	37.8	2,035.2	2,197.5	1.8	340.0	159.0	3.0	-2.1	142.0
Melbourne	86.0	44.5	400.0	5.8	10.4	NAV	2.6	2.5	93.0
Naga	73.7	137.5	158.2	2.0	3.9	2.3	0.0	6.1	115.6
Phnom Penh	57.0	999.8	NAV	5.4	NAV	NAV	NAV	NAV	203.0
Seoul	81.3	10,321.0	NAV	-0.7	-134.0	NAV	NAV	NAV	480.7
Suva	42.5	77.4	137.4	1.7	NAV	4.3	NAV	4.3	74.7
Ulaanbaatar	67.9	725.3	NAV	4.5	NAV	15.2	0.0	14.4	133.0

Legend:

NAV – not available

Population, Migration, and Urbanization

City	1.5 Age Pyramid						1.6 Average HH Size (persons/hh)	1.7 HH Formation Rate (%)	1.8 Women-headed HH (%)	1.9 Minority Group See Notes & Sources for each city	1.10 Household Type				1.11 Informal Settlement		
	1.5.1 Persons 0-14		1.5.2 Persons 15-59		1.5.3 Persons over 60						1.10.1 Single Person (%)	1.10.2 Adults Only (%)	1.10.3 Single Parent Family (%)	1.10.4 Adults and Children (%)	1.11.1 Population ('000)	1.11.2 Households ('000)	1.11.3 Land Occupied (ha)
	Male	Female	Male	Female	Male	Female											
Bangalore	570,430	640,977	1,464,959	1,394,482	128,758	128,542	5.1	5.9	12.5		12.4	9.5	0.4	77.6	592.0	102.0	286.0
Bishkek	61,400	73,680	190,340	214,900	30,700	42,980	2.4	0.2	21.6		9.0	42.0	12.0	66.0	53.8	17.7	229.5
Cebu	110,891	105,717	196,041	210,517	14,476	17,358	4.9	3.8	16.2		NAV	NAV	NAV	55.0	230.0	45.0	444.0
Colombo	100,800	96,800	268,800	268,400	30,000	35,200	7.3	0.7	NAV		NAV	NAV	NAV	40.0	492.0	66.0	410.0
Dhaka	1,001,000	1,277,250	2,138,500	1,875,250	110,500	97,500	5.1	4.2	7.2		2.4	NAV	NAV	58.0	1,950.0	375.0	324.0
Hanoi	332,784	303,807	841,469	841,469	102,248	1,31,097	4.2	3.6	36.9		5.0	27.9	11.2	70.9	43.4	12.4	61.1
Hohhot	99,635	93,020	384,088	368,008	39,996	32,974	3.5	1.0	NAV		0.0	1.1	6.8	92.2	165.9	55.0	49.8
Hong Kong	601,848	561,724	2,440,828	2,380,643	320,986	381,170	3.3	4.1	27.2		12.7	47.3	1.9	38.1	249.0	69.2	NAV
Kathmandu	88,938	92,392	185,360	178,740	13,528	16,694	5.2	8.5	14.4		6.3	NAV	NAV	53.0	7.9	1.6	2.8
Lahore	926,962	968,155	1,175,022	1,164,892	149,016	117,952	6.9	3.2	9.0		4.0	19.0	7.0	70.0	1,800.0	257.0	3,000.0
Mandaluyong	49,408	46,979	96,968	107,347	5,822	7,952	4.6	4.2	17.4		4.5	36.0	9.6	50.0	58.0	12.0	37.0
Medan	314,031	319,119	683,420	688,508	12,008	18,114	6.2	1.7	11.9		3.7	36.8	4.5	55.0	122.5	19.8	860.7
Melbourne	2,089	2,003	18,362	16,737	2,861	3,201	2.0	4.3	NAV		24.0	36.4	8.1	31.7	0.0	0.0	0.0
Naga	26,571	25,512	37,458	40,523	3,196	4,287	5.4	2.9	5.9		NAV	30.0	3.2	63.0	15.3	2.5	30.5
Phnom Penh	169,600	160,600	293,700	328,700	18,600	27,600	5.7	13.3	28.7		2.3	28.0	15.0	55.0	150.0	25.0	NAV
Seoul	1,042,421	940,243	3,786,775	3,722,785	341,625	487,151	3.0	0.2	16.7		11.9	48.0	8.1	32.0	NAV	56.0	NAV
Suva	11,682	11,295	25,221	25,376	1,625	2,166	5.3	0.3	16.3		6.3	33.5	10.2	50.0	4.3	1.1	234.0
Ulaanbaatar	110,753	110,101	222,595	245,514	16,102	20,236	4.8	2.5	9.8		4.4	NAV	NAV	50.0	348.9	71.1	4046.0

Legend:

NAV – not available

Income Disparities, Unemployment, and Poverty

City	2.1 Income Distribution										2.2 HH Below Poverty Line (%)	HH Below Poverty Line—\$1 a day
	2.1 Q5 Top 20%		2.1.2 Q4 Next 20%		2.1.3 Q3 Middle 20%		2.1.4 Q2 Next Bottom 20%		2.1.5 Q1 Bottom 20%			
	Range (\$)	Ave. Income on Range (\$)	Range (\$)	Ave. Income on Range (\$)	Range (\$)	Ave, Income on Range (\$)	Range (\$)	Ave. Income on Range (\$)	Range (\$)	Ave. Income on Range (\$)		
Bangalore	960	1,440	720	840	480	600	300	420	0	240	32.5	377
Bishkek	3,754	4,596	2,308	3,031	979	1,584	325	374	0	276	7.2	189
Cebu	6,114	13,204	2,445	3,791	1,467	1,948	978	1,217	245	642	34.2	451
Colombo	1,860	4,752	1,260	1560	774	960	432	588	84	276	12.9	774
Dhaka	3,461	4,601	2,184	2,822	1,273	1,545	730	1,000	0	460	47.7	494
Hanoi	430	723	285	357	205	253	134	168	0	70	1.8	267
Hohhot	886	3914	664	879	514	661	367	513	48	365	NAV	266
Hong Kong	61,956	90,000	46,488	54,222	23,256	34,872	15,492	19,374	0	7,746	NAV	1,192
Kathmandu	2,517	2,996	1,887	2,202	1,426	1,572	1,105	1,279	0	930	35.6	319
Lahore	5,999	*18,750	2,999	4,499	1,500	2,249	750	1,124	0	600	29.9	543
Mandaluyong	15,517	16,012	8,621	10,525	5,173	6,516	3,448	4,927	345	3,088	32.1	535
Medan	1,079	1,258	719	899	575	647	431	503	0	229	29.0	583
Melbourne	53,014	75,533	3,412	43,081	21,314	27,502	11,583	15,953	0	6,162	NAV	704
Naga	5,898	15,400	2,934	6,351	2,201	3,472	1,647	2,537	0	1,361	29.0	482
Phnom Penh	228	640	175	201	116	148	52	85	0	38	24.0	385
Seoul	44,499	65,630	201	39,707	26,628	30,123	18,964	23,132	0	14,796	1.2	787
Suva	10,159	18,164	7,851	9,005	5,234	6,651	3,926	4,638	0	2,956	17.5	651
Ulaanbaatar	1,208	3,752	803	1,003	521	656	334	426	40	218	34.1	312

Legend:

NAV – not available

* – unconfirmed

Income Disparities, Unemployment, and Poverty

City	2.3 Women-Headed Households in Poverty (%)	2.4 Child Labor ('000)	2.5 Informal Employment (%)	2.6 Unemployment (%)	2.7 Expenditure on Poverty Reduction (per poor person) (\$)
Bangalore	9.8	36.3	54.0	7.5	NAV
Bishkek	28.7	58.9	34.4	6.0	20.16
Cebu	NAV	0.0	NAV	11.2	11.51
Colombo	40.0	0.1	19.3	9.1	101.00
Dhaka	7.2	752.9	63.0	23.0	3.20
Hanoi	NAV	NAV	NAV	9.1	15.00
Hohhot	NAV	0.0	8.2	0.1	5.00
Hong Kong	NAV	0.0	NAV	4.7	3,020.00
Kathmandu	97.0	13.8	33.0	7.8	NAV
Lahore	6.3	321.8	60.0	5.4	2.96
Mandaluyong	31.8	0.1	40.0	15.8	52.23
Medan	6.9	0.0	46.6	13.7	3.20
Melbourne	NAV	0.0	NAV	4.6	NAV
Naga	53.2	1.0	32.1	5.8	30.64
Phnom Penh	20.7	2.3	NAV	2.1	9.80
Seoul	NAV	NAV	NAV	4.9	60.55
Suva	22.0	3.1	63.0	7.7	0.04
Ulaanbaatar	28.7	0.3	20.5	2.9	28.00

Legend:

NAV – not available

Health and Education

City	3.1 Persons per Hospital Bed	3.2 Child Mortality (%)	3.3 Life Expectancy at Birth (years)	3.4 Infectious Diseases Mortality (per '000 pop)	3.5 Family Planning (%)	3.6 Adult Literacy Rate (%)	3.7 School Enrollment Rates		3.8 Tertiary Graduates (per '000 pop.)	3.9 Median Years of Education (years)	3.10 School Children per Classroom	
							3.7.1 Primary Schools (%)	3.7.2 Secondary Schools (%)			3.10.1 Primary	3.10.2 Second- ary
Bangalore	370.8	6.70	69.3	1.14	56.0	73.1	94.7	24.5	75.0	NAV	54.0	25.0
Bishkek	53.2	4.80	67.9	0.33	74.3	98.0	76.5	75.9	15.0	11.0	32.0	32.0
Cebu	306.0	4.10	66.0	10.50	46.0	93.0	93.7	86.7	145.0	14.0	58.0	50.0
Colombo	100.0	1.90	71.8	0.16	66.0	94.5	52.8	33.8	23.0	NAV	40.0	45.0
Dhaka	924.0	9.30	60.5	NAV	49.8	60.3	83.0	39.0	43.0	NAV	56.6	75.8
Hanoi	289.0	4.30	69.7	NAV	77.6	85.0	97.7	90.3	10.2	12.5	36.2	41.0
Hohhot	375.0	4.70	71.5	NAV	99.7	82.9	99.4	91.6	15.0	15.0	56.0	50.0
Hong Kong	204.0	3.20	79.9	0.04	85.9	91.1	96.0	80.1	350.0	NAV	37.0	38.2
Kathmandu	197.0	9.00	67.0	0.40	30.0	78.2	86.4	86.8	62.0	10.0	40.0	23.0
Lahore	369.0	10.80	63.0	2.50	36.1	66.0	61.6	26.5	48.7	8.0	46.0	60.0
Mandaluyong	63.0	2.50	69.0	0.20	51.0	99.4	94.0	94.0	245.0	14-15	45.1	56.1
Medan	443.2	3.00	65.5	0.06	57.9	98.1	97.2	75.7	69.0	12.0	37.0	38.0
Melbourne	12.8	0.60	78.4	0.01	76.0	100.0	99.9	99.9	268.0	9.0	25.7	20.7
Naga	145.9	1.70	69.5	1.16	48.0	98.0	117.0	77.0	160.8	15.0	39.0	48.4
Phnom Penh	227.0	16.70	52.9	16.00	13.0	80.2	91.1	90.7	52.8	NAV	51.0	48.0
Seoul	193.0	0.60	72.4	0.00	79.0	100.0	98.0	102.7	44.8	10.5	24.9	42.1
Suva	91.0	2.40	66.6	NAV	52.3	96.9	97.7	74.1	116.0	8.3	31.0	29.0
Ulaanbaatar	105.0	6.90	64.8	0.17	59.0	97.1	103.8	66.4	10.9	14.0	35.7	34.2

Legend:
NAV – not available

Urban Productivity and Competitiveness

City	4.1 City Product per Capita (\$)	City Product PPP Adjusted (\$)	4.2 Employment by Industry					4.3 Household Expenditure			
			4.2.1 Secondary & Infrastructure ('000)	4.2.2 Consumer Services ('000)	4.2.3 Product Services ('000)	4.2.4 Social Services ('000)	4.2.5 Others ('000)	4.3.1 Food (%)	4.3.2 Shelter (%)	4.3.3 Travel (%)	4.3.4 Others (%)
Bangalore	504	2,133	429.7	110.9	264.2	NAV	282.9	47.7	10.5	3.7	38.1
Bishkek	1,750	7,219	58.9	38.2	4.1	65.8	*9.2	56.2	4.8	15.3	23.7
Cebu	2,021	6,699	NAP	NAP	NAP	NAP	NAP	44.5	20.2	6.9	28.4
Colombo	550	1,660	87.0	195.0	205.0	193.0	18.0	37.5	19.8	7.1	35.6
Dhaka	900	2,801	NAV	NAV	NAV	NAV	NAV	46.3	17.3	NAV	NAV
Hanoi	709	3,560	231.0	195.0	5.0	82.0	489.0	57.2	12.4	6.7	23.7
Hohhot	845	3,648	165.7	75.5	15.1	128.9	2.6	33.0	5.0	2.0	38.0
Hong Kong	26,369	24,350	711.4	670.6	921.6	317.7	423.0	29.4	31.0	7.9	31.7
Kathmandu	750	3,720	29.6	40.3	4.5	55.3	64.0	51.5	15.1	4.2	29.1
Lahore	1,039	3,783	NAV	NAV	NAV	NAV	NAV	41.2	18.3	6.2	34.3
Mandaluyong	2,434	6,473	31.0	43.0	23.0	12.0	1.0	42.8	19.4	5.8	32.0
Medan	350	1,156	NAV	NAV	NAV	NAV	60.9	55.1	30.0	10.0	4.9
Melbourne	28,456	28,456	2.1	8.2	5.3	4.5	0.8	13.3	28.4	11.0	47.3
Naga	2,033	6,738	6.8	22.9	4.3	7.1	7.3	46.8	18.9	5.4	29.0
Phnom Penh	246	1,111	28.4	120.2	8.6	13.2	69.5	40.4	37.6	10.0	12.0
Seoul	24,000	30,000	NAP	NAP	NAP	NAP	NAP	28.3	17.7	NAV	40.8
Suva	3,205	8,155	5.3	10.0	7.0	2.5	0.4	NAV	NAV	NAV	NAV
Ulaanbaatar	525	2,500	79.3	71.1	8.8	37.2	13.4	50.6	25.0	16.6	7.8

Legend:

NAP - not applicable

NAV - not available

* - unconfirmed

Urban Productivity and Competitiveness

City	4.4 Investment by Sector				4.5 Tourism		4.6 Major Projects (List)	4.7 Cost of Stay (\$/day)	4.8 Corporate Headquarters
	4.4.1 Physical Infrastructure (\$p.a.)	4.4.2 Housing (\$p.a)	4.4.3 Services (\$p.a)	4.4.4 Others (\$p.a.)	4.5.1 Persons (‘000)	4.5.2 Expenditure (\$ million)			
Bangalore	NAV	NAV	NAV	NAV	1,200.0	NAV	Flyover from Sirsi Circle to Narasimharaja Rd. over Mysore Rd. \$21.21m; Flyover from KH Rd. to Richmond Circle \$0.94m; Underpass on Nat'l Highway7 at Mekhri Circle \$5.10m; Cable Stayed Bridge on NH4 over KR Puram Railway Station, Outer Ring Rd. Cauvery Stage IV, Phase I Water Supply, Shivajinagar Bus Stand Modernization, Impv't to Arterial and Sub-arterial Roads \$35.79m; Underpass Near Sangam Cinema \$0.69m; Underpass Near Shivajinagar \$3.83m	106	25
Bishkek	17.80	7.94	132.48	NAV	59.4	2.4	Reconstruction of Urban Rd. \$13.5m; Improving of Work of the Urban Pub. Transport \$ 0.95m; Reconstruction of the Sys. of the Urban St. Lighting \$2.5m; Const'n of Factory on Processing Garbage with Italian firm "Ati-Wid" \$90 m; Creation of the Enterprise of the Pub. Urban Transport Realizing Carriage of the Passengers by Microbuses \$8,535,172; Intro of Helio-Installations (converters of a solar energy) for Deriving Hot Water in Res. of City Bishkek \$1,371,440; Intro of Energy Saving Tech in a Sys of Lighting St. of Bishkek with Use of Lamps of Low Power and Increased Light \$0.5m; Creation of Comm'l Network by Prod. of the 1st Necessity & Goods of Daily Demand in Bishkek on a Sys (wholesale warehouse-shop) \$6m; Creation of the Enterprise on Assembly, Installation & Service of Counters of Cold Water in Apartment Houses of Bishkek \$119,496; Creation of Autonomous Sys of Heating with Use of Energy Saving Means of a Type (Transonic) for Establishments of Bishkek, Financed from the Loc. Budget \$3m	117	0
Cebu	NAV	NAV	NAV	NAV	634.7	NAV	Second Mandaue-Mactan Bridge; Cebu City Reclamation Project; Metro Cebu Dev't Project I,II,III	80	0
Colombo	43.37	NAV	34.00	6.50	381.0	NAV	Base Line Rd Rehab. Proj.\$23.69m; Sri Lanka-Japan Friendship Bridge; Duplication Road Ext. Proj. \$0.805m; Sustainable Township Prog.; Clean Settlement Prog. \$1.006m; Colombo Flood Protection Proj.; 8 Ft High Stacking Empty Container Yard \$9.47m; North Pier Dev't Proj. Phase I \$12.82m; Phase II \$23.95m; Queen Elisabeth Quay \$256.37m; Base Line Rd Rehab. Proj. \$23.69m; Sri Lanka-Japan Friendship Bridge; Duplication Road Ext. Proj. \$0.805m; Sustainable Township Prog.; Clean Settlement Prog. \$1.006m; Colombo Flood Protection Proj.; 8 Ft High Stacking Empty Container Yard \$9.47m; North Pier Dev't Proj. Phase1\$12.82m; Phase11\$23.95m; Queen Elisabeth Quay \$256.37.	84	0
Dhaka	NAV	NAV	NAV	NAV	182.0	56.0	Dhaka Urban Transport Proj \$234m; 4th Dhaka Water Supply Proj. \$148m; Air Quality Proj. \$155m; 9th & 10th Power Proj. \$314m/330m; Urban Primary Health Care \$60m; Dhaka Power Sys. Upgrade \$251m; Dhaka Integrated Flood Protection Proj. \$120m; Flood	109	100

Urban Productivity and Competitiveness

City	4.4 Investment by Sector				4.5 Tourism		4.6 Major Projects (List)	4.7 Cost of Stay (\$/day)	4.8 Corporate Headquarters
	4.4.1 Physical Infrastructure (\$p.a.)	4.4.2 Housing (\$p.a.)	4.4.3 Services (\$p.a.)	4.4.4 Other (\$p.a.)	4.5.1 Persons ('000)	4.5.2 Expenditure (\$ million)			
							Damage Rehab Proj. \$130m; Southwest Rd. Network Dev't \$134m; Urban Basic Service Delivery \$20.4m		
Hanoi	188.00	11.28	15.43	3.75	500.0	85.3	NAV	99	13
Hohhot	397.00	5.53	127.00	19.04	39.6	126.0	Water Supply Proj by Div Water fr. Yellow River \$214.639m; Second Phase Proj of Wastewater Treatment \$90.565m; 2nd Phase of Dist. Heating \$69.871m; Reconstruction of Main & Sub-main Rds \$43.097m; Overpass at Gulou \$42.276m; Storm Collection Network Reconstruction \$34.545m; Reconstruction of Water Supply Network \$33.663m; Expanding of Jinhai Rd \$16.327m; Reconstruction of East 1st Ring Rd. \$15.019m; Waste Treatment Plant East of Hohhot \$10.871m	72	NAV
Hong Kong	1,486.00	1206.00	1673.00	3111.00	9574.7	6853.0	HK Int'l Airport & The Airport Core Proj. \$9.076b ; Priority Rail Proj. \$15.247b; The Strategic Sewage Disposal Scheme Phase I \$1.033b; Science Park at Pak Shek Kok \$308.57m; Container Terminal No. 9 \$348.60m	154	819
Kathmandu	4.06	4.00	8.97	27.17	463.7	152.5	Kathmandu Urban Dev't Proj. \$8m; Electricity 2nd Rd Impvt Proj. \$0.3m; Strengthening Proj., \$0.2m; Inst'l Strengthening Proj. for Environmental Monitoring \$0.58m; Bagmati Area Sewerage Dev't Proj. \$3.8m; Land Pooling Proj. \$8.98m	100	0
Lahore	35.29	0.98	NAV	192.44	42.0	3.0	Lahore Walled City Circular Rd. Sewerage & Drainage Impvt \$4.44m; Const'n of Secondary & Tertiary Drains of Chotta Ravi & Siddiquepura Zone \$1.71m; New Terminal Complex at Lahore Int'l Airport \$200m; Const'n of Jail Rd. & Widening of Sherpao Bridge \$1.33m; Const'n of Bhaati Chowk Underpass Garhi Shahu & Calvary Flyover & New Campus Underpass \$18.936m; Lahore Rd. Rehab. \$66.294m; MCL Small Proj. Scheme \$7.332m; Purchase of New Machinery for SWM \$3.6m	108	NAV
Mandaluyong	971.84	4.55	3925.95	2743.09	140.0	48.0	Drainage & St. Impvt \$870,822.86; Building Construction \$223,363; Water Supply \$120,637.29	125	2
Medan	NAV	NAV	NAV	NAV	191.4	21.6	NAV	58	NAV
Melbourne	227.77	244.49	92.11	400.49	5,917.4	1,150.0	Crown Entertainment Precinct \$1,380m; City Link Tollway \$1,173m; New Residential Apartments, Southbank \$414m; Southgate & Yarra Promenade Redevelopment, \$345m; Dockland Stadium \$276m; Redevelopment of Flinder St. Railway Station \$90m; Redevelopment of Nat'l Gallery of Victoria \$90m; Melbourne Exhibition Ctr \$90m; Federation Square \$90m; Jolimont Railyards Redevelopment \$90m	142	38
Naga	50.95	11.94	22.16	23.92	50.4	64.6	Rehab of Maharlika H-way, \$8.6078m; 64 Various Community Infrastructure Dev't Proj. \$1.1016; Impvt of Naga Airport Facilities \$0.8803m; Magsaysay Bridge Rehab \$0.7336m; Malabsay Falls Dev't	0	

Urban Productivity and Competitiveness

City	4.4 Investment by Sector				4.5 Tourism		4.6 Major Projects (List)	4.7 Cost of Stay (\$/day)	4.8 Corporate Headquarters
	4.4.1 Physical Infrastructure (\$p.a.)	4.4.2 Housing (\$p.a.)	4.4.3 Services (\$p.a.)	4.4.4 Other (\$p.a.)	4.5.1 Persons ('000)	4.5.2 Expenditure (\$ million)			
							\$0.7336m; City Sch. Bldg. Prog. \$0.5869m; Dev't of Access Rd. to Central Bus Terminal \$0.1834m; Naga River FloodCtl Proj. \$0.1712m; City Water Sys. Impvt \$0.0978m; Rural Rd. Dev't Proj. \$0.0489m		
Phnom Penh	NAV	NAV	NAV	48.80	218.8	NAV	Phnom Penh Water Supply & Drainage (Part B) \$13.947m; Phnom Penh Water Supply & Drainage (Part A) \$15.360m; Cambodian Urban Water Supply Proj. Phnom Penh Component \$25.961m; Impvt of Water Supply Facilities in Phnom Penh 17.147m; Const'n of Landfill Site of MPP \$12.3m; Study of Drainage Impvt and Flood Control in MPP \$2.8687m; Impvt of the Flood Control of MPP \$41.6m	105	3
Seoul	NAV	NAV	NAV	NAV	3188.0	NAV	2nd Subway Construction \$649.4m; Construction of Radial Principal Rd. \$68m; Const'n of Inner Rd. \$61.4m; Collectively Supplied Energy \$57.3m; Maintenance & Repair Proj. of Underground Shopping Ctr. \$56.8m; 3rd Subway Const'n & Design \$43.9m; Const'n Recovery Facilities of Waste Materials \$34.7m; Const'n of Water Purification Plants \$33.3m; Proj. to Improve Residential \$56.8m; \$31.5m; Ext. Proj. of Ji-Bong St. \$20.9m	193	0
Suva	NAV	NAV	NAV	NAV	30.6	NAV	NAV	94	0
Ulaanbaatar	11.72	29.23	24.54	101.75	150.7	27.8	Buyant-Ukhaa Int'l Airport \$39m; Ulaanbaatar Services Impvt Proj. \$26.7m; Modernization of Power Plant 3 \$37m; Energy Conservation Proj. \$1.1m; Chingges Khaan Hotel \$20m; City Rd. Impvt Proj \$1.2m; Extension of Ard-Ayush Ave. \$2.3m; New Cental Market Dev't \$4.8m; Rehab. Proj. of Ulaanbaatar-Darkhan-Altanbulag (Northern Border w/ Russia) \$25.25m; Continental Hotel \$2.5m	98	0

Legend:
NAV – not available

Technology and Connectivity

City	5.1 R&D Expenditure (\$)	5.2 Telephone Traffic (calls per person per year)			5.3 Internet Hosts (per '000 pop.)	Connectivity Index	Congestion Index
		5.2.1 Local	5.2.2 International	5.2.3 Mobile or Cellphone			
Bangalore	NAV	130.0	2.0	1.4	8.00	48	74.8
Bishkek	0.07	*270.0	*3.2	0.0	4.30	16	51.6
Cebu	NAV	28.0	0.1	10.4	6.00	37	52.5
Colombo	1.88	64.0	1.2	5.0	9.63	26	62.6
Dhaka	NAV	17.0	0.4	0.5	9.23	34	86.2
Hanoi	37.60	88.0	1.2	1.0	6.30	47	61.4
Hohhot	1.19	55.0	0.2	7.0	0.85	0	67.4
Hong Kong	28.00	420.0	71.0	132.0	278.00	100	69.3
Kathmandu	NAV	100.0	0.4	0.6	15.40	30	57.4
Lahore	0.44	78.0	1.9	1.2	16.60	24	73.1
Mandaluyong	2.28	210.0	3.3	4.4	18.00	34	72.5
Medan	0.01	60.0	2.1	7.0	10.00	27	61.9
Melbourne	408.00	594.0	11.0	80.0	131.90	85	32.0
Naga	0.28	90.0	0.4	38.0	4.73	5	44.5
Phnom Penh	NAV	3.5	0.1	1.1	0.49	16	57.8
Seoul	59.96	340.0	11.6	84.0	150.00	88	83.3
Suva	0.00	76.0	2.1	2.8	26.64	17	40.1
Ulaanbaatar	2.24	63.0	0.8	1.0	4.14	13	53.3

Legend:

NAV – not available

* – unconfirmed

Urban Land

City	6.1 Urban Land							6.2 Land Developer Multiplier	6.3 Developer Contribution (%)
	6.1.1 Residential (ha)	6.1.2 Business (ha)	6.1.3 Services (ha)	6.1.4 Transport (ha)	6.1.5 Mixed Use (ha)	6.1.6 Others (ha)	6.1.7 Total Area (ha)		
Bangalore	9,877	675	2,038	8,946	4,747	2,144	28,400	15.4	0
Bishkek	*14,736	*	*8	*1,128	*	*4,703	*15,597	4.0	10
Cebu	*5,394	*669	*55	*	*1,888	*959	*	1.9	99
Colombo	1,402	374	660	983	262	48	3,729	2.2	NAV
Dhaka	*6,840	*3,204	*	*4,320	*	*	*36,000	5.7	10
Hanoi	2,380	840	1,570	470	3,870	10,339	19,469	NAP	0
Hohhot	2,360	2,250	2,000	370	630	1,020	8,630	3.0	NAV
Hong Kong	5,900	1,300	3,700	3,100	93,400	2,300	109,700	NAP	NAP
Kathmandu	158	83	239	166	3,116	1,314	5,076	2.5	29
Lahore	11,125	1,725	2,725	1,750	125	7,550	25,000	1.2	100
Mandaluyong	469	211	46	180	60	160	1,126	4.4	20
Medan	14,311	2,403	*6,343	3,353	51	49	26,510	2.5	18
Melbourne	367.08	701	223	1,201	142	813	3,447	4.8	100
Naga	1,099	191	150	4	0	20	1,464	5.0	100
Phnom Penh	4,136	603	NAV	287	793	13,752	19,571	13.3	NAV
Seoul	NAP	NAP	NAP	NAP	NAP	NAP	60,595	NAV	NAV
Suva	1,035	725	160	NAV	NAV	246	NAV	3.0	100
Ulaanbaatar	4,764	1,978	760	1,435	687	4,739	14,363	1.1	60

Legend:

NAP – not applicable

NAV – not available

* – unconfirmed

Urban Land

City	6.4 Median Time for Planning Permission (month)	6.5 Vacant Land with Planning Permission (ha)	6.6 Public Open Space (%)	6.7 Vacant Government Land		6.8 Prime Commercial Land Price (\$/m ²)	6.9 Prime Rental and Occupancy Costs		
				6.7.1 Amount of Land Owned by Gov't, Parastatals or Enterprises (ha)	6.7.2 Proportion of this land which is vacant (%)		6.9.1 Prime Rental per Month (\$ per m ²)	6.9.2 Operating Costs per Month (\$)	6.9.3 Statutory Charges per Month (\$)
Bangalore	15.0	NAV	9.1	NAV	NAV	780	5.20	0.26	1.46
Bishkek	3.0	187	7.4	15,597	1.2	11	12.00	14.00	0.32
Cebu	6.0	NAV	3.0	678	NAV	367	NAV	61.00	NAP
Colombo	2.0	NAV	8.5	NAV	NAV	875	11.60	4.60	0.50
Dhaka	1.0	NAV	NAV	7,361	10.0	*1,225	5.00	NAV	NAV
Hanoi	3.0	16	1.0	30,400	34.1	*2,256	35.00	3.50	0.00
Hohhot	1.0	NAV	5.7	3,460	0.4	108	0.27	0.06	0.30
Hong Kong	2.0	NAV	9.5	NAV	NAV	27,539	74.10	NAV	NAV
Kathmandu	NAV	NAV	4.5	214	NAV	714	7.33	1.40	1.10
Lahore	2.0	4,537	5.0	16,667	30.0	532	45.00	11.00	4.44
Mandaluyong	0.5	50	1.5	144	34.6	1,590	11.24	499.66	76.77
Medan	15.0	20	10.0	58	18.5	200	15.00	36.46	42.65
Melbourne	2.0	50	16.0	NAV	NAV	2,588	100.00	47.00	12.00
Naga	2.2	147	1.3	133	33.3	*1,223	10.27	3.08	1.03
Phnom Penh	NAV	627	13.1	>209	1.0	400	NAV	NAV	NAV
Seoul	NAV	NAV	26.7	NAV	NAV	23,253	NAV	NAV	NAV
Suva	1.0	NAV	5.0	NAV	NAV	554	32.72	NAV	NAV
Ulaanbaatar	8.0	260	1.0	14,363	30.0	9	8.00	0.65	1.50

Legend:

NAV – not available

* – unconfirmed

Housing

City	7.1 Dwelling Type					7.2 Tenure Type							
	7.1.1 House (Single Family) (%)	7.1.2 Medium Density (%)	7.1.3 Apartment (%)	7.1.4 Temporary Dwelling (%)	7.1.5 Others (Institutions, hostels, etc.) (%)	7.2.1 Owned & Purchased (%)	7.2.2 Private Rental (%)	7.2.3 Social Housing (%)	7.2.4 Sub-Tenant (%)	7.2.5 Rent Free (%)	7.2.6 Squatter No Rent (%)	7.2.7 Squatter Paying Rent (%)	7.2.8 Others (%)
Bangalore	12.4	72.3	12.3	2.9	0.1	42.5	55.1	NAV	NAV	NAV	NAV	NAV	2.4
Bishkek	19.4	2.2	70.2	NAV	8.2	85.0	5.0	10.0	NAV	NAV	NAV	NAV	0.0
Cebu	82.0	6.0	11.0	NAV	1.0	41.0	26.0	0.0	NAV	NAV	33.0	NAV	0.0
Colombo	33.4	12.0	19.3	34.8	0.3	60.7	24.0	NAV	NAV	7.1	2.0	0.0	6.0
Dhaka	39.0	30.6	10.0	11.1	9.3	31.8	53.5	1.2	NAV	6.5	NAV	NAV	6.8
Hanoi	74.7	3.9	18.0	1.9	1.5	75.2	7.8	12.5	1.0	0.2	1.3	0.0	1.9
Hohhot	34.0	0.0	66.0	0.0	0.0	65.0	1.0	34.0	NAV	NAV	NAV	NAV	0.0
Hong Kong	12.2	0.0	84.2	2.7	0.8	42.8	16.7	36.3	NAV	NAV	3.4	0.0	0.8
Kathmandu	31.8	51.2	18.0	0.0	0.0	65.8	28.7	0.0	NAV	3.4	NAV	NAV	2.3
Lahore	48.0	43.0	3.0	5.0	1.0	82.0	15.0	0.0	0.0	3.0	0.0	0.0	0.0
Mandaluyong	56.2	35.2	7.6	0.6	0.5	52.2	27.0	2.0	2.5	3.5	8.0	4.0	0.8
Medan	78.5	9.2	0.0	12.2	0.1	56.3	38.3	0.1	1.1	3.1	0.2	0.8	0.1
Melbourne	6.6	26.5	62.5	NAV	4.4	32.4	50.0	12.3	NAV	NAV	0.0	0.0	5.3
Naga	87.4	3.8	8.1	0.0	0.6	33.0	17.8	39.3	NAV	9.7	0.2	0.0	0.0
Phnom Penh	NAV	NAV	NAV	NAV	NAV	84.0	11.5	0.0	NAV	3.8	NAV	NAV	0.7
Seoul	38.4	18.7	42.8	NAP	NAP	69.6	29.6	NAV	NAV	0.8	NAV	NAV	0.0
Suva	NAV	NAV	NAV	NAV	NAV	57.0	18.0	5.0	NAV	NAV	3.0	3.0	13.0
Ulaanbaatar	0.2	0.1	45.4	51.9	2.4	33.0	3.6	9.0	NAV	NAV	51.9	0.0	2.5

Legend:

NAP – not applicable

NAV – not available

Housing

City	7.3 House Price to Income Ratio (%)	7.4 House Rent to Income Ratio (%)	7.5 Floor Area per Person (m ²)	7.6 Housing in Compliance (%)	7.7 Mortgage to Credit Ratio (%)	7.8 Houses with Mortgages (%)	7.9 Mortgage Loans for Women (%)	7.10 Housing Production		7.11 Squatter Resettlement or Normalization (%)	7.12 Net Housing Outlays by Gov't per Person	7.13 Homeless People ('000)
								7.10.1 On New (Vacant) Land (unit/'000)	7.10.2 Conversions for Infill from other Uses (unit/'000)			
Bangalore	10.0	0.0	9.5	25	NAV	NAV	NAV	2.70	0.38	NAV	0.27	10.65
Bishkek	13.0	41.0	17.5	62	NAV	NAV	NAV	2.60	0.97	NAV	15.75	0.17
Cebu	2.2	17.6	8.0	70	NAP	11.0	NAV	4.20	NAP	16	2.87	0.30
Colombo	NAV	43.0	8.0	59	NAV	NAV	NAV	NAV	NAV	60	4.20	5.00
Dhaka	5.0	12.0	2.7	47	0.1	NAV	NAV	NAV	NAV	NAV	NAV	70.00
Hanoi	15.0	15.0	5.2	78	NAV	NAV	NAV	*8.33	*0.54	0	0.89	1.59
Hohhot	5.4	17.0	8.5	NAV	NAV	NAV	NAV	NAV	NAV	0	5.34	NAV
Hong Kong	11.7	21.8	9.0	96	30.1	NAV	NAV	8.80	NAP	1	593.60	0.78
Kathmandu	10.6	6.4	10.7	NAV	50.0	NAV	NAV	2.90	NAV	0	0.00	0.60
Lahore	7.2	35.0	17.0	55	0.6	27.8	15.0	*1.33	0.00	24	3.33	2.00
Mandaluyong	12.0	19.2	10.9	85	1.1	9.0	33.8	0.29	0.81	36	36.09	0.14
Medan	16.0	15.0	9.0	*3.27	11.6	2.3	40.0	3.30	NAV	3	56.74	2.00
Melbourne	3.6	22.8	55.0	95	NAV	12.0	NAV	*17.5	*8.4	0	243.60	2.77
Naga	2.5	19.7	8.2	63	8.0	8.2	53.0	*4.61	*0.51	81	67.24	13.00
Phnom Penh	NAV	NAV	8.8	35	NAV	NAV	NAV	0.54	NAV	1	NAV	NAV
Seoul	6.8	44.4	15.8	*84	NAV	NAV	NAV	3.10	0.96	2	NAV	2.60
Suva	3.7	0.5	NAV	70	NAV	NAV	NAV	NAV	NAV	0	NAV	0.40
Ulaanbaatar	11.0	0.8	5.7	52	0	0	0	1.00	0.00	0	0.33	0.80

Legend:

NAP – not applicable

NAV – not available

* – unconfirmed

Municipal Services

City	8.1 Water									
	8.1.1 Household Connections (%)	8.1.2 Investment per Capita (\$)	8.1.3 Operations and Maintenance Expenditure (\$)	8.1.4 Cost Recovery (%)	8.1.5 Output per Staff: Water Supplied per Employee (m³)	8.1.6 List of Water Providers	8.1.7 Nonrevenue		8.1.8 Consumption of Water per Capita (liters per day)	8.1.9 Median Price of Water, Scarce Season (\$/m³)
							8.1.7.a Unaccounted for Water (%)	8.1.7.b. Interruptions in Water Service (hours/month)		
Bangalore	85	2.55	10.94	79.0	190.0	Bangalore Water Supply and Sewerage Board	35	630	100	0.28
Bishkek	99	0.70	5.50	60.0	919.0	Urban Water Supply Enterprise "Bishkekvodokanal"	45	24	112	0.02
Cebu	68	3.26	6.00	63.0	202.0	Metropolitan Cebu Water Districts (68%)	38	36	225	0.48
Colombo	52	1.50	0.37	0.9	66.0	Nat'l Water Supply & Drainage Board	45	occasional	108	0.42
Dhaka	42	NAV	0.44	97.4	257.0	Dhaka Water Supply & Sewerage Authority	41	NAV	160	0.50
Hanoi	73	2.33	3.85	111.1	218.0	Hanoi Water Supply Co./ Thanh Xuan Co.	63	NAV	80	0.11
Hohhot	91	21.23	*10.08	1.0	*31,995.9	Hohhot Water Supply Company	NAV	0	140	0.01
Hong Kong	100	70.10	24.00	105.0	431.0	Water Supplies Department	34	1,314	137	NAV
Kathmandu	81	5.14	3.77	76.2	51.0	Nepal Water Sewerage Corporation	40	659	80	0.15
Lahore	84	*7.22	3.66	82.0	*603.0	Water and Sanitation Agency; Private Household Hand Pump	40	*21	213	*0.61
Mandaluyong	83	4.90	4.45	15.0	67.0	Manila Water Company	41	56	202	0.06
Medan	63	5.60	2.75	NAV	286.0	NAV	27	NAV	160	0.80
Melbourne	100	9.75	32.20	149.0	616.8	City West Water	15	0	302	0.44
Naga	74	14.38	9.93	127.5	NAV	Metro Naga Water District, parastatal	57	0	NAV	*0.81
Phnom Penh	83	2.50	1.33	45.0	222.0	Phnom Penh Water Supply Authority	61	540	32	0.39
Seoul	100	18.40	24.50	125.2	*1,144.0	Office of Waterworks	*66	NAV	209	0.21
Suva	98	0.41	3.16	70.0	105.0	Public Works Department	51	7	*203	0.03
Ulaanbaatar	51	*27.60	5.10	34.0	75.0	Water Sanitation Corporation	38	3	117	0.30

Legend:
 NAV – not available
 * – unconfirmed

Municipal Services

City	8.2 Electricity					8.2.6 List of Providers
	8.2.1 Household Connections (%)	8.2.2 Investment per Capita (\$)	8.2.3 Operations and Maintenance Expenditure (\$)	8.2.4 Cost Recovery (%)	8.2.5 Output per Staff: Electricity Supplied per Employee (MWh)	
Bangalore	100	5.38	4.87	NAV	105.9	Karnataka Power Transmission Corp. Ltd.
Bishkek	100	1.19	1.08	0	9,253.0	Urban Enterprise of Electrical Network
Cebu	86	9.00	148.00	12	1,849.0	Nat'l Power Corp. (50%); Cebu Private Power Corp; East Asia Utilities (11%)
Colombo	90	NAV	1.75	NAV	NAV	Ceylon Electricity Board
Dhaka	90	NAV	NAV	NAV	NAV	Dhaka Electricity Supply Authority
Hanoi	100	8.24	10.80	114	NAV	Hanoi Electricity Company
Hohhot	100	32.85	0.38	5	998,927.2	Electric Hohhot Company
Hong Kong	100	60.70	44.50	213	1.2	CLP Power Hong Kong Ltd./ Hong Kong Electric Co. Ltd.
Kathmandu	99	NAV	10.70	100	126.9	Nepal Electricity Corp.
Lahore	128	38.00	6.78	75	2,255.5	Water and Power Development Authority
Mandaluyong	95	10.90	95.00	1	2,816.0	Manila Electric Company
Medan	91	14.98	2.80	0	10,000.0	NAV
Melbourne	100	39.50	236.40	128	11,600.0	Citipower
Naga	94	5.27	18.33	109	330.7	Camarines Sur Electric Cooperative, parastatal
Phnom Penh	16	95.00	37.00	1	309.7	NAV
Seoul	100	NAV	NAV	NAV	NAV	Korea Electric Power Corporation
Suva	98	NAV	NAV	100	NAV	Fiji Electricity Authority
Ulaanbaatar	100	0.25	30.30	96	802.8	Ulaanbaatar Electric Distribution Corp.

Legend:
NAV – not available

Municipal Services

City	8.2.7 Nonrevenue Electricity		8.3 Sewerage/WasteWater					
	8.2.7.a Line Loss for Electricity (%)	8.2.7.b. Interruptions in Power Supply (hours/month)	8.3.1 HH Connections (%)	8.3.2 Investment per Capita (\$)	8.3.3 O&M Expenditure (\$)	8.3.4 Cost Recovery (%)	8.3.5 Output per Staff: Wastewater Discharged or Treated per Employee (m ³)	8.3.6 List of Providers
Bangalore	18	30	80	0.34	0.29	NAV	58522 (discharged)/ 33750 (treated)	Bangalore Water Supply & Sewerage Board
Bishkek	25	160	82	0.69	5.56	0	90.0	Urban Water Supply Enterprise "Bishkekvodonakal"
Cebu	13	5	0	0.00	0.00	0	0.0	NAP
Colombo	NAV	occasional	80	26.00	2.63	NAV	NAV	Colombo Municipal Council
Dhaka	38	NAV	22	NAV	NAV	NAV	NAV	Dhaka Water And Sewerage Authority
Hanoi	19	0	78	10.37	0.65	0	NAP	Hanoi Drainage Company
Hohhot	NAV	0	72	1.57	1.32	1	300.0	Drainage Bureau of Hohhot
Hong Kong	NAV	NAV	98	38.60	21.20	67	369,764.0	Drainage Services Dept.
Kathmandu	16	10	42	2.73	2.55	112	*4,745	Nepal Water Sewerage Corporation
Lahore	20	120	61	19.44	2.65	113	908.4	Water and Sanitation Agency; Metropolitan Corp. of Lahore
Mandaluyong	11	1	0	0.00	0.00	0	0.0	NAP
Medan	3	6	19	19.97	1.50	0	50.0	NAV
Melbourne	NAV	0	100	11.82	39.03	149	338.4	City West Water
Naga	20	1	0	0.00	0.00	0	0.0	NAP
Phnom Penh	34	NAV	41	8.00	NAV	0	NAV	NAV
Seoul	5	NAV	99	10.11	9.10	126	792,261.0	Office of Waterworks
Suva	NAV	NAV	61	2.03	0.45	30	NAV	Public Works Dept.
Ulaanbaatar	30	NAV	51	2.00	NAV	NAV	122.7	Water and Sanitation Corp.

Legend:
 NAP – not applicable
 NAV – not available

Municipal Services

City	8.4 Telephone					8.4.6 List of Providers
	8.4.1 Household Connections (%)	8.4.2 Investment per Capita (\$)	8.4.3 Operations & Maintenance Expenditure (\$)	8.4.4 Cost Recovery (%)	8.4.5 Output per Staff: Calls per Year ('000)	
Bangalore	66	11.14	6.55	100	635.00	Telecom Dept., Govt. of India
Bishkek	73	19.05	52.52	60	1.12	Bishkek Urban Tel. Station; Mobile Katel & Bitel
Cebu	15	NAV	NAV	NAV	NAV	Philippine Long Distance / Telephone Co.; ISLACOM
Colombo	53	NAV	NAV	NAV	NAV	Sri Lanka Telecom; Suntel; Mobitel; Dialog GSM; Lanka Bell
Dhaka	9	NAV	NAV	NAV	NAV	Bangladesh Telephone & Telegraph Board
Hanoi	37	2.34	28.23	136	161.90	Hanoi Postal Service Telecommunication, Mobilephone Co.
Hohhot	9	63.76	56.85	100	238.26	Hohhot branch of China Telecom and China Unicom
Hong Kong	99	111.50	*420.70	161	NAV	Cable & Wireless HKT Tel. Ltd.; Hutchinson Communications Ltd.; New T&T HK Ltd. New World Tel. Ltd.; Smartone Mobile Communications Ltd.; HK Cable TV LTD; China Digital satNet Ltd.
Kathmandu	68	144.00	7.50	211	1,671.61	Nepal Telecommunication Corp.
Lahore	62	10.11	5.38	150	185.00	Pakistan Telecommunications Corp.
Mandaluyong	87	NAV	99.00	NAV	NAV	Philippine Long Distance Co./Globe
Medan	41	19.97	4.19	NAV	2,028.00	NAV
Melbourne	99	151.50	411.90	125	NAV	Telstra Corp; Optus; AAPT; Vodafone
Naga	54	49.85	20.79	116	NAV	Bayantel; Digitel; Globe; Smart; Pilipino Tel. Corp.
Phnom Penh	NAV	10.00	7.80	280	48.96	Alcatel; Fetex; Camtel; Casacom; Camshin; Camintel; CAM GSM; Tricelcam
Seoul	95	NAV	NAV	NAV	NAV	Korea Telecom; Dacom; Onse Telecom
Suva	40	10.82	61.06	125	3.10(Nat'l fig.)	Telecom/Vodafone(Mobile)/Fintel (Int'l)
Ulaanbaatar	34	1.00	27.00	157	33.00 Telecom	Mongolian Telecom/Railway

Legend:
NAV – not available

Municipal Services

City	8.5 Solid Waste Collection					8.5.6 List of Providers
	8.5.1 Household Connections (%)	8.5.2 Investment per Capita (\$)	8.5.3 Operations and Maintenance Expenditures (\$)	8.5.4 Cost Recovery (%)	8.5.5 Output per Staff: Collected per Employee (m ³)	
Bangalore	5	NAV	2.88	0	133.00	Health Dept. of Bangalore Mahanagara-Palike and City Municipal Councils
Bishkek	98	NAV	0.06	-2	2.83	Urban Solid Waste Collection Enterprise
Cebu	47	1.08	1.64	85	2.10	Cebu City Dept. of Public Service
Colombo	90	16.00	1.05	NAV	7.80	Municipal Council/private sectors
Dhaka	50	NAV	NAV	NAV	NAV	Dhaka City Corporation
Hanoi	80	0.00	2.23	5	184.50	Hanoi Urban Environment Co.
Hohhot	100	0.43	1.72	64	281.00	NAV
Hong Kong	100	NAV	24.70	0	328.50	Food and Environmental Hygiene Dept.
Kathmandu	75	2.40	2.14	5	0.36	LT Environment Service; Our Cleaning Service
Lahore	100	2.42	5.25	0	10.00	Metropolitan Corporation Lahore
Mandaluyong	100	5.94	3.07	8	3.15	City Gov't of Manda.
Medan	63	0.90	0.50	0	146.00	NAV
Melbourne	100	NAV	NAV	NAV	NAV	City Wide Services
Naga	86	0.46	0.22	34	201.60	City Environment & Natural Resources Office
Phnom Penh	54	NAV	NAV	NAV	310.00	NAV
Seoul	100	17.13	19.43	28	NAV	NAV
Suva	75	0.00	10.02	0	598.00	Suva City Council
Ulaanbaatar	50	0.14	1.37	97	960.00	Public solid waste co. in each district; Nuuts Co. responsible for dumpsite

Legend:
NAV -- not available

Urban Environment

City	9.1 Solid Waste Generated (tons per person p.a.)	9.2 Household Sewage Disposal						
		9.2.1 Sewage Pipe (%)	9.2.2 Septic Tank (Treated) (%)	9.2.3 Underground Pit (Untreated) (%)	9.2.4 Underground Communal (%)	9.2.5 Pan Collection (%)	9.2.6 Open Ground Trench (%)	9.2.7 Others (%)
Bangalore	0.19	80	5	5	5	0	2	3
Bishkek	0.90	82	15	2	1	0	0	0
Cebu	0.61	NAV	NAV	NAV	NAV	0	NAV	NAV
Colombo	0.28	80	15	4	0	0	0	1
Dhaka	0.17	NAV	NAV	NAV	NAV	NAV	NAV	NAV
Hanoi	0.17	NAV	NAV	NAV	NAV	NAV	NAV	NAV
Hohhot	0.47	55	45	0	0	0	0	0
Hong Kong	0.37	100	0	0	0	0	0	0
Kathmandu	0.28	67	28	1	0	0	0	4
Lahore	0.45	100	0	0	0	0	0	0
Mandaluyong	0.53	0	87	9	1	2	0	1
Medan	*0.12	0	69	20	10	0	0	0
Melbourne	0.31	100	0	0	0	0	0	0
Naga	0.15	0	72	7	5	8	4	4
Phnom Penh	0.26	41	37	3	0	0	15	4
Seoul	0.38	98	0	0	NAV	2	0	0
Suva	0.23	61	39	0	0	0	0	0
Ulaanbaatar	0.60	52	0	48	0	0	0	0

Legend:
NAV – not available

Urban Environment

City	9.3 Wastewater Treated (%)	9.4 Percent BOD Removed from Wastewater (%)	9.5 Air Pollution Concentrations (standard exceeded days p.a.)					
			9.5.1 SO ₂	9.5.2 NO _x	9.5.3 CO	9.5.4 O ₃	9.5.5 Suspended Particulates	9.5.6 Lead
Bangalore	58	95	32	28	NAV	NAV	258	NAV
Bishkek	89	97	150	130	160	25	150	161
Cebu	85	0	NAV	NAV	NAV	NAV	NAV	NAV
Colombo	NAP	0	NAV	NAV	NAV	NAV	NAV	NAV
Dhaka	5	0	NAV	NAV	NAV	NAV	NAV	NAV
Hanoi	3	0	NAP	NAP	NAP	NAP	NAP	NAP
Hohhot	28	40	0.06	0.04	NAV	NAV	0.46	NAV
Hong Kong	98	0	0	3	NAV	13	NAV	NAV
Kathmandu	0	0	NAV	NAV	NAV	NAV	NAV	NAV
Lahore	0	0	79	79	79	79	79	79
Mandaluyong	82	76	NAV	NAV	NAV	NAV	NAV	NAV
Medan	22	27	NAV	NAV	NAV	NAV	NAV	NAV
Melbourne	100	96	0	0	0	0	0	0
Naga	58	0	NAV	NAV	NAV	NAV	3	NAV
Phnom Penh	0	0	NAV	NAV	NAV	NAV	NAV	NAV
Seoul	100	82	56.8	5.1	NAV	38.2	NAV	NAV
Suva	NAV	0	NAP	NAP	NAP	NAP	NAP	NAP
Ulaanbaatar	60	90	0	0	0	0	75	NAV

Legend:

NAV – not available

NAP – not applicable

Urban Environment

City	9.6 Energy Usage per Person (mt p.a.)	9.7 Noise Complaints	9.8 Disasters In the last 10 Years (list with estimated damage)	9.9 Methods of Solid Waste Disposal				
				9.9.1 Disposed to Sanitary Landfill (%)	9.9.2 Incinerated (formally) (%)	9.9.3 Dumped or Burned in the Open (%)	9.9.4 Recycled (%)	9.9.5 Others (%)
Bangalore	0.21	0	NAV	0	0	80	15	5
Bishkek	0.38	26	6 Large fires: Kok-Jar; Chempharmindustry; Bulgaary, Cada, Hotel Eldorado	100	0	0	0	0
Cebu	1.00	9	NAV	88	0	13	0	0
Colombo	NAV	100	1992 Flood 35 dead, over 100 dwellings destroyed; 1993 Bomb Blast-Armour St. 35 dead, 4 dwellings destroyed; 1994 Bomb Blast-Thotalaga 24 dead, 2 dwellings destroyed; 1995 Kolonnawa-Oil Tank 8 dead; 1996 Bomb Blast-Central Bank bldg. over 100 dead, over 100 dwellings destroyed; 1997 Bomb Blast-Galadari Hotel 28 dead, 10 dwellings destroyed; 1997 Bomb Blast-Maradana Junction 15 dead	0	0	98	2	0
Dhaka	NAV	NAV	1998 Flood 67% of city area was under water for 90 days; fire hazards 734 in '98 & 858 in '99	NAV	NAV	50	30	20
Hanoi	NAP	NAP	NAP	50	0	0	20	25
Hohhot	6.61	12	NAP	0	NAV	60	0	40
Hong Kong	2.34	9,666	NAV	86	0	0	14	0
Kathmandu	0.50	NAV	NAP	70	0	20	10	0
Lahore	0.30	NAV	Leakage of chlorine gas in Baja line; Flood in '96	0	NAV	100	75	NAV
Mandaluyong	0.49	6	15 typhoons caused flooding; Fire incidence damage to property: \$10,077,062	90	0	10	0	0
Medan	NAV	NAV	NAV	0	0	77	9	15
Melbourne	1.30	317	NAP	59	0	0	40	0
Naga	0.55	1	1998 Typhoon Loleng, 1,391 total, 7,242 partial dwellings damaged, 10 dead 14 injured; 1995 Typhoon Rosing, 2,339 total, 7,743 partial dwellings damaged 11 dead; Typhoon Monang, 591 total, 6,433 partial dwellings damaged, 7 dead, 27 injured, 7 missing	NAV	NAV	NAV	NAV	NAV
Phnom Penh	NAV	NAV	NAP	55	0	36	7	2
Seoul	5.06	NAV	Apartment Model Housing Fire (20 Dec. 1999), 3 dead and 1 wounded; Partial collapse of stone embarkment over Han Jin apartment housing (14 May 1997), 1 dead and 6 wounded; Collapse of mold technomart construction site (22 Oct. 1996), 1 dead and 2 wounded; Rolling Stones Rock Cafe (26 Sept. 1996), 11 dead and 3 wounded, Collapse of Sam Poong Dept. Store (29 June 1995), 502 dead and 940 wounded; Wangsip-ri Market fire (5 Nov. 1995), 1 dead and 1 wounded, 183 households lost home; Gas explosion at Ahhyun-dong (7 Dec.1994), 12 dead and 101 wounded; Collapse of Sungou Bridge (21 Sept. 1994), 32 dead and 17 wounded, 6 cars fell into river	57	5	0	38	0
Suva	NAV	NAV	Cyclone Kina	0	0	100	0	0
Ulaanbaatar	4.70	50	Methane explosion in the Nalaikh coal mine, (Dec.1990), 20 dead; Flood caused by downpour, (Aug 1995) US\$71,400; Flood cause by downpour 1994, 4 dead; Flood caused by hail downpour 1996, 2 dead, 80 livestock dead, 5 gers damaged; Flood caused by downpour '96, 3 dead, 224 gers damaged and flood protection dam destroyed in three places; Tempest 1993, 1 dead, 11 household plot fences damaged; Tempest 1997 10 power pylons damaged in Ulaanbaatar suburb; Tempest 1998, 7 gers damaged, 20 households plot fences and 2 power pylons damaged, estimated losses US\$1,200	66	NAV	20	6	8

Urban Transport

City	10.1 Mode of Travel (percent of work trips)						
	10.1.1 Private Automobile (%)	10.1.2 Train, Tram or Light Rail (%)	10.1.3 Bus or Mini Bus (%)	10.1.4 Motorcycle (2 or 3 wheel motorized vehicle) (%)	10.1.5 Bicycle, Including Pedicab (pedal powered vehicle) (%)	10.1.6 Walking (%)	10.1.7 Others, Including Boat, Taxi, Animal, Rickshaw (%)
Bangalore	11	7	38	18	11	16	0
Bishkek	10	60	20	2	1	7	0
Cebu	4	0	60	0	0	0	36
Colombo	4	4	71	13	0	6	2
Dhaka	3	0	9	3	1	60	24
Hanoi	NAV	NAV	9	59	29	4	0
Hohhot	2	0	2	4	91	1	0
Hong Kong	8	34	53	0	0	0	5
Kathmandu	NAV	NAV	4	33	0	0	63
Lahore	18	NAV	15	19	19	17	12
Mandaluyong	22	1	7	17	3	13	37
Medan	5	NAV	86	8	0	0	0
Melbourne	55	40	2	1	1	1	1
Naga	19	0	58	19	4	0	0
Phnom Penh	10	0	15	60	2	3	10
Seoul	20	32	29	NAV	NAV	NAV	19
Suva	30	0	60	2	0	7	1
Ulaanbaatar	3	5	60	2	0	30	0

Legend:
NAV – not available

Urban Transport

City	10.2 Median Travel Time (mins)	10.3 Expenditure On Road Infrastructure (\$)	10.4 Road Congestion (%)	10.5 Automobile Ownership (per '000 pop)	10.6 Cost of Recovery from Fees (\$)	10.7 Port/Air Activity		
						10.7.1 Commercial Ships Leaving Port (Freight & Passenger) (per month)	10.7.2 Commercial Flights Leaving (per month)	
							Nat'l	Int'l
Bangalore	40	3.17	100	231	102	0	690	52
Bishkek	45	0.94	70	109	1	0	386	269
Cebu	NAV	NAV	NAV	25	NAV	68,823	2,900	19
Colombo	35	11.88	NAV	7	NAV	NAV	NAV	NAV
Dhaka	50	NAV	NAV	2	NAV	NAV	NAV	NAV
Hanoi	25	4.42	NAV	NAV	57	0	2,645	245
Hohhot	30	9.80	NAV	1	NAV	0	155	8
Hong Kong	47	99.00	47	106	107	19,278	0	6,800
Kathmandu	35	1.93	NAV	279	60	0	1,905	395
Lahore	40	2.22	3	240	100	0	977	244
Mandaluyong	90	3.49	1	248	NAV	2,495	1,170	4,110
Medan	30	1.38	15-25	48	7	4,487	567	87
Melbourne	20	106.00	0	341	NAV	3,050	10,064	1,449
Naga	30	23.65	NAV	87	NAV	0	76	NAP
Phnom Penh	25	0.83	NAV	8	NAV	2,265	NAV	NAV
Seoul	44	171.22	NAV	290	NAV	NAP	6,452	8,311
Suva	35	NAV	NAV	115	NAV	42	240	28
Ulaanbaatar	25	1.69	0	33	79	0	121	42

Legend:
NAV – not available

Urban Transport

City	10.8 Goods Carried (millions of revenue tons p.a.)				10.9 Transport Fatalities	
	10.8.1 Road	10.8.2 Rail	10.8.3 Air	10.8.4 Sea	10.9.1 Transport Related Deaths (per '000 pop.)	10.9.2 Pedestrian Deaths (per '000 pop.)
Bangalore	4.35	0.60	0.01	NAP	0.16	NAV
Bishkek	4.80	1.40	0.01	NAV	0.08	0.04
Cebu	NAV	0.00	44.00	12.00	NAV	NAV
Colombo	NAV	a 102	b 27,743	b 26,847,000	0.08	0.01
Dhaka	NAV	NAV	758.00	NAP	0.17	0.14
Hanoi	8.87	5.16	0.04	1.42	0.11	NAV
Hohhot	31.00	0.69	0.00	0.01	0.00	NAV
Hong Kong	36.15	0.46	1.63	127.48	0.03	0.02
Kathmandu	NAV	NAP	NAP	NAP	0.04	0.04
Lahore	700.00	0.57	547.00	NAV	0.02	0.01
Mandaluyong	0.19	NAP	NAP	NAP	0.04	0.04
Medan	58.65	8.02	17.33	3.20	0.32	0.06
Melbourne	NAV	NAV	0.26	42.11	0.10	0.02
Naga	0.46	0.51	0.41	NAP	0.08	0.01
Phnom Penh	NAV	NAV	NAV	NAV	0.10	NAV
Seoul	54.80	0.15	0.88	0.00	0.05	NAV
Suva	NAV	NAV	NAV	NAV	0.26	0.12
Ulaanbaatar	0.60	7.60	0.00	0.00	1.37	1.34

Legend:

NAV – not available
 NAP – not applicable
 a million metric tons
 b metric tons

Cultural

City	11.1 Attendance at Public Events	11.2 Attendance at Galleries and Museums
Bangalore	Republic Day (20,000); Flower Show at Lalbagh Gardens (100,000); Independence Day (20,000); Rajyothsava Day (20,000); Visit of Prime Minister (25,000); Visit of Opposition Leader (15,000)	Government Museum; Chitrakala Parishat; Venkatappa Art Gallery; Vishweshwaraiah; Technological Museum; Nehru Planetarium; Musical Fountain
Bishkek	Independence Day, Day of City; People's Holiday "Nooruz"; Urban Olympic Games of Students; Festival of Nat'l Creativity Kurban Ait Total attendance: 320,000	NAV
Cebu	NAV	NAV
Colombo	Independence Day (300,000); Wesak Celebrations (500,000); May Day Rallies (1.5m); Cricket Matches (800,000); Other sports activities (200,000); Newam Perahera for Buddhist (300,000); Deepavali festival for Tamil Festival (100,000); Rasaman festival for Muslim (15,000); Christmas festival for Christians (9,200,000); Political Meeting (200,000)	Colombo Museum (182,691 local, 8171 foreign); Art Gallery (675,000); (Lionel Wendt Theatre (54,600); J.R. Jayawardene Cultural Center (25,000); Elphinstone Theatre (80,000); Lumbini Theatre (56,000); John de Silva Theatre (62,000); Sugasthadasa Indoor Stadium (150,000); BMICH (40,000)
Dhaka	Int'l Trade Fair; Art Exhibition; Computer Fair, Independence Day; Language Day; Victory Day, Pahela Baishak	National Museums, Art Gallery
Hanoi	Tiger Cup (240,000)	Military Museums (31,000); History Museums (65,000); Revolution Museum (176,000); Ho Chi Minh Museum (3,030,000)
Hohhot	Festival of Lanterns; Tree plant day; Labour Day; Party day; Third China Art Festival	Inner Mongolian Museum, Hohhot Museum; Inner Mongolian Exhibition Hall, Hohhot Exhibition Hall; Inner Mongolian Art Gallery (389,000)
Hong Kong	Lunar New Year Fireworks Display (577,000); The HK Flower Show (400,000); Nat'l Day Fireworks of Arts (541,014); Display; (380,000) Egyptian Treasure from the British Museum (310,022nd HK Int'l Film Fest (188,000)	HK Science Museum (56,289); HK Museum of Arts (541,014); HK Railway Museum (425,000); Sam Tung UK Museum Sam Tungum (399,523); HK Space Museum (334,839)
Kathmandu	Dasai; Tihar; Indra Jatra; Democracy Day; Martyr's Day	Natural History Museum, Chauni (14,087); Trivhuwan & Mahendra Museum, Hanuman Dhoka (120,968); National Museum, Chauni (53,936)
Lahore	Urs Hazrat Ali Hajvery (10,000,000); Urs Mahdu Lal Hussein (7,000,000); Jashan-e-Baharan, Basant Mela (6,000,000); Horse & Cattle Show (2,500,000); Exhibition at Fortress (5,000,000); Cricket One Day Int'l (40,000); Cricket Test Matches (18,000); Hockey Matches (15,000)	Alhamra Art Gallery (6,000); Co-opera Art Gallery (25,000); Shakir Ali Art Gallery (2,000); Permanent Art Gallery (15,000); Lahore Art Gallery (15,000); Lahore Fort Museums (1,200,000); Lahore Museum (60,000); Shakir Ali Museum (30,000); Science Museum (2,000); iqbal Museum (12,000); Chungtai Museums (20,000)
Mandaluyong	Liberation Day Festivities (10,000); Alay Lakad (8,000); Christmas Gift Giving (20,000); Turnover Mayoralty Post (5,000); Cinemania Festival (5,000)	Galleria Duemila 2000 (36,000); West Gallery (36,000); Gallery Y (21,000); Nemiranda Art Homes (11,040); Museum Shop (11,040)
Medan	NAV	NAV
Melbourne	Comedy Festival (400,000); Melbourne Festival (500,000); Australian Formula 1 (345,300); Australian Tennis Open (201,251); Museums (Midsumma) Festival (213,000); Lygon St. Fiesta (approx. 100,000); Antipodean (100,000); Moomba (approx. 213,000); Chinese New Year Festival (approx. 100,000); AFL GrandFinal (94,431); Spring Racing Carnival-including Melbourne Cup (432,533)	Nat'l Gallery of Victoria (765,327); Scienceworks (284,000); Immigration Museum (58,013); Hellenic Antiquities Museum (11,347)
Naga	Religious Procession in Honor of Virgin of Peñafrancia (750,000), Candidates Forum Series, '98 Local Elections (60,000); Palamong Bicol Reg'l Sports Meet (20,000); City Charter Celebration Parades (10,000); School Torch Parades for Local Achievers (5,000); Civic and Military parades (250,000)	Bicol Science & Tech. Centrum (38,469); Museo Concilar Seminario, Holy Rosary Minor Seminary (6,300); University of Nueva Caceres Museum (3,378)
Phnom Penh	NAV	NAV
Seoul	NAV	NAV
Suva	Hibiscus Festival; Fiji Rugby 7's; Nat'l Church Choir Competition; Coca-Cola School Athletic Competition; Fiji Youth Day Celebration	Fiji Museum
Ulaanbaatar	Nat'l Festival July 99 (50,000); Smoky Group Concert June 99 (7,000); Series of Sports Cultural Festival (40,000); Celebration of the 360th Anniversary of the City of Ulaanbaatar, Oct. 99 (10,000); Traditional Wrestling (4,500)	Nat'l History Museum (24,000); Natural History Museum (48,000); Bogdo-Khan Palace-Museum (11,000); Chojin Lama Temple Museum (5,200); Art Gallery (3,800)

Legend:

NAV – not available

Cultural

City	11.3 Participation In Sports (%)
Bangalore	Cricket, Hockey, Football (Total: 1.62)
Bishkek	Football, Light Athletics, Struggle Boxing, Horse Sport, Lawn Tennis, Tourism, Mountain Climbing, Ski Sports (Total: 20.50)
Cebu	79.00
Colombo	Cricket (2.50); Athletics (1.00); Rugger (0.75); Soccer (1.00); Volleyball (0.50); Basketball (0.25); Netball (0.02); Martial Arts (0.25); Bicycle Race (0.25)
Dhaka	NAV
Hanoi	15.00
Hohhot	Chess, Badminton, Ping-Pong, Wrestling, Wushu (Total: 5.46)
Hong Kong	40.50
Kathmandu	Taekwando, Judo, Karate, Boxing, Football (Total: 0.30)
Lahore	Cricket, Hockey, Squash, Football, Snooker, Bridge, Chess, Table Tennis, Volleyball, Badminton, Kite Flying, Marshal Arts, Boxing, Wrestling, Kabadi (Total: 26.00)
Mandaluyong	20.00
Medan	1.83
Melbourne	Aerobics (4.50); Tennis (3.60); Golf (2.40); Basketball (2.40); Net-ball (2.40); Australian Rules Football (2.10); Swimming (2.00); Cricket (1.60); Cycling (1.00)
Naga	Basketball, Swimming, Chess (Total: 70.00)
Phnom Penh	NAV
Seoul	NAV
Suva	NAV
Ulaanbaatar	Wrestling, Horse Racing, Archery, Basketball, Football (Total: 34.50)

Legend:

NAV – not available

Local Government Finance

City	12.1 Sources of Revenue					
	12.1 Taxes (%)	12.1.2 User Charges	12.1.3 Other Own Source Income (%)	12.1.4 Transfers (%)	12.1.5 Loans (%)	12.1.6 Other Income (%)
Bangalore	22.5	17.9	0.6	17.3	41.0	0.7
Bishkek	65.3	12.7	7.1	12.7	0.0	2.2
Cebu	41.3	12.0	0.0	40.5	6.0	0.0
Colombo	51.4	8.2	7.9	18.2	5.1	9.2
Dhaka	26.7	0.0	32.8	18.1	3.1	19.3
Hanoi	67.2	17.6	0.4	7.7	0.0	7.1
Hohhot	85.6	9.0	6.2	0.0	0.0	0.3
Hong Kong	53.0	7.0	19.0	21.0	0.0	0.0
Kathmandu	0.0	5.0	1.0	82.0	10.0	2.0
Lahore	50.7	24.9	0.3	0.3	0.8	22.9
Mandaluyong	65.8	5.9	0.9	27.5	0.0	0.0
Medan	18.9	17.8	4.6	40.0	0.0	18.8
Melbourne	54.0	34.0	9.0	3.0	0.0	0.0
Naga	21.8	9.9	2.9	59.2	4.9	0.0
Phnom Penh	11.5	*5.8	0.0	*62.5	0.0	20.6
Seoul	59.7	5.5	2.2	17.3	2.6	12.7
Suva	58.0	32.0	0.0	0.0	3.0	7.0
Ulaanbaatar	64.9	10.3	11.1	0.0	0.0	13.7

Legend:

* – unconfirmed

Local Government Finance

City	12.2 Capital & Recurrent Expenditure per Person		12.3 Collection Efficiency, Property Taxes (%)		12.4 Debt Service Charge (%)	12.5 Employees (per '000 pop.)	12.6 Wages in Budget (%)
	12.2.1 Capital Expenditure (\$)	12.2.2 Recurrent Expenditure (\$)	12.3.1 Percentage of Liabilities Actually Collected	12.3.2 Costs of Collecting Property Tax as Percentage of Receipts Passed to Local Gov't			
Bangalore	10.28	25.05	50.2	8	7.43	4.1	34
Bishkek	1.99	32.12	100.0	NAV	0.00	*2.6	11
Cebu	6.00	35.00	70.0	NAV	0.40	8.0	38
Colombo	1.86	7.77	66.5	NAV	NAV	13.6	71
Dhaka	NAV	NAV	75.0	NAV	3.00	*1.6	49
Hanoi	20.30	62.42	90.0	1	0.00	10.1	13
Hohhot	13.30	77.55	NAV	NAV	0.00	50.3	16
Hong Kong	1,053.00	3,171.00	NAV	NAV	0.00	29.0	18
Kathmandu	3.29	5.77	0.0	0	0.23	3.8	44
Lahore	3.85	10.00	10.0	NAV	0.00	3.3	86
Mandaluyong	6.96	13.83	10.0	15	10.00	11.0	35
Medan	8.00	2.00	NAV	NAV	10.00	3.1	44
Melbourne	1,200.00	6,680.00	80.0	3	0.00	21.0	28
Naga	14.53	37.90	109.4	21	5.37	7.5	49
Phnom Penh	NAV	NAV	NAV	NAV	0.00	11.0	58
Seoul	216.48	152.55	96.1	NAV	15.90	4.7	15
Suva	0.00	143.46	91.0	NAP	NAV	6.3	55
Ulaanbaatar	5.93	46.33	95.8	2	0.00	1.1	33

Legend:
 NAV – not available
 NAP – not applicable

Local Government Finance

City	12.7 Contracted Recurrent Expenditure Ratio (%)	12.8 Business Permits	12.9 Enterprise Revenue	12.10 Computerization of Functions				
				12.10.1 Land Registration	12.10.2 Rates Collection	12.10.3 Salaries	12.10.4 General Finances	12.10.5 Business Permits
Bangalore	NAV	36,331	644,735	no	no	no	no	no
Bishkek	5	27,284	NAV	yes	yes	yes	yes	yes
Cebu	45	128,023	1,907	NAV	NAV	NAV	NAV	NAV
Colombo	12	3,500	NAV	no	yes	yes	no	no
Dhaka	NAV	165	NAV	no	no	no	no	no
Hanoi	0	2,800	4,114	yes	yes	yes	yes	yes
Hohhot	NAV	2,910	NAV	NAV	NAV	NAV	NAV	NAV
Hong Kong	NAV	29,947	NAV	yes	yes	yes	yes	yes
Kathmandu	9	15,413	NAV	no	yes	yes	yes	no
Lahore	15	NAV	206,287	partial	yes	yes	yes	no
Mandaluyong	9	11,415	5,060,006	yes	no	yes	no	yes
Medan	0	NAV	NAV	NAV	yes	yes	yes	NAV
Melbourne	17	0	3,000,000	yes	yes	yes	yes	NAP
Naga	23	4,818	11	no	yes	yes	yes	yes
Phnom Penh	NAP	938	NAP	NAV	NAV	NAV	NAV	NAV
Seoul	NAV	NAV	NAV	yes	partial	yes	yes	yes
Suva	11	3,792	NAV	no	yes	yes	yes	yes
Ulaanbaatar	6	26,500	NAV	no	yes	yes	yes	no

Legend:

NAV – not available
 NAP – not applicable
 * – unconfirmed

Urban Governance

City	13.1 Functions of Local Government														
	13.1.1 Water	13.1.2 Sewerage	13.1.3 Refuse Collection	13.1.4 Electricity	13.1.5 Telephone	13.1.6 Public or Mass Transport	13.1.7 Emergency	13.1.8 Road Main- tenance	13.1.9 Education	13.1.10 Health Care	13.1.11 Public Housing	13.1.12 Recreation/ Sports Facilities	13.1.13 Police	13.1.14 Drainage/ Flood Control	13.1.15 Liveli- hood Assistance
Bangalore	no	no	yes	no	no	no	no	yes	partial	partial	no	partial	no	yes	no
Bishkek	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Cebu	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV
Colombo	yes	yes	yes	yes	no	no	no	yes	no	yes	no	yes	no	yes	yes
Dhaka	no	no	yes	no	no	no	no	yes	no	partial	no	yes	no	yes	no
Hanoi	yes	yes	yes	yes	no	yes	yes	yes	yes	yes	no	no	yes	yes	yes
Hohhot	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Hong Kong	yes	yes	yes	NAV	NAV	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Kathmandu	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes
Lahore	yes	yes	yes	NAV	NAV	NAV	NAV	yes	yes	yes	NAV	yes	NAV	yes	NAV
Mandaluyong	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Medan	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Melbourne	no	no	yes	no	no	no	no	partly yes	no	no	no	yes	no	no	no
Naga	partly yes	NAV	yes	no	no	no	yes	yes	partly yes	yes	yes	yes	partly yes	yes	yes
Phnom Penh	yes	yes	yes	no	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Seoul	yes	yes	yes	no	no	partial	yes	yes	yes	yes	yes	yes	no	yes	yes
Suva	no	no	yes	no	no	no	no	yes	no	yes	no	yes	no	yes	no
Ulaanbaatar	yes	yes	yes	no	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes

Legend:

NAV – not available

Urban Governance

City	13.1.16 Others (List)
Bangalore	Conducting elections to the Council, State Assembly and National Parliament once in five years or as often as necessary for the Election Commission; Conducting consensus once in ten years for the Consensus Commission; Welfare activities for the citizen, especially downtrodden, weaker sections; Beautification of the city
Bishkek	Protection of the environment and preservation and development of the best historical cultural traditions of the population; All services are provided for by the municipal government of Bishkek.
Cebu	NAP
Colombo	Customer oriented training to municipal staff; Strengthening of public complaints handling and producing a service directory.
Dhaka	NAP
Hanoi	NAV
Hohhot	NAV
Hong Kong	Public enquiry service; rural planning and improvement strategy; and licensing and building management
Kathmandu	Prepare inventory; maintain and repair cultural places and monuments; to promote cultural languages and objects; to arrange for the burial of unclaimed and deceased; make arrangements for orphans; carry out programs for the welfare of women and children; control pet animals and slaughterhouses; protect barren and unregistered land; determine and manage crematoriums; promote the natural, cultural and tourist heritage
Lahore	Other than Islamic jurisprudence, the laws of Islamic origin currently in force are those pertaining to social welfare/poverty reduction, and are known as "Zakat and Ushr".
Mandaluyong	Promote technical education training thru Manpower Youth Development Center; create linkages with various industries for securing employment/jobs for graduates; motivate graduates to become entrepreneurial to enhance social and economic growth of local economy
Medan	NAP
Melbourne	NAP
Naga	NAP
Phnom Penh	NAP
Seoul	NAV
Suva	NAP
Ulaanbaatar	NAP

Legend:

NAP – not applicable
NAV – not available

Urban Governance

City	13.2 Delivery of Annual Plan (%)	13.3 Voter Participation Rate by Sex		13.4 Independence from Higher Government					13.5 Elected and Nominated Councilors			
		13.3.1 Proportion of Adult Males (%)	13.3.2 Proportion of Adult Females (%)	13.4.1 Closing Down Council or Removing Councilors from Office	13.4.2 Setting Local Taxes Level	13.4.3 Setting User Charges for Local Services	13.4.4 Borrowing Funds	13.4.5 Choosing Contractors for Projects	13.5.1 Female		13.5.2 Male	
									Elected	Nominated	Elected	Nominated
Bangalore	NAV	NAV	NAV	no	no	no	no	yes	36	NAV	69	NAV
Bishkek	NAV	42	58	NAV	NAV	NAV	NAV	NAV	6	41	30	135
Cebu	96	83	85	NAV	NAV	NAV	NAV	NAV	2	NAV	16	NAV
Colombo	NAV	NAV	NAV	no	yes	yes	yes	yes	1	NAV	52	NAV
Dhaka	NAV	NAV	NAV	no	no	no	no	yes	18	NAV	90	NAV
Hanoi	70	100	100	no	no	yes	yes	no	0	NAV	11	NAV
Hohhot	86	100	100	NAV	yes	yes	yes	yes	27	NAV	73	NAV
Hong Kong	96	53	54	no	yes	yes	yes	yes	4	6	16	34
Kathmandu	34	NAV	NAV	yes	yes	yes	yes	yes	6	37	18	160
Lahore	80	14	12	NAV	NAV	NAV	NAV	NAV	26	NAV	275	NAV
Mandaluyong	82	82	82	NAV	NAV	NAV	NAV	NAV	0	1	12	1
Medan	NAV	48	52	NAV	NAV	NAV	NAV	NAV	3	NAV	42	NAV
Melbourne	100	100	100	NAV	NAV	NAV	NAV	NAV	14	2	29	7
Naga	100	48	52	NAV	NAV	NAV	NAV	NAV	3	NAV	9	NAV
Phnom Penh	55	NAP	NAP	no	no	no	no	no	0	0	0	0
Seoul	97	NAV	NAV	no	partial	yes	yes	yes	11	NAV	93	NAV
Suva	78	70	NAV	no	yes with constraints	yes with min. approval	no	yes but very limited	2	NAV	18	NAV
Ulaanbaatar	95	62	62	no	no	yes	NAV	yes	2	NAV	38	NAV

Legend:
 NAP – not applicable
 NAV – not available

Urban Governance

City	13.6 Representation of Minorities (List)	13.7 Planning Applications Refused (%)	13.8 Business Satisfaction (Description)	13.9 Consumer Satisfaction (Description)	13.10 Perception As Place to Live (Description)	13.11 Reported Crimes			
						Per '000 Pop.	13.11.1 Murder	13.11.2 Drug Related Crime	13.11.3 Theft
Bangalore	0.00	NAV				3.20	0.04	0.00	0.70
Bishkek	NAV	8				15.50	0.17	1.88	7.34
Cebu	NAV	NAV				3.00	0.10	0.30	0.20
Colombo	23.00	33				NAV	0.08	22.60	0.62
Dhaka	0.00	0				2.40	0.06	0.09	4.65
Hanoi	0.00	0				3.20	0.01	0.42	3.40
Hohhot	NAV	0				4.80	0.06	0.08	4.65
Hong Kong	NAV	17				10.76	0.10	0.42	3.40
Kathmandu	0.00	0				0.32	0.02	1.52	0.94
Lahore	11.00	10				NAV	0.10	0.69	1.31
Mandaluyong	0.00	1				2.48	0.02	1.52	0.94
Medan	NAV	NAV				NAV	0.03	0.23	0.55
Melbourne	0.00	3				449.00	0.08	23.50	274.00
Naga	0.00	3				NAV	0.04	0.15	0.36
Phnom Penh	NAV	18				NAP	NAP	NAP	NAP
Seoul	NAV	NAV				NAV	NAV	NAV	NAV
Suva	0.00	21				71.00	0.04	1.18	15.86
Ulaanbaatar	0.00	47				15.70	0.10	0.00	7.10

Legend:

NAP – not applicable

NAV – not available

Urban Governance

City	13.12 Access to Information				13.13 Contact with the Public						13.14 Decentralized District Units	
	13.12.1 Annual Report/ Budget	13.12.2 City Strategy/ Vision	13.12.3 Economic Strategy	13.12.4 Social Strategy	13.13.1 Annual No. of Public Local Gov't Meetings		13.13.2 Breakdown of Meetings Held by Mayor or CEO with Business, Public, Officials (ave. per week)				13.14.1 No. of Local Gov't Units Within Metropolis	13.14.2 No. of Decen- tralized Units in Local Gov't
					Number	Attendance	Public	Business	Officials & Councilors	Others Area		
Bangalore	yes	no	no	no	38	1	NAV	NAV	NAV	NAV	8	3
Bishkek	NAV	yes	yes	yes	37	40,000	1	1	4	2	4	20
Cebu	NAV	NAV	NAV	NAV	120	20,000	2	2	7	14	10	80
Colombo	yes	yes	yes	yes	192	NAV	1	1	1	2	47	6
Dhaka	Difficult	NAP	Difficult	Difficult	NAV	NAV	NAV	NAV	NAV	NAV	8	90
Hanoi	yes	yes	yes	yes	NAV	NAV	0	0	0	0	12	212
Hohhot	yes	yes	yes	yes	57	NAP	17	15	8	17	NAP	2
Hong Kong	yes	yes	yes	yes	NAV	NAV	NAV	NAV	NAV	NAV	1	18
Kathmandu	yes	NAV	NAV	NAV	NAV	NAV	2	1	2	1	1	35
Lahore	yes	NAV	yes	yes	24	20,000	1000	50	60	NAV	8	8
Mandaluyong	yes	yes	yes	yes	365	840,000	200	50	42	50	0	27
Medan	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV	NAV
Melbourne	yes	yes	NAP	NAP	72	NAP	9	5	4	2	38	0
Naga	yes	yes	yes	yes	NAV	32,448	10	5	2	8	16	NAP
Phnom Penh	NAV	NAV	NAV	NAV	100	more than 6,000	1-2	1-2	1-2	1-2	NAV 7 districts/ 76 communes	
Seoul	yes	yes	yes	yes	NAV	14	NAV	NAV	NAV	NAV	NAV	25
Suva	yes	yes	NAV	no	12	20	NAV	NAV	NAV	NAV	1	4 wards
Ulaanbaatar	no	no	no	no	2	500	2	2	2	4	9	0

Legend:
 NAP – not applicable
 NAV – not available

COMPARING THE CITIES DATA BASE

Terry McGee

I. THE CONTEXT OF THE CITIES DATA BOOK

The Response to the Region's Urban Growth

The Cities Data Book differs from most national databases. First, the CDB informs about cities' characteristics that can be used to measure city-level performance and programs that can improve the quality of life in cities. For example, information on the quantity and quality of types of household access to water can be used to develop a policy response. Second, the range of data collected is extraordinarily comprehensive, diverse, and complex, which in turn created many challenges for data analysis. Third, the urban indicators collected have, in part, been selected to reflect ADB's policy requirements as identified in the Urban Sector Strategy Report (July 1999). These policy priorities are reducing urban poverty, promoting urban governance, mobilizing financial resources, strengthening urban management, and promoting sustainability.

Since virtually all urban places in developing countries share similar challenges of governance, managing growth or decline, reacting to spatial restructuring, reducing poverty, and providing services to city residents, it may be argued there is nothing distinctive about urban conditions in Asian cities as they face up to the urban challenge.

However, following on from Chapter 1, the sheer number of people that will be in-

volved in the urban shift in the region is much larger than any other region of the world and is occurring at a rate unparalleled in human history. It is estimated that of the 1.7 billion increase in urban population between 2000 and 2025, some 70 percent will occur in Asia. National and municipal governments will be faced with massive challenges in managing urban transition.

While these scenarios are defined at a regional level, individual countries will experience different urbanization patterns. In 2000, 80 percent of Asia's population was located in the six population giants that exceed 100 million in size (Bangladesh, People's Republic of China, Indonesia, Japan, and Pakistan) and this number will increase with the addition of Philippines and Viet Nam before 2020. For the majority of other countries in Asia, such a tyranny of numbers will not be such an important factor in urban transition. However, throughout the urban systems of the region there will still be the same need for strategic priorities in managing urbanization that will involve marshalling national, local, public and private actions in developing financial, managerial, and governance capacity, with the ultimate goal of developing livable cities.

Cross-Boundary Urban Growth Issues

This general description of the urban transition does not reflect that virtually all urban places in the urban systems in Asia are expanding beyond their existing boundaries and that urban growth has accelerated since 1970. Nine of the 18 cities in the CDB form

It is estimated that of the 1.7 billion increase in urban population between 2000 and 2025, some 70 percent will occur in Asia. National and municipal governments will be faced with massive challenges in managing urban transition.

The late involvement of much of the developed world in the urban transition process is occurring as a new global order is emerging, reliant upon the speeding-up of flows of people, commodities, capital, and information through time and space.

part of rapidly growing urban agglomerations listed in the 1995 UN Population Division estimates. Table 5.1 shows this data; many of the CDB cities will form part of rapidly growing agglomerations over the next 15 years as their populations increase by more than 50 percent. It must be stressed that the cities in this CDB were not chosen to be representative of the Asian and Pacific region, but rather to give a cross-section of the types of cities that are emerging. An important selection factor were cities with which ADB had some association, either through lending or technical assistance operations.

The late involvement of much of the developed world in the urban transition process is occurring as a new global order is emerging, reliant upon the speeding-up of flows of people, commodities, capital, and information through time and space. This urbanization differs from the first urban transition of developed countries (Castells 1996). These more recent processes appear to be leading to megacities, concentrations in the largest urban places of more than ten million inhabitants. And these megacities are merely the tips of spatial icebergs of a larger agglomeration of functionally related urban settlements labelled extended metropolitan

regions (EMRs) (Ginsburg, Koppell, and McGee 1991) or mega-urban regions (McGee and Robinson 1995).

The emergence of these cross-boundary urban forms was first identified in Jean Gottman's study of the emergence of megalopolis, referring to the belt of urban settlements stretching from Boston to Washington in the Northeast United States. He attributed these to the underlying technological, sociological, and economic imperatives of urban sprawl represented by the image of cars, freeways, suburbanization, shopping malls, and office and factory decentralization from the urban core (Gottman 1961). Even 40 years ago, Gottman identified the basic components of EMRs that are currently operating in developing countries in Asia. These include the reconfiguring of urban space by outward expansion from the city core. This can occur by

- *creating corridors along main arterial highways;*
- *building new satellite towns* that form a poly-nucleated pattern of urban nodes outside the urban core; or
- *developing new activities (suburbs, industrial estates) haphazardly in urban peripheries.* Depending upon the pace of economic development, these spatial processes are often associated with re-developing urban core areas and the restructuring of economic activities, which involve changes to higher order service activities.

Another way of looking at the issue is to perceive the morphology of most of these agglomerations as including three main sub-regions that form part of the EMRs. First is a city core, clearly illustrated by Melbourne and Mandaluyong, in which the built environment is older and experiencing rapid change. The city cores of Cebu, Colombo, Dhaka, Hanoi, Kathmandu, Lahore, Medan, and Phnom Penh are also older, but the pace of change is much slower and there is still a growing population. This means that the central core is experiencing increased density, pressure on services, and environmental deterioration. In the Central Asian cities, the older city cores have been mostly replaced by Soviet-style built environments

Table 5.1. CDB Cities Forming Part of UN-Defined Agglomerations (population size in millions)

City	Agglomeration		Estimated Agglomeration 2015
	1998	2000	
Bangalore	4.3	5.5	7.9
Dhaka	6.5	12.3	21.1
Phnom Penh	1.0	1.0	1.8
Hanoi	2.5	3.7	5.1
Hong Kong	6.5	6.9	7.6
Lahore	4.5	6.0	9.9
Mandaluyong	0.8	10.8	14.8
Medan	2.0	1.8	2.6
Melbourne	0.5	3.1	3.4
Seoul	10.3	9.8	9.9

Notes: City size is taken from city estimates (CDB). Agglomeration figures are for cities with 750,000 inhabitants or more in 1995. (Source: UN Population Division, Department of Economic and Social Affairs 2000; *World Urbanization Prospects: 1999 Revision*, Data Tables and Highlights). Of the remaining cities in the CDB, Colombo and Hohhot could be legitimately included but neither are listed in the UN database.

which are also deteriorating. Second, surrounding the urban core are areas that could be described as suburban as many inhabitants commute to the city core to work. This spatial patterning, as reflected in the data for day and night populations, is most marked in the cities of Melbourne and Mandaluyong with 700 percent and 208 percent increases, respectively, in their day populations. This keeps employment in the cities' cores. The pattern is less marked for the remainder of the cities, but the majority see their daily populations grow by an average of 25 percent during the day. Exceptions are Hanoi, Hong Kong, and Ulaanbaatar, which show little or no movement from outside their boundaries. Seoul exhibits a trend of outward commuting that can be attributed to its successful programs of employment creation in adjacent new towns (Won Be Kim 1999).

Third, there are zones that may be described as peri-urban, since they still fall within the agglomeration boundaries but exhibit a mixture of agriculture, new towns, industrial estates, and residential areas consisting of both formal and informal housing. These areas are not included in the cities database although in many cases they are the locations of the most rapid population growth and some of the most intractable problems of conflicting land use, environmental problems, and infrastructure provision. These problems are exacerbated by the many problems related to governance.

An understanding of these various processes and their social, economic, and spatial consequences provides the basic framework for the comparative analysis of the CDB urban indicators. It is important to position each urban unit of analysis within the context of the broader processes of urbanization. For example, Melbourne City is one of the cities included in the CDB that provide a set of benchmarks for the other 17 cities included in the database. The city's estimated population in 1999 was only 44,500, making it the smallest city of all the 18 cities. Yet it has one of the fastest growing urban populations at more than 5.8 percent per year, which is higher than some of the rates in the poorest cities in the CDB, such as Bangalore,

Dhaka, and Phnom Penh, where the volume of in-migration significantly contributes to city growth. The explanation for this high rate of population growth in Melbourne is different from the other fast-growing Asian cities. Melbourne City is the core of a metropolitan area of 3.3 million people, among whom the younger population is moving from the outer suburbs to pursue work and education in the city core. This is reflected in a high household formation rate largely composed of single households. Melbourne is the main financial and service core of the region and it has a daytime population of 400,000 who commute to the city to work from surrounding urban areas. This example demonstrates the importance of analyzing each city individually for history, administration, culture, and socio-economic conditions.

Finally, it is important to stress that the very large size of the cities database analyzed poses considerable problems for comparative data analysis. While some of these variables have been discarded because of incomplete responses and misunderstanding of the data needed by the data suppliers, some 122 variables and ratios are still capable of being used. Selecting variables for the most useful comparative policy perspective is not always easy.

II. DEVELOPING A FRAMEWORK FOR ANALYSIS

Given the very real challenges that the CDB presents for comparative analysis, it is important to emphasize the practical policy-oriented goals that are the purpose of the project. All indicators should be concerned with the main strategic objectives as in ADB's Urban Sector Strategy (see Appendix 5). To recall, the overall objective is sustainable urban development, supported by operational objectives related to reducing urban poverty, promoting economic growth, quality of life, and good governance, and protecting the environment.

Where possible, indexes will be used to indicate city performance. The comparative analysis therefore needs to reflect the strategic domains that ADB has identified for policy initiatives and response. The analysis that

It is important to position each urban unit of analysis within the context of the broader processes of urbanization.

By strengthening the city database, policymakers are provided with a firmer basis for their policy-making decisions.

follows collapses these indicators into two groups:

Context Variables

These variables deal with positioning the urban unit in the national unit of which it is part. Typical data at the national level would be national population, rate of national population increase, national level of urbanization, human development index (HDI) rank, and gross national product (GNP) per capita of country collected for the year closest to 1998. City data would include city size, city density, city rate of population increase, city development index, city product per capita, and city gross domestic product (GDP) per capita. Simple ratios could be developed for the ratio of city and national population increase, ranking of cities in national urban hierarchy, and ratio of city GDP to national GDP.

City Comparison Indicators

The assumptions underlying choice of city comparison indicators are

- *the indicators have a minimum of 80 percent coverage for all cities in the database.* For some important variables, such as women-headed households, this data was retained despite falling below the 80 percent average requirement;
- *the indicators be clearly understood by data suppliers so that there is a common basis for comparison.* For example, the data on modes of travel was 100 percent supplied while that on property tax collection costs had weak coverage. The latter was discarded;
- *the indicators can be inferred to be representative of the condition they are measuring.* The indicators used are based on the assumption that more productive, well serviced, environment friendly, and livable cities are emerging in the developed countries. In the CDB, Melbourne and Hong Kong may be taken as the benchmarks against which the performance of other cities can be measured. It should be stressed that this assumption is certainly valid if the major goal is

to identify strategic priorities within urban sectors and between cities; and

- *the city comparison indicators should be chosen to be as representative as possible to meet the objectives defined above.* The following groups of indicators were identified to be

- *city context data:* demographic—size and growth;
- *city context data:* demographic—vital statistics;
- *city economy/productivity*—city product, gross domestic product, etc.;
- *city economy employment/competition*—percentage in services sector, connectivity, etc;
- *poverty*—poverty levels, households below poverty line, household percentage expenditure on food;
- *social*—infrastructure, persons per hospital bed, floor area, school children per classroom at secondary level;
- *sustainability*—mode of transport, automobile ownership, connections for water, electricity, etc.; and
- *governance*—taxes versus wages in budget, user charges versus transfers.

By strengthening the city database, policymakers are provided with a firmer basis for their policy-making decisions. These databases are likewise intended to help them recognize priorities for policy development and assist them by comparing their own city with others.

Comparing Cities: Methods of Analysis

Under the assumptions above, four types of data analysis to compare the 18 cities are suggested.

Indexes

Several key indicators were correlated with other indicators to establish the key indexes as follows:

- The *City Development Index* (CDI) clearly indicates city performance (see Figure 5.1). The higher the CDI the stronger the relationship to increasing household income, increasing city product, and increasing infrastructure provision and local government performance, as mea-

sured by local government capital expenditures. The CDI strongly correlates with all forms of international activity, including exports, air travel, tourism, international communications including the Internet, international headquarters, and prime floor space costs.

- *City product* is also a strong indicator of city performance showing a strong relationship with household income, infrastructure and governance measures.
- *Population indicators* such as household size show that the cities with a higher household size are strongly correlated with lower levels of city economic performance (see Figure 5.2).
- *Population size* of cities is only weakly related to household income and city performance.
- The *local government capital expenditures* are strongly related to economic performance and infrastructure provision.

This exercise suggests it is possible to show certain indicators such as the CDI, household size, and local government capital expenditures are key indicators in identifying city performance. There is need to investigate and refine this process further.

Urban Indicators

A second method of comparing cities involves comparing individual urban indicators. For example, while there is a general tendency for the household size to decrease in relationship to the increase in the CDI, there are also exceptions to this generalization (see Figure 5.3). Colombo, Lahore, Suva, Naga, and Mandaluyong have larger household sizes than their position in the CDI ranking. In seeking to develop urban management policies in health provision, it would be important to consider the cultural explanations of this indicator. Another example might be given in the floor area per person which shows that all cities in the database with the exception of Melbourne (55 square meters) have below 20 square meters per person (see Figure 5.4). If the developing cities were to follow similar housing preferences as Melbourne as they develop, then the space needed for residential hous-

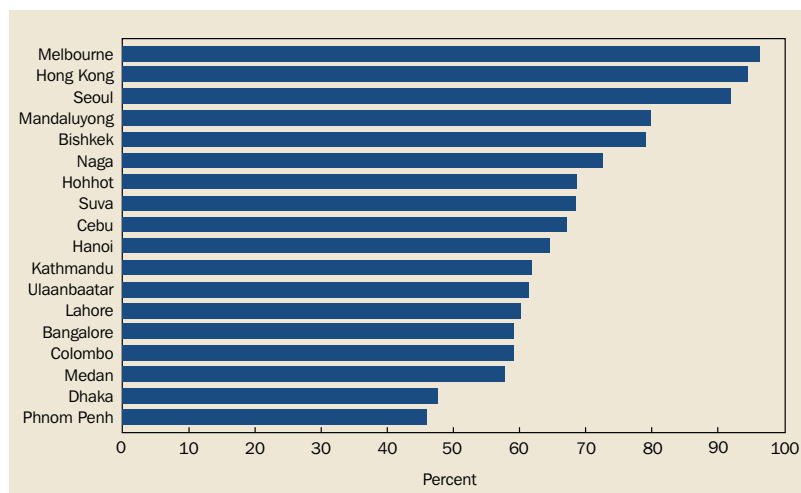


Figure 5.1. Cities Ranked by CDI

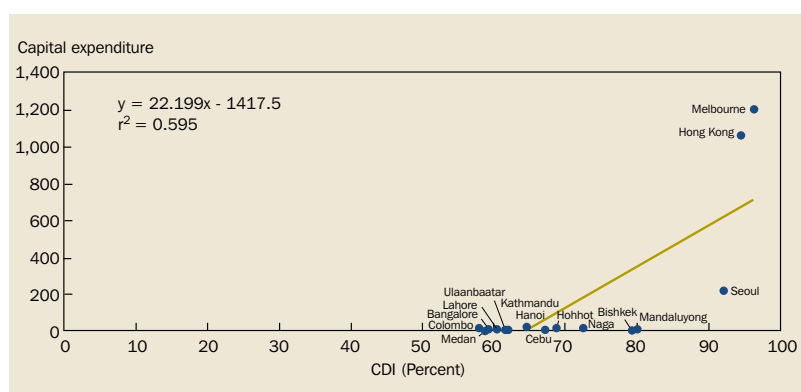


Figure 5.2. CDI vs. Local Government Capital Expenditures

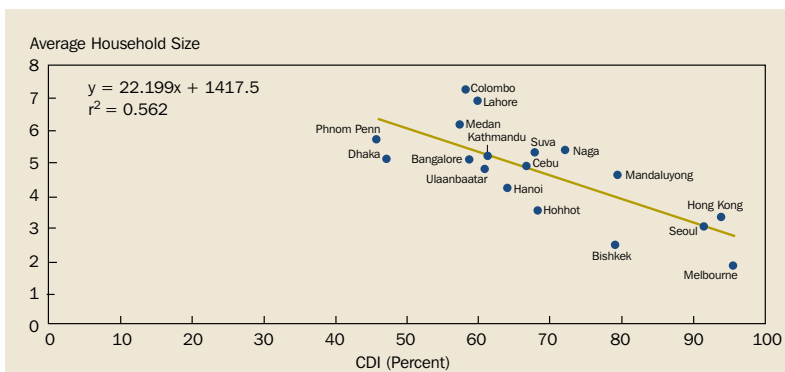


Figure 5.3. CDI vs. Household Size

ing would be very large. Investments in alternative and more profitable commercial land uses in the city core would almost certainly accelerate the outward spread of these cities.

That eight of the CDB cities are already located in larger urban agglomerations than Melbourne raises important questions on the likely demand for land for residential

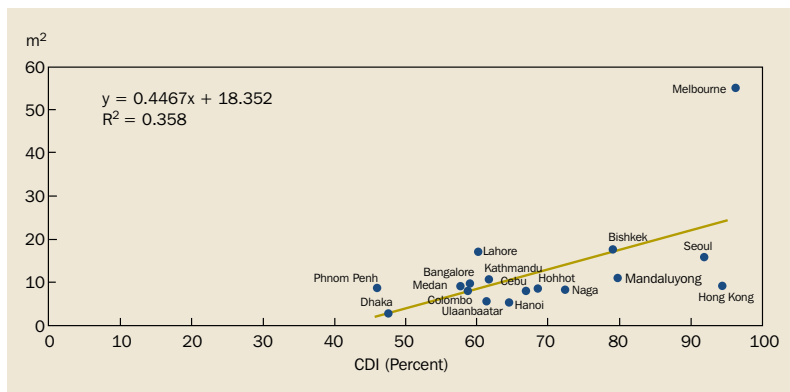


Figure 5.4. CDI vs. Floor Area per Person

expansion and how this can be embedded in an overall land-use strategy for large urban regions. And while these questions have to be related to a wide range of other indicators to guide strategic thinking concerning individual city housing policy planning, even in this simple form they provide valuable comparative input for policy purposes.

City Clusters

Following the first set of analyses, a second set of comparative analyses has been carried out by dividing the cities into four main socio-economic groupings. This form of analysis is useful in

- *providing insights* that do not emerge in the individual comparison of cities used in the preceding form of analysis; and
- *identifying major policy needs* within groups of cities.

For example, the prime requirement of those cities in transition to a market economy may be to develop systems of revenue generation that can help improve the city land management system. Poor cities need to increase their productivity and introduce policies of poverty reduction. Four main socio-economic groupings of cities are identified:

- *High-ranked cities* include Melbourne, Hong Kong, and Seoul. This group is clearly distinguished from the other cities because it has the highest city product, the first three rankings in the CDI, the highest connectivity, the highest level of service, and a high level of transparency in governance.

- *Medium-ranked cities* include Mandaluyong, Suva, Cebu, and Naga. This group is characterized by cities that appear quite diverse but are all in the middle range of the CDI ranking, and are in market economies with less connectivity, and medium levels of service delivery. Within this grouping, Mandaluyong and Naga may be regarded as the cities that are closest to the high-ranked city group, although in both cases this situation is explained in part by their location in the core of a wider urban agglomeration. Naga is a small regional town.
- *Transitional cities* include Bishkek, Hanoi, Ulaanbaatar, and Hohhot. These are characterized by being in societies that have recently experienced various forms of socialism and planned economy. They are labeled transitional to indicate they are to varying degrees attempting to develop a more mixed economy with some degree of privatization of economic activities and, in some cases, individual use of land under various long-term leases. This historical experience of socialism has left these cities with higher levels of service provision, but their economic structure is becoming increasingly dualistic as the process of opening their economies to global forces continues. These cities present a distinctive set of strategic policy needs if they are to reach the performance levels of high-ranked cities.
- *Low-ranked cities* include Bangalore, Colombo, Dhaka, Kathmandu, Lahore, Medan, and Phnom Penh. This group represents the poorest cities in the CDB. They have the lowest CDI, greater proportions of people living in poverty, the largest share of employment in the informal sector, weakest provision of services, and generally weaker systems of urban management.

City Holograms

Comparing a particular sector such as urban management or the prevalence of poverty in two or more cities allows comparisons that

may prove valuable in identifying common sets of policy needs between groups of similar cities. However, since policies have to be developed for individual cities, it is important to compare them as indicators profiles to achieve these goals. Cities are complex institutions where administrators are faced with immense difficulties in trying to identify pressure points for policy intervention. One approach is to carry out a form of cluster analysis that ranks a set of data for an individual city in a diagrammatic form called a hologram.

In using the cities database, four national context variables were selected for each of the cities: urbanization level of the country, HDI rank, GNP per capita (1999), and national population size. There were two city context indicators: CDI and density. In addition, 31 indicators were divided into sectors relevant to ADB's urban sector policies (see Table 5.2).

The assumptions underlying the selection of these indicators are as follows:

- *Sector A: Demographic Indicators A*
Demography includes the population size of the city, rate of population increase, and rate of household formation. Smaller city size and lower rates of population increase and household formation place less pressure upon city governments. In developed countries, the decline of city populations, if not associated with an increase in the nonresidential tax base, causes severe problems for city governments. It is also true that declining populations often leave the most dependent populations (the aged, the poor) dominant.
- *Sector B: Demographic Indicators B*
City demographic vital statistics include life expectancy at birth, percent of population below 15 years of age, and child mortality. It is assumed that a lower life expectancy at birth, higher rates of infant mortality, and a larger proportion of people under the age of 15 indicate that the city lacks the social infrastructure, income, and livability that would lower these indicators of the city's

Table 5.2. Hologram Indicators

NATIONAL CONTEXT VARIABLE

1. Urbanization level
2. HDI rank
3. GNP per capita
4. National population size

CITY CONTEXT INDICATORS

1. CDI
2. Density

SECTOR A. DEMOGRAPHIC INDICATORS A

1. City size
2. Annual rate of population increase
3. Annual household formation rate (percent)

SECTOR B. DEMOGRAPHIC INDICATORS B

4. Life expectancy at birth
5. Proportion of total population 0-14 years of age
6. Child mortality (the probability that a child will die before five years as a percentage)

SECTOR C. ECONOMIC CHARACTERISTICS AND PRODUCTIVITY

7. City product per capita (1998 \$)
8. City product (PPP adjusted) per capita (\$)
9. GDP per capita 1997 (same as Indicator 8)

SECTOR D. ECONOMIC CHARACTERISTICS—EMPLOYMENT/COMPETITION

10. Informal population (percent of total city population)
11. Secondary employment (percent of employed population)
12. Services employment (total of consumer, producer, social)
13. Cost of business stay (overnight in \$)
14. No. of international flights per month
15. Cost of commercial land (\$ per square meter)

SECTOR E. POVERTY

16. Percent of households below poverty line
17. Percent of households below poverty line (\$1 a day; same as Indicator 16)
18. Percent of total work force unemployed
19. Percent of household expenditure on food

SECTOR F. SOCIAL INFRASTRUCTURE

20. School children per classroom (primary)
21. Persons (city population) per hospital bed
22. Percent of housing in compliance with local government regulations
23. Floor area per person (square meters)

SECTOR G. SUSTAINABILITY, PHYSICAL INFRASTRUCTURE, AND GOVERNANCE

24. Water household connections
25. Electricity household connections
26. Sewerage household connections
27. Automobiles per 1,000 population
28. Local government employees per 1,000 population
29. Local government wages as percentage of recurring budget
30. Source of local government revenue (proportion from taxes)
31. Source of local government revenue (proportion from transfers)

The advantage of the hologram is simply that it enables visual assessment of the various performance indexes for a particular city to be quickly ascertained.

health. That is, the city is not providing an environment which can sustain the city population.

- *Sector C: Economic Characteristics and Productivity*

Economic productivity includes city product per capita, city product (PPP-adjusted) per capita in Table 5.2, and city GDP per capita. It is assumed that cities with higher incomes measured in a variety of ways can provide livelihoods and economic well-being for their populations. It is also recognized that incomes are not equally distributed between various income groups who live in the city, but this issue of income distribution is difficult to relate clearly to the level of city development. For example, there is now much evidence in the context of some of the most seriously impacted cities in the recent financial crisis (Bangkok, Jakarta and Seoul) that income inequality has increased (McGee and Scott 2000). At the same time, social safety net projects have created employment that has been used to improve the environmental condition of these cities.

- *Sector D: Economic Characteristics—Employment/Competition*

Employment and competition includes percent as informal population, percent in secondary employment, percent in services, cost of overnight stay, number of international flights a month, and cost per square meter of prime commercial land. It is assumed that cities with more people in the services sector, attracting investment, and having good global connectivity suggest developed cities. It is also assumed that higher prices of commercial land reflect economic attractiveness of the city.

- *Sector E: Poverty*

Poverty includes poverty level estimated by the city, percent of households below one dollar a day, percent unemployed, and percent of household expenditure on food. These are standard measures of poverty except for unemployment. It is assumed that the greater the levels of poverty, the more priority will have to be

given in urban strategy to creating livelihoods and reducing poverty.

- *Sector F: Social Infrastructure*

Social infrastructure includes primary school children per classroom, persons per hospital bed, proportion of housing in compliance, and floor area per person in square meters. It is assumed that higher ratios of school children per room, persons per hospital bed, and low floor areas per person, are evidence of poor provision of social infrastructure and crowding. The proportion of housing in compliance with city regulations gives a good indication of the system of housing provision and provides a tax base for city administrations.

- *Sector G: Sustainability, Physical Infrastructure, and Governance*

Urban sustainability and governance indicators include the percent of households connected to water, percent of households connected to electricity, percent of households connected to sewerage, ratio of automobiles per population, local government employees per 1,000 population, percent of wages in recurrent budget, percent of local government revenues contributed by taxes, and percent of local government revenue contributed by transfers.

Within each of these sectors, the indexes have been ranked on a scale from 1 to 4 and then presented as a hologram. The ranking and methodology are presented in Appendix 6. The advantage of the hologram is simply that it enables visual assessment of the various performance indexes for a particular city to be quickly ascertained. It should be stressed that the aim is to illustrate the process of creating livable cities as involving a series of activities that do not always operate together. The process of creating livable, effective, and sustainable cities is multifaceted. The result presents a cross-sectoral view of these processes at a particular time, which can be seen more as assemblages in which different sectors interact, contradict, and facilitate the overall programs. The city can be seen in all its complexity in a simple and clear manner.

III. DATA COMPARISONS

The existence of such a large database provides opportunity to select a particular group of indicators for analysis in a particular policy response. City administrators wishing to use the CDB may consider the following examples.

Comparing Urban Indicators: The Example of Poverty Indicators

One of the main goals of ADB's urban programs is to reduce urban poverty. This example of city indicators comparison uses urban indicators that measure dimensions of poverty in these cities including

- *percent of households below the poverty line;*
- *percent of households below the poverty line—\$1 day;*
- *percent of women-headed households in poverty;*
- *percent of household expenditure on food;*
- *city density (persons per hectare);*
- *floor area per person in square meters;*
- *expenditure on poverty reduction per poor person;*
- *percent of city population who walk;* and
- *measures, such as education and health built into the CDI index.*

The problems of defining urban poverty should be carefully analyzed. Recent applied policy research on measuring urban poverty argues that most estimates of urban poverty level are too low because they are based on income-based poverty lines and pay little attention to the nonfood based expenditures incurred by households living in urban areas (A. Jonsson and D. Satterthwaite 2000).

In the present cities database, measuring poverty rests primarily on income data and therefore is presumably subject to the same kind of measurement problems. Several measures are helpful for comparing the poverty situation in the four main groupings of cities. For example, while the estimates are lacking data for Melbourne, there is a more accurate reflection of the poverty level than the standard \$1 a day measurements. In most cases, poverty lines in the cities analyzed are higher than the annual \$352, which suggests

that the CBD accounts for the higher costs of living in cities. The exceptions are the transitional cities of Bishkek, Hanoi, Hohhot, and Ulaanbaatar where there have been significant levels of subsidy in infrastructure and services. Kathmandu is the only city where the poverty line falls below the standard estimate.

This approach is illustrated by a scattergram of the relationships between the CDI and the proportion of households below the poverty line as estimated by the CDB (see Figure 5.5).

The approach also shows a generally clear relationship between the CDI and poverty level. Hong Kong and Seoul which are ranked 2 and 3 on the CDI index have the lowest proportions of people living in poverty. Dhaka, ranked 16 on the CDI, has the highest proportion of households living in poverty. Hanoi and Colombo appear to have lower proportions living in poverty than the CDI index would suggest, but the majority of cities cluster in the middle part of the scattergram, indicating a good relationship with the CDI.

A second example is presented using the same vertical axis of the CDI and the horizontal axis of the \$1 a day indicator (see Figure 5.6).

This exhibits a rather different pattern with three clusters of cities. Melbourne, Seoul, and Hong Kong, with higher CDIs, and the lowest CDI city, Phnom Penh, remain the same, but there is reordering of the smaller cities like Suva with lower proportions of households in poverty. The cluster of middle-ranked cities remains very much the same. Generally this analysis supports the

The problems of defining urban poverty should be carefully analyzed. Recent applied policy research on measuring urban poverty argues that most estimates of urban poverty level are too low because they are based on income-based poverty lines and pay little attention to the nonfood based expenditures incurred by households living in urban areas

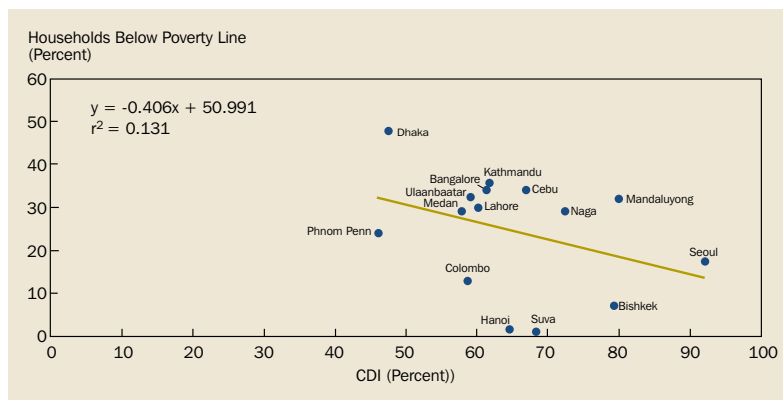


Figure 5.5. CDI vs. Households Below Poverty Line

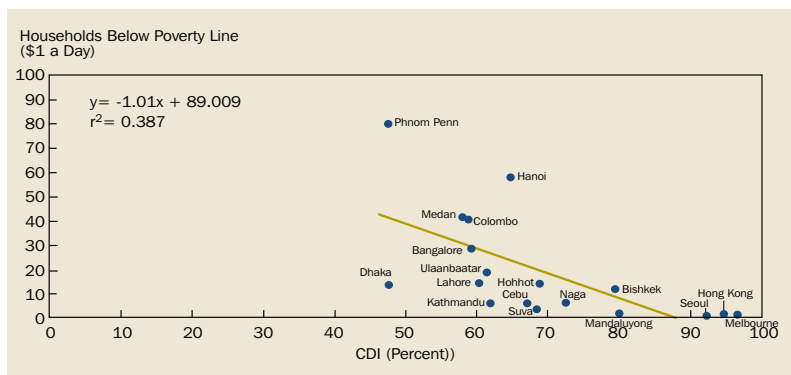


Figure 5.6. CDI vs. \$1 a Day

view that poverty is more extensive in the lower CDI ranked cities.

Comparing City Clusters

Cities tend to cluster together in reflecting common historical experience, their position on the development trajectory, and the severity of problems they face in city management. To test this assertion, a set of bar graphs has been produced that compare the four city clusters' performance in a number of variables that are almost identical to the variables used in the hologram analysis in the next section. The initial diagram shows the relative position between the city clusters in the CDI. The clustering of cities is shown in Figure 5.7.

This indicates the CDI fits well with the city clusters chosen according to the outlined criteria. Sample bar graphs are presented for most of these variables.

Demographic Indicators A: City Size, Annual Rate of Population Increase, and Annual Household Formation Rate

Rates of city increase are greatest in the low-ranked city cluster (5 percent per year) and least in the medium cities (2 percent), which is surprising since it is below the rate of national population increase in these countries (see Figure 5.8). Wealthy cities are higher (2.3 percent) because of the high rate of increase in Melbourne. Transitional cities are increasing at 3.3 percent per annum. The Hanoi data show this to be 1 percent less than the census figures, although this variation may

be explained by boundary readjustments (see McGee 2000).

City size is not a good indicator of differences between city clusters, because of the lack of uniformity in city definition for comparison (see Figure 5.9).

Women-headed households are higher in transitional societies (see Figure 5.10), but the figures are affected by the cities of Hanoi and Phnom Penh, where the sex ratios are very unevenly balanced in favor of women (reflecting the deaths of males in war).

Demographic Indicators B

Life expectancy at birth is relatively undifferentiated between the city clusters, which indicates that health improvements (reduction

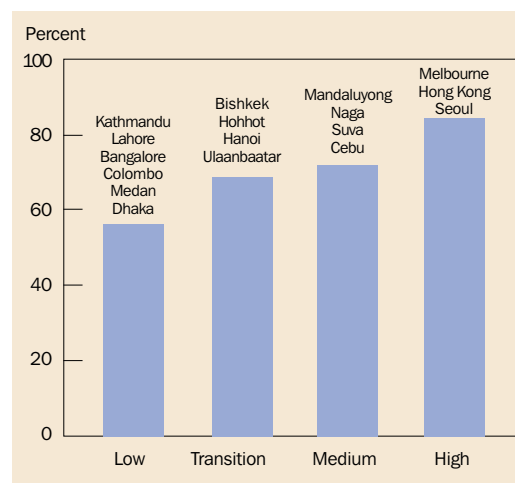


Figure 5.7. Clustering Analysis of CDI

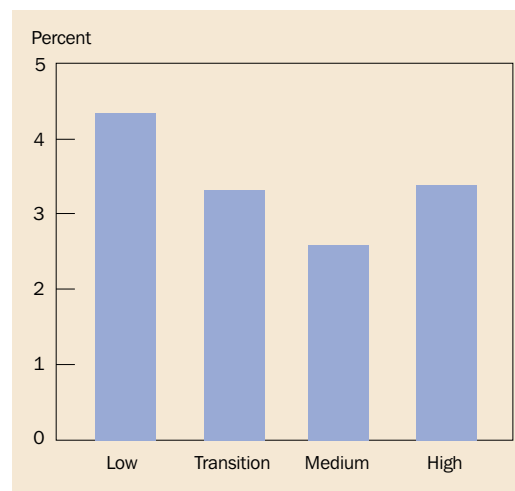


Figure 5.8. Rate of Population Increase

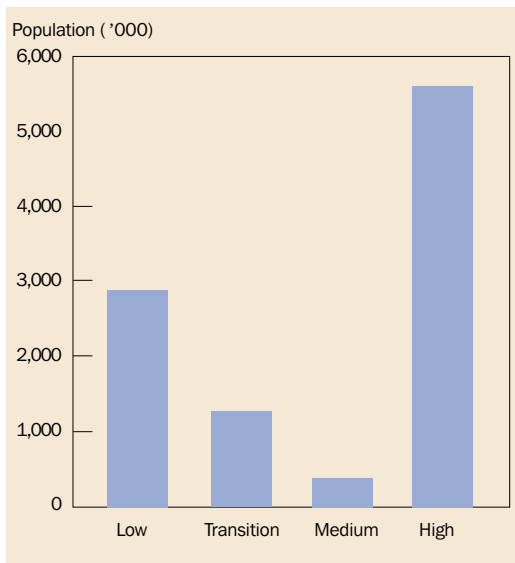


Figure 5.9. City Size

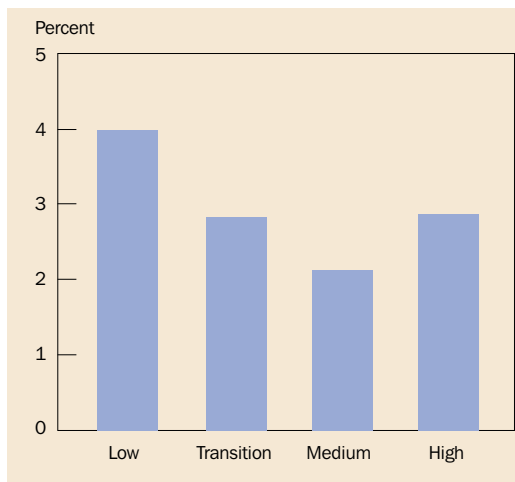


Figure 5.10. Women-Headed Households

in child mortality rates) are evening out differences between city clusters (see Figure 5.11). This suggests that provision for the aging of city populations will become a challenge not only in wealthier cities but also in poorer cities.

City product per capita is the most sharply contrasted variable between the wealthy and other city clusters (see Figure 5.12). It indicates the gains that the cities in developing countries will have to make to reach the levels of income that will provide adequate infrastructure and livability.

Economic Characteristics—Productivity A
Households below the poverty line are most

frequent in poor and medium-income cities (see Figure 5.13). The lower figures in transitional cities can be explained by the role of subsidies, for example, low household rents.

Economic Characteristics—Employment and Competition B

Informal employment is high in poorer cities (see Figure 5.14). In contrast, there is an insignificant number of informal jobs in highly developed cities, partly due to their strict regulations against informal employment.

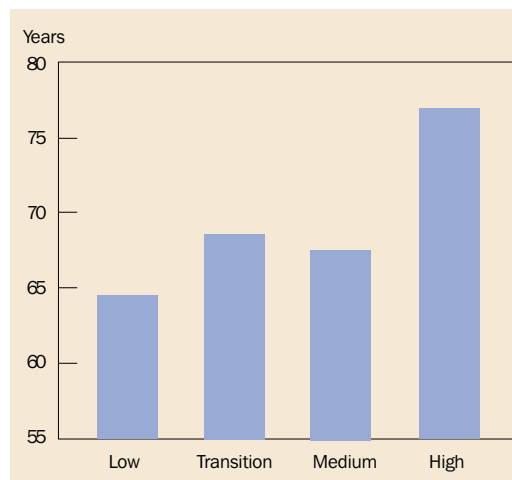


Figure 5.11. Life Expectancy at Birth

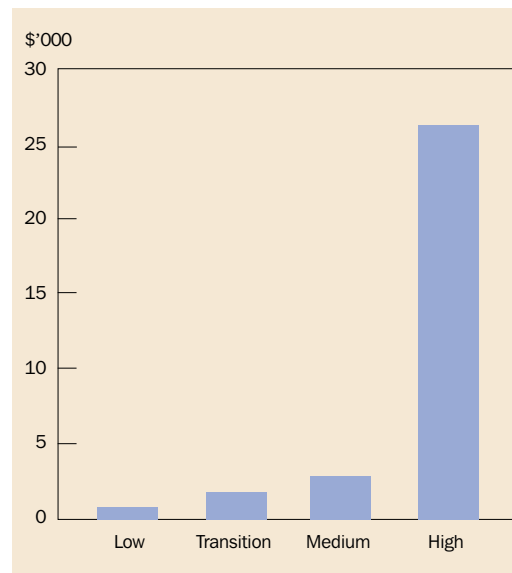


Figure 5.12. City Product

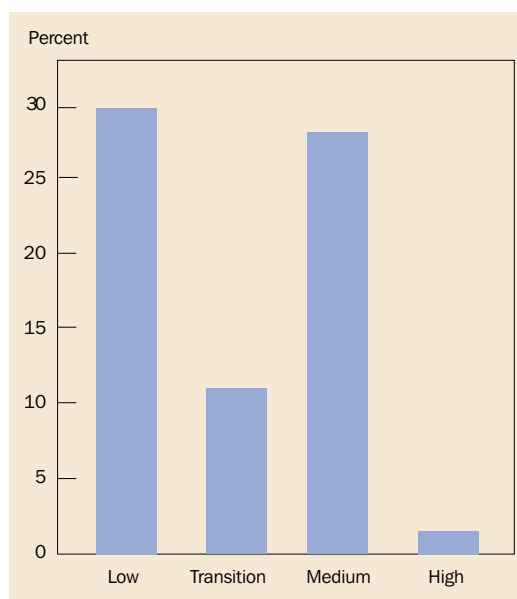


Figure 5.13. Households Below Poverty Line

Poverty

Food costs constitute the biggest household expenditure item among the transitional, low, and medium-developed cities, as against large expenditures on housing and taxes in highly developed cities (see Figure 5.15).

Social Infrastructure

Social infrastructure, for example, hospital beds, is not well developed in poorly developed cities, suggesting that more investment is needed to improve delivery and access to services (see Figure 5.16).

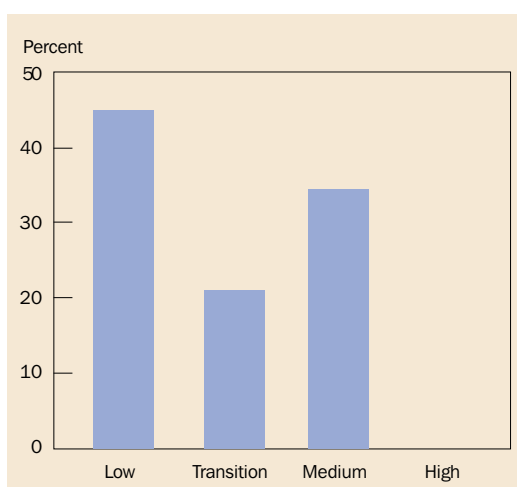


Figure 5.14. Informal Employment

Sustainability—Physical Infrastructure and Governance

The number of Internet hosts per 1,000 population is greatest in wealthy cities and lowest in transitional societies (see Figure 5.17). Medium- and low-income cities are relatively

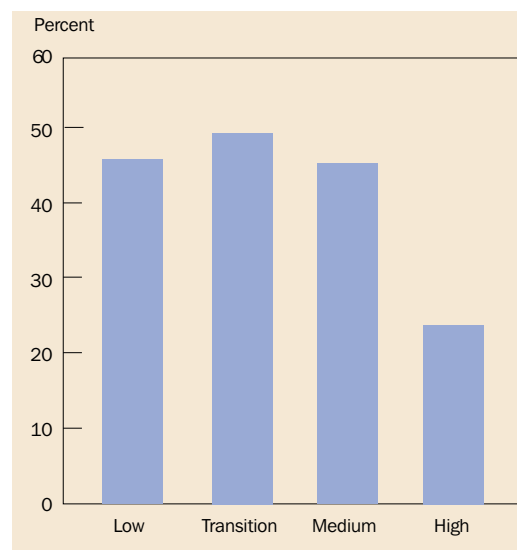


Figure 5.15. Household Expenditure on Food

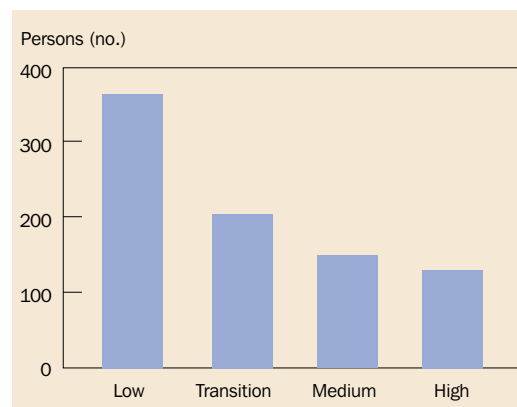


Figure 5.16. Persons per Hospital Bed

little differentiated. The same generalization is true of international flight connections.

Use of automobiles and public transport for getting to work is highest in wealthy cities (see Figure 5.18). Walking is a major mode of transportation in poor cities.

The budgetary management of cities in the CDB is made more complicated by budgetary policies at the national and local levels in city clusters. Therefore, the medium-ranked cities show a high propor-

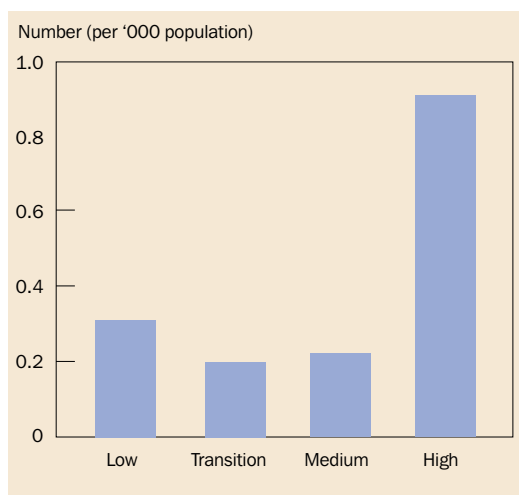


Figure 5.17. Internet Hosts

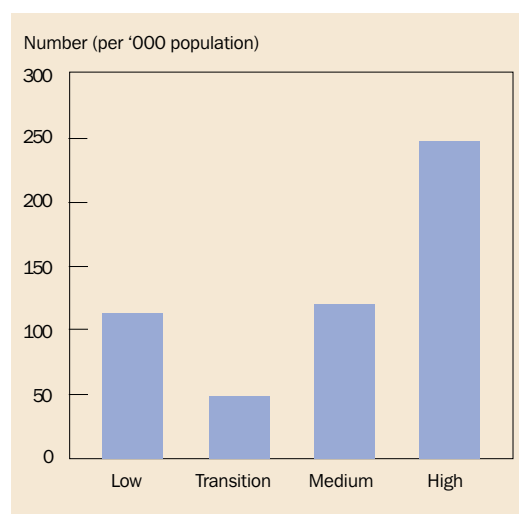


Figure 5.18. Automobile Ownership

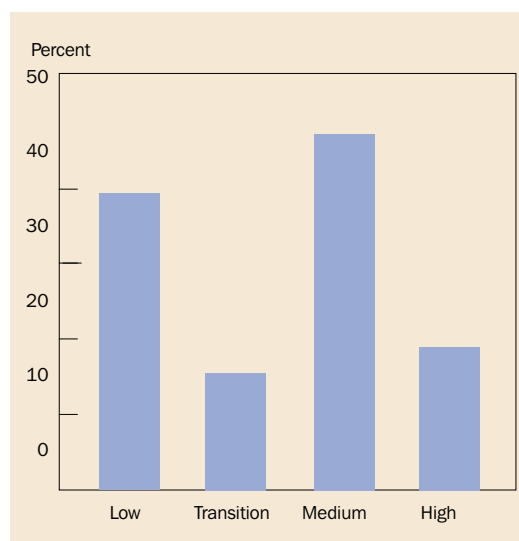


Figure 5.19. Source of Revenue Transfers

tion of budgetary revenues coming from transfers (see Figure 5.19). This reflects that three of the four cities are in the Philippines, which has enacted a decentralization policy (1991) that includes transfers of national revenues to the local level. The proportion of wages in the budget appears to be greater in the low-ranked cluster, except for the transitional societies where wages are low and supported by subsidies for accommodation.

Comparing City Holograms

The final type of city analysis involves holograms. They provide a cross-sectoral picture of each city in its totality. Examples of city holograms have been chosen to represent a range of cities as measured by the CDI and context indicators. The 31 indicators are each internally ranked from 1 to 4 to reflect their baseline performance under ADB's various goals for achieving more livable, productive, and sustainable cities. These rankings are called levels. In the following analysis, Level 4 cities have the lowest ranking on the scales and therefore have the most need for programs designed to achieve ADB's goals. Level 2 and 3 cities are characterized by sectoral unevenness in attaining these goals. Level 1 cities have largely reached ADB's urban sector goals.

Level 4 Example: Dhaka City

Dhaka City, located in Bangladesh, is one of the poorest cities in the world, ranked 150 in the HDI with a large rapidly growing population, with a low level of urbanization and low GDP per capita. The hologram for Dhaka shows the city scores among the lowest in the CDB for the required level of performance for achieving ADB's urban sector goals (see Figure 5.20).

- Analysis by sector indicates the following:
- *Sectors A and B: Population Characteristics.* With 6.5 million residents (1), Dhaka is the third largest city in the CDB and is growing rapidly from natural increase (2) and migration (3). This growth rate is further accentuated by increased life expectancy (4) with a high proportion of the population under 15 years old (5), although child mortality remains high (6).

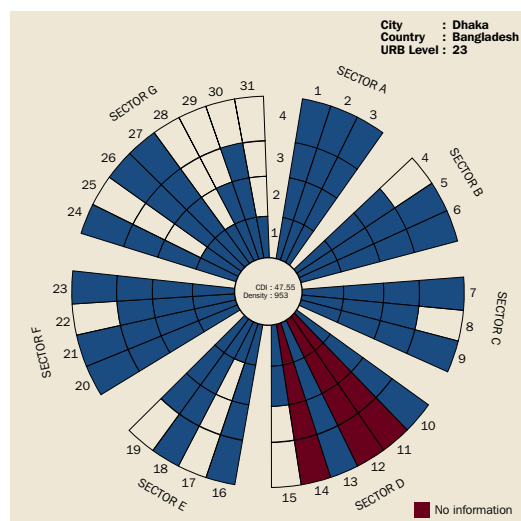


Figure 5.20. Hologram for Dhaka

- Sectors C and D: City Economic Characteristics.** The city product per capita (7) ranks tenth in the 18-city database and is almost two thirds greater than the country's GDP per capita. These figures are also reflected in the city product per capita (PPP) (8) and the GDP per capita (9). Dhaka has a high proportion of its working population in the informal sector (10) and although information on employment in secondary and service sectors is unavailable, it has one of the highest proportions of employment in the informal sector, which is generally small-scale and household-based with low productivity. Indicators of international competitiveness indicate that the cost of stay (13) is in the middle range of the CDB. The price of commercial land per square meter is among the highest in the lower ranked cities, which would appear to indicate considerable demand and very limited new land. While there is no information on international flights, their frequency would be low compared to the high-ranked cities.
- Sector E: Poverty.** Poverty indicators vary considerably but the overall level of poverty is the highest in the 18-city database. It is estimated that 48 percent of households fall below the poverty line (16). Household expenditure on food (19) is generally high, reflecting low incomes.

- Sector F: Social Infrastructure.** Given the number of people living in Dhaka and low incomes, investment in social infrastructure is inadequate. The number of children per classroom and the number of people per hospital bed are among the highest ratios in the CDB (20) (21). The city is crowded with a density of 953 persons per square kilometer; the highest of any in the city database. This is reflected in the high ratio of people per square meter of housing space (23) and the high percentage of housing not complying with city regulations (47 percent)(22).
- Sector G: Physical Infrastructure and Governance.** Despite the low level of income of most of the city population and the poor quality of the built environment, Dhaka has a mix of service provisions. The proportion of households connected to piped sewerage is below 25 percent, while two thirds of households are connected to water. The transportation situation is indicated by the ratio of automobiles per 1,000 population being 2 (27) and walking being the major mode of transportation to work. Indicators on governance show a high degree of labor intensity (28 and 29). It is assumed that more intensive labor systems reflect a less effectively managed administration. From a budgetary point of view Dhaka receives about 50 percent of its revenue from taxes and transfers.

The accompanying hologram reflects Dhaka's general low level of performance in achieving goals of increased livability, productivity, and sustainability. The policy implications of this assemblage of indicators suggest a multifaceted policy approach is needed, involving poverty reduction, measures to accelerate the city's economic growth and productivity, and improved social and physical infrastructure linked to broader national policies. Dhaka's city indicator profile analysis shows there is already substantial effort in some sectors.

Level 3 Example: Ulaanbataar

The capital of Mongolia falls into that cluster of transitional cities that are now emerging

from a phase of socialist administration and this affects the levels of development as shown in the hologram (see Figure 5.21).

Analysis by sector indicates the following:

- **Sectors A and B: Demographic Features.** With its population of 725,000 (1) Ulaanbaatar fits into the median group of city sizes in the CDB and is experiencing a rapid population increase of 4.5 percent per annum (2), although the household formation rate is only half of this (3). This indicates the increase is due either to household size increasing or rapid in-migration. Life expectancy at birth (4), percentage of population under 15 years (5), and infant mortality (6) indicate a population that is growing fast and demographic transition to lower fertility only recently beginning.
- **Sectors C and D: Economic Characteristics.** Ulaanbaatar's city product (7), city product (PPP) (8), and GDP per capita (9) are similar to the poorest cities in the CDB. However, it has a different employment structure with a higher proportion of workers in secondary industry (11), reflecting in part the collapse of the manufacturing sector during the 1990s. There appears to be a lower proportion in the informal sector than in other poor cities although employment in services is quite high (12), presumably indicating greater government employment. Some half of all housing is in com-

pliance. Ulaanbaatar has very limited international connectivity with fewer than 50 international flights a month (14).

- **Sector E: Poverty.** The consultant's estimate of the poverty level indicates that 34.1 percent of households fall below the poverty line (16), but the standard \$1 a day measure places this much lower at 18.7 percent (17). Official unemployment is in single figures, but actual rates, taking into account nonregistered people, are much higher. The high share of household expenditure on food indicates the generally low levels of income among the city population (19).
- **Sector F: Social Infrastructure.** With the exception of school children per classroom (20), Ulaanbaatar has a high level of social infrastructure provision, which reflects the emphasis of the socialist period on high standards of health and education (21,22). However, floor area per person is very low and reflects overcrowding (23) and a high proportion of people living in apartments.
- **Sector G: Physical Infrastructure and Governance.** With the exception of water (24), Ulaanbaatar has a high level of provision of physical infrastructure for its inhabitants living in apartments (25,26). Also the measures of governance indicate a relatively low reliance upon labor intensive methods. Sources of budget revenue are predominantly taxes (64.4 percent) (30).

In conclusion, the accompanying hologram indicates a very mixed performance in this city in achieving ADB's sector goals. In addition, the data may not be totally adequate. The high proportion of housing not in compliance with city regulations (48 percent) indicates there are substantial numbers of households living in informal residential areas. This reflects the large number of Mongolians from the countryside who live in ger and informal structures on the fringes of the city distinguished from the apartments of the Soviet style central city. Strategic priorities might be set to enable this population to build their own housing in these areas. From a strategic view, this assemblage of indicators

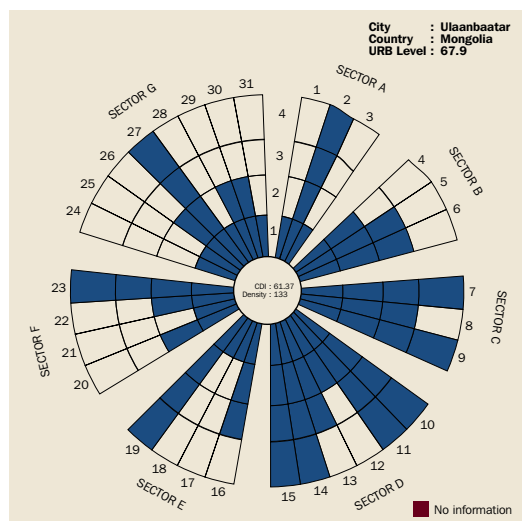


Figure 5.21. Hologram for Ulaanbaatar

suggests the need to carefully select sectoral priorities for urban development.

Level 2 Example: Cebu City

Cebu City is typical of the larger secondary cities in Asia (see Figure 5.22). These cities play crucial roles as articulators of the networks of trade and administration that form an important role in regional development. Cebu City, with a population of 655,000, is a medium-sized city in the CDB (1) growing rather slowly at only 1.6 percent (2). The household formation rate is much higher (3) indicating there is still a high rate of natural increase and net migration. This slow rate of growth is partly attributable to the population decentralizing to the suburbs beyond the city boundaries, and possibly by the increase in numbers of single migrants aged 15–25 years. The high rates of natural increase in the Philippines are indicated by the substantial proportion of people under 15 years of age (5), although life expectancy (4) and infant mortality (5) are dropping rapidly and approaching the levels of wealthy cities.

Analysis by sector indicates the following:

- *Sectors C and D: Economic Characteristics.* Cebu City product (7) is in the top quartile of the figure for CBDs, although it is below that of Mandaluyong in Metro Manila. Cebu's figure represents a low level compared to the Level 1 cities. It has a high proportion of its population in the informal sector (10) and a low proportion in industry (11). Unfortunately, no data is available on services employment.
- *Sector E: Poverty.* Cebu reveals almost the same pattern as Ulaanbataar, with over one third of the households living below the poverty line (16) and high levels of household expenditure on food (19).
- *Sector F: Social Infrastructure.* The data indicate pressure on the education sector (20) and a moderate level of hospital bed provision (21). A high degree of overcrowding (23) is notable given the city's low density.
- *Sector G: Physical Infrastructure and Governance.* With the exception of electricity provision (25), Cebu has a low level of physical infrastructure provision

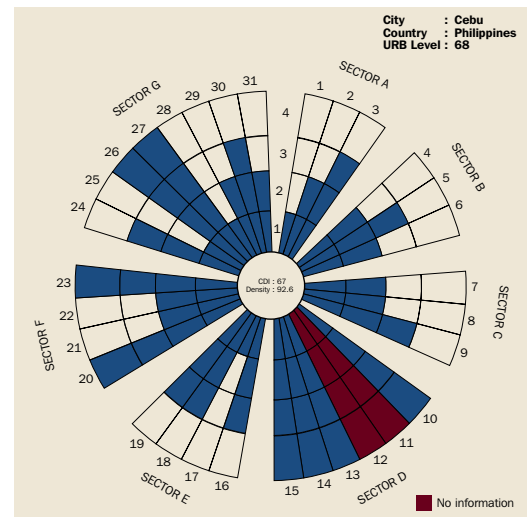


Figure 5.22. Hologram for Cebu

(24, 26) and a low level of automobile ownership (27). Approximately 80 percent of the government budget is received from taxes and transfers (almost equally divided between the two).

In conclusion, Cebu has a very mixed assemblage of indicators. Similar to Ulaanbataar, this suggests that sector priorities should be established, particularly for physical infrastructure. As a growing center performing a major role as a regional center, Cebu needs to build upon this role. Improving city infrastructure will assist this process.

Level 1 Example: Melbourne City

The City of Melbourne is the historical core and CBD of the Melbourne urban area, and a major city of over three million people in a highly industrialized country (see Figure 5.23). Australia is currently ranked 15th on the HDI and has been losing ground somewhat to other Organisation for Economic Co-operation and Development (OECD) countries in GDP, because of its reliance on “old economy” resources and agriculture exports. For similar reasons, Melbourne has been steadily losing ground to Sydney for most of the last century in international connectivity, but still retains a key role as a manufacturing and financial center. The city has only 55,000 people but is one of the fastest growing local government areas in Australia. This is due to changes in regulations that have

permitted rapid residential conversion of commercial buildings and changing demographics and tastes in favor of smaller households and inner city living. One- and two-person households are the norm.

Analysis by sector indicates the following:

- *Sectors C and D: Economic Characteristics.* Melbourne has the highest CDI, city product, and average income of the sample. As expected of a city center, most employment is in the consumer and producer service area.
- *Sector E: Poverty.* In common with most developed cities, income inequality has been increasing since the 1980s and this has resulted in higher levels of poverty as locally defined. Good services for the homeless are maintained in the center. However, petty crime and drug-related crime levels are fairly high (the proportion of crime reported is also high compared with most developing countries).
- *Sector F: Social Infrastructure.* There is a heavy concentration of educational and hospital facilities in the city center. Recent changes in state government priorities have resulted in perceived falls in service. However, against most measures of service provision Melbourne is the highest in the sample. Only Hong Kong has a higher proportion of tertiary graduates.
- *Sector G: Physical Infrastructure and Governance.* Melbourne's infrastructure is uniformly of a high quality (though

aging somewhat), and the high level of income and capital and recurrent expenditure by local government ensures that this will continue. State governments are powerful in Australia and provide many local services. The state government recently dismissed all local governments as part of a consolidation strategy, but in general, local government is democratic and transparent.

In conclusion, Melbourne ranks at or near the top on most social indicators and has a high level of resources under the local government.

City holograms of the other cities are shown on the following pages.

IV. TOWARDS SUSTAINABLE CITIES

The CDB offers an excellent set of baseline data for comparing the performance of cities in achieving the targets of creating more livable, efficient, and sustainable cities. The data analysis shows the indicators can be used to measure

- *performance in different urban subsectors* such as infrastructure provision or urban poverty reduction between cities;
- *performance of the city in its totality* by using holograms; and
- *contextual elements of the cities* as represented by the socio-economic groupings. It must be stressed that these approaches are new to developing countries; creating databases is not yet as developed as are national censuses or fertility surveys. In fact, most cities do not have any part of their administration charged with developing this form of database. Even in Hong Kong, which is among the wealthiest and most developed of the cities in the CDB, it was reported that data had to be generated from many sources and in some cases could not be obtained. There seems only limited agreement on which indicators of urban performance are best measures of performance, particularly in sectors such as urban management and governance. This indicates that more research is

The CDB offers an excellent set of baseline data for comparing the performance of cities in achieving the targets of creating more livable, efficient, and sustainable cities.

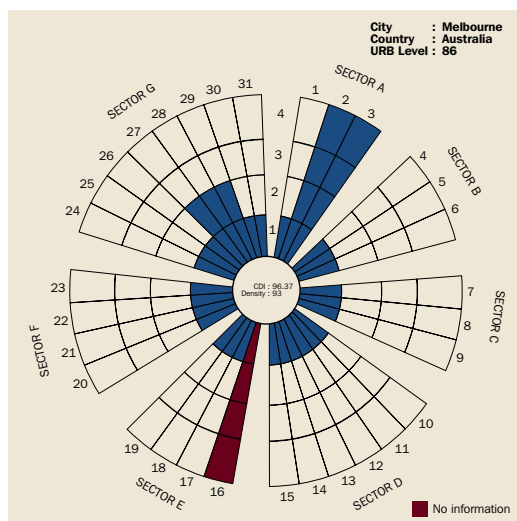


Figure 5.23. Hologram for Melbourne

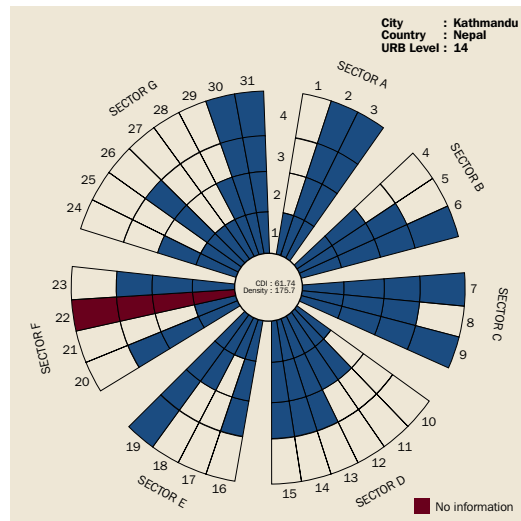


Figure 5.24. Hologram for Kathmandu

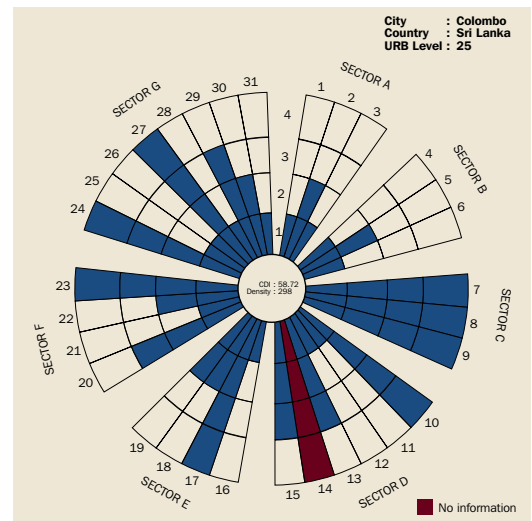


Figure 5.27. Hologram for Colombo

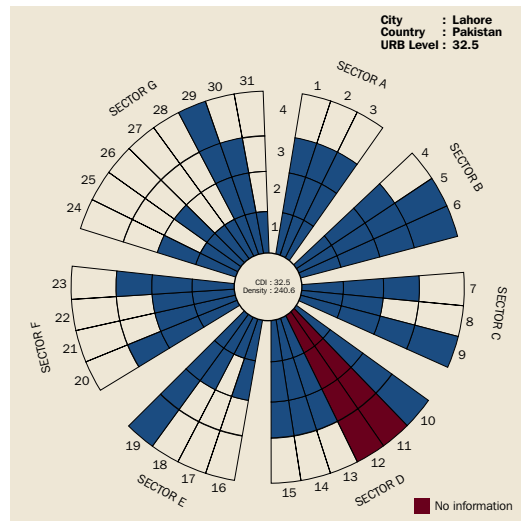


Figure 5.25. Hologram for Lahore

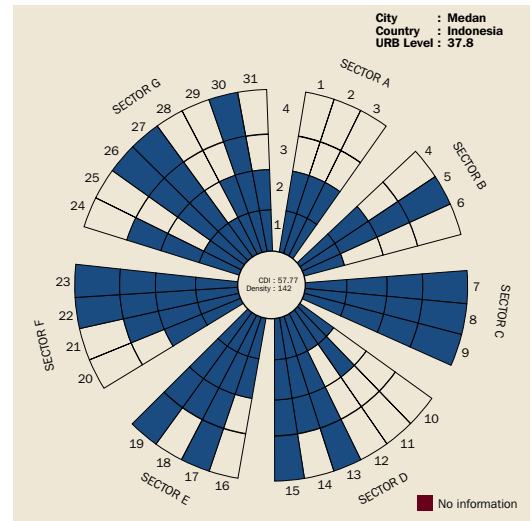


Figure 5.28. Hologram for Medan

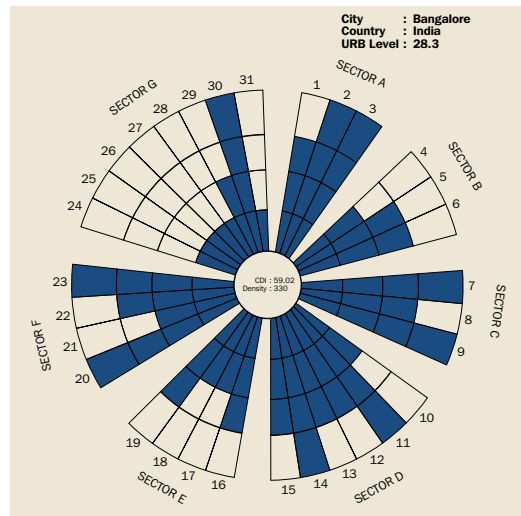


Figure 5.26. Hologram for Bangalore

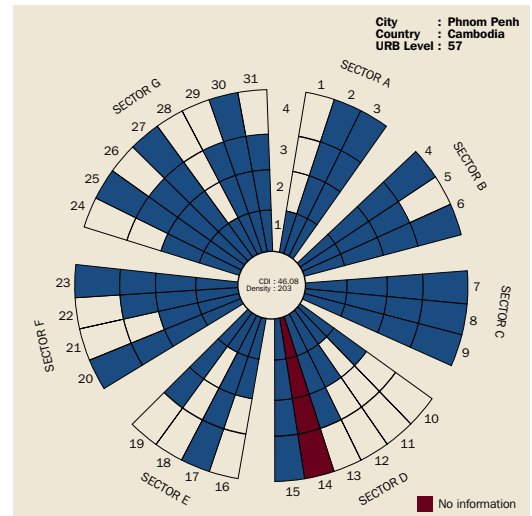


Figure 5.29. Hologram for Phnomh Penh

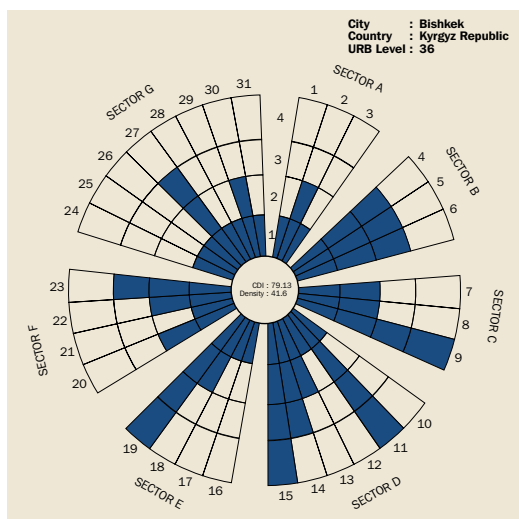


Figure 5.30. Hologram for Bishkek

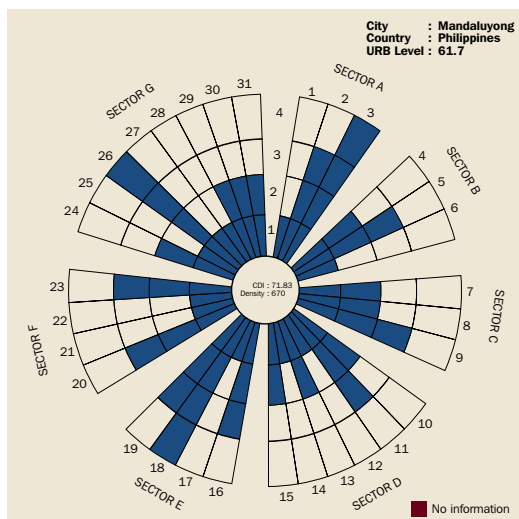


Figure 5.33. Hologram for Mandaluyong

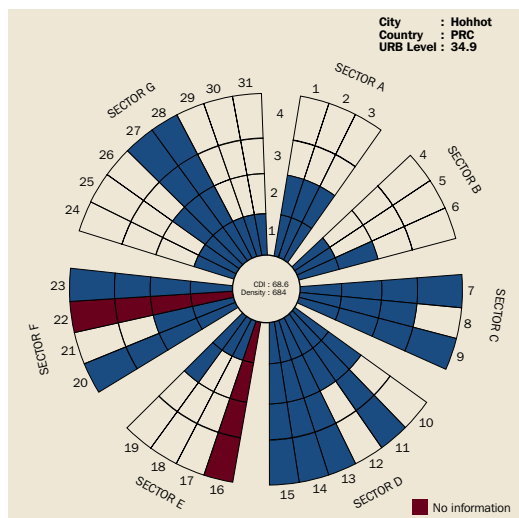


Figure 5.31. Hologram for Hohhot

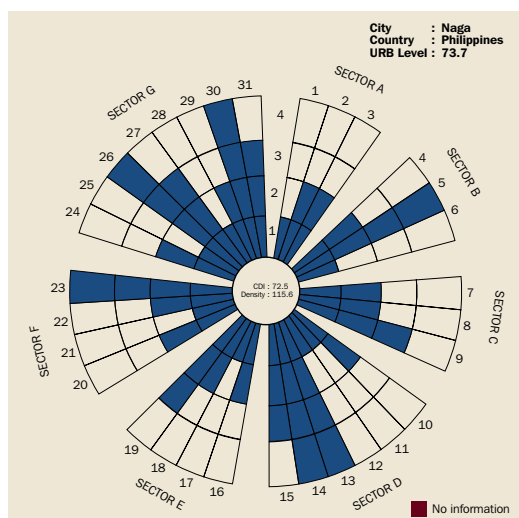


Figure 5.34. Hologram for Naga

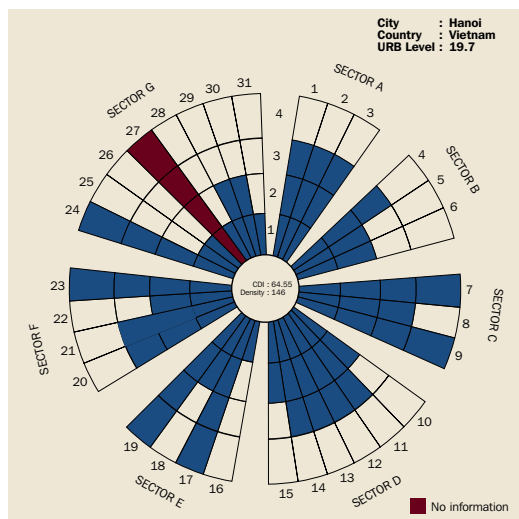


Figure 5.32. Hologram for Hanoi

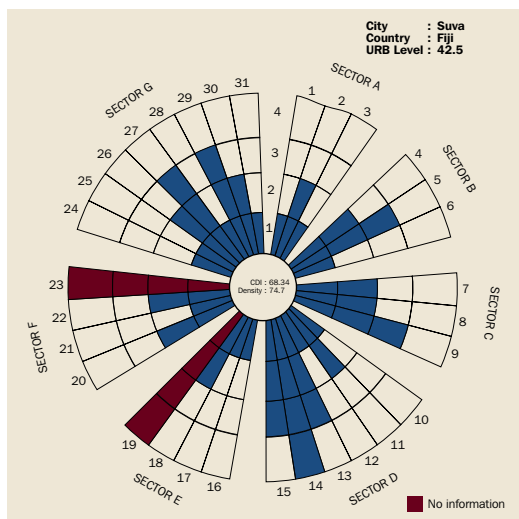


Figure 5.35. Hologram for Suva

The most important conclusion to be drawn from the comparative analysis is that there is a pronounced clustering of cities with similarities in the severity and range of urban problems related to economic productivity, poverty alleviation, social and physical infrastructure provision, and efficiency of urban administrations.

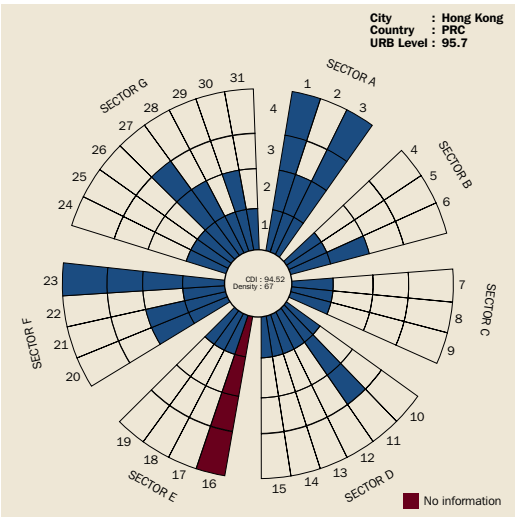


Figure 5.36. Hologram for Hong Kong

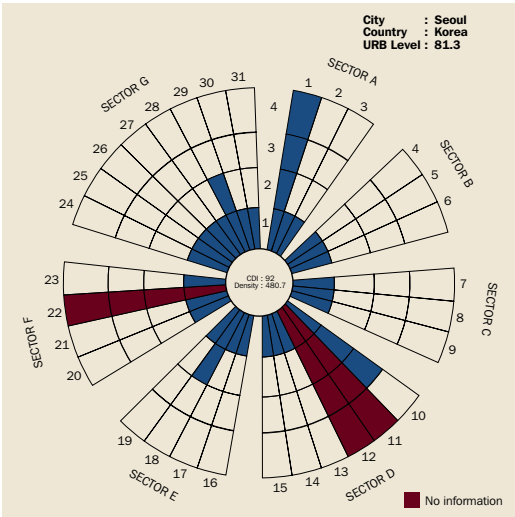


Figure 5.37. Hologram for Seoul

needed into the practical application of these indicators if they are to be fully used as an effective system of information management.

The most important conclusion to be drawn from the comparative analysis is that there is a pronounced clustering of cities with similarities in the severity and range of urban problems related to economic productivity, poverty alleviation, social and physical infrastructure provision, and efficiency of urban administrations. However, the analysis is dominated by the severity of problems in the poorer cities of the region, many of which are located in countries at low levels of urbanization. Consequently, as urbanization increases, there will be increasing prob-

lems unless there is successful policy intervention. It is apparent that the historical experience of socialism in the transitional societies poses particular constraints on development. The middle ranking cluster of cities has very different mixes of urban problems, depending on the size of the cities and their regional importance. The lessons from the wealthier cities suggest that when development occurs, there is a need to develop policies based on an understanding of the structural and territorial changes as well. For example, in Seoul and Melbourne, while automobile ownership is among the highest in the CDB (more than 61 percent), 43 percent of the population still uses public transport for travelling to work. This suggests that for the poorer cities, particularly the poorer megacities, investment in public transport systems should be a priority. Neither wealthy or poor cities can continue to be competitive if they lack efficient transportation systems (see Gakenheimer 1994).

Given the urban transition presently occurring in Asia, it is clear that the numbers of people that will be involved will be much larger than in any other region and at an unprecedented scale. Most existing urban administrative units have limited capacity for solving the challenges brought by this urban transformation. It is hoped that using the CDB urban indicators will strengthen the ability of Asia's developing cities to measure performance, identify problem areas for policy attention, and assist in urban management and the delivery of services.

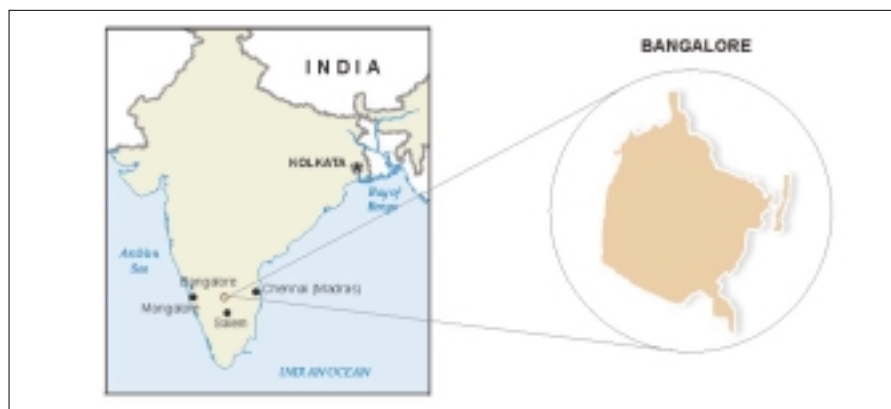
Terrence Gary McGee is a Professor of Institute of Asian Research Department of Geography in the University of British Columbia Vancouver, Canada. He was the Director of the Institute of Asian Research of the University of British Columbia during 1978-1992 and 1995-1998. Professor McGee has carried out research in Asia over the last 40 years focusing on urban management, the development of small-scale enterprises in urban economies, and the structure of labor markets. He has done extensive research in Malaysia, Indonesia, Philippines, Hong Kong and Guangdong, Singapore and several Pacific island countries, and has consulted for a number of international funding agencies. Professor Terry McGee is author of over 200 books, articles, and publications.

CHAPTER 6:

CITY PROFILES

INDIA

Bangalore



GENERAL DESCRIPTION OF THE CITY

Bangalore, the capital of Karnataka State and the sixth largest metropolis in India, lies between the Bay of Bengal to the east and the Arabian Sea to the west, at 900 meters above sea level.

The city was founded 460 years ago by Kempegowda, a local chief, who erected four boundary markers about ten kilometers apart to set the limits to which he believed Bangalore would grow. By the 1960s, these boundaries were exceeded. Bangalore is separated from its original settlement by

the vast Cubbon Park, which along with other parks makes Bangalore seem like a garden city, even though many high-rise buildings and industries constructed in the last 25 years have lessened this likeness.

Still, the city has assets to be proud of like the prestigious institutes which make it a center for education and research. It is also known as the eighth largest center for information technology in the world and is often referred to as India's Silicon Valley. Several national information technology companies like Infosys and Satyam have their headquarters in Bangalore and many multinational companies have production centers.

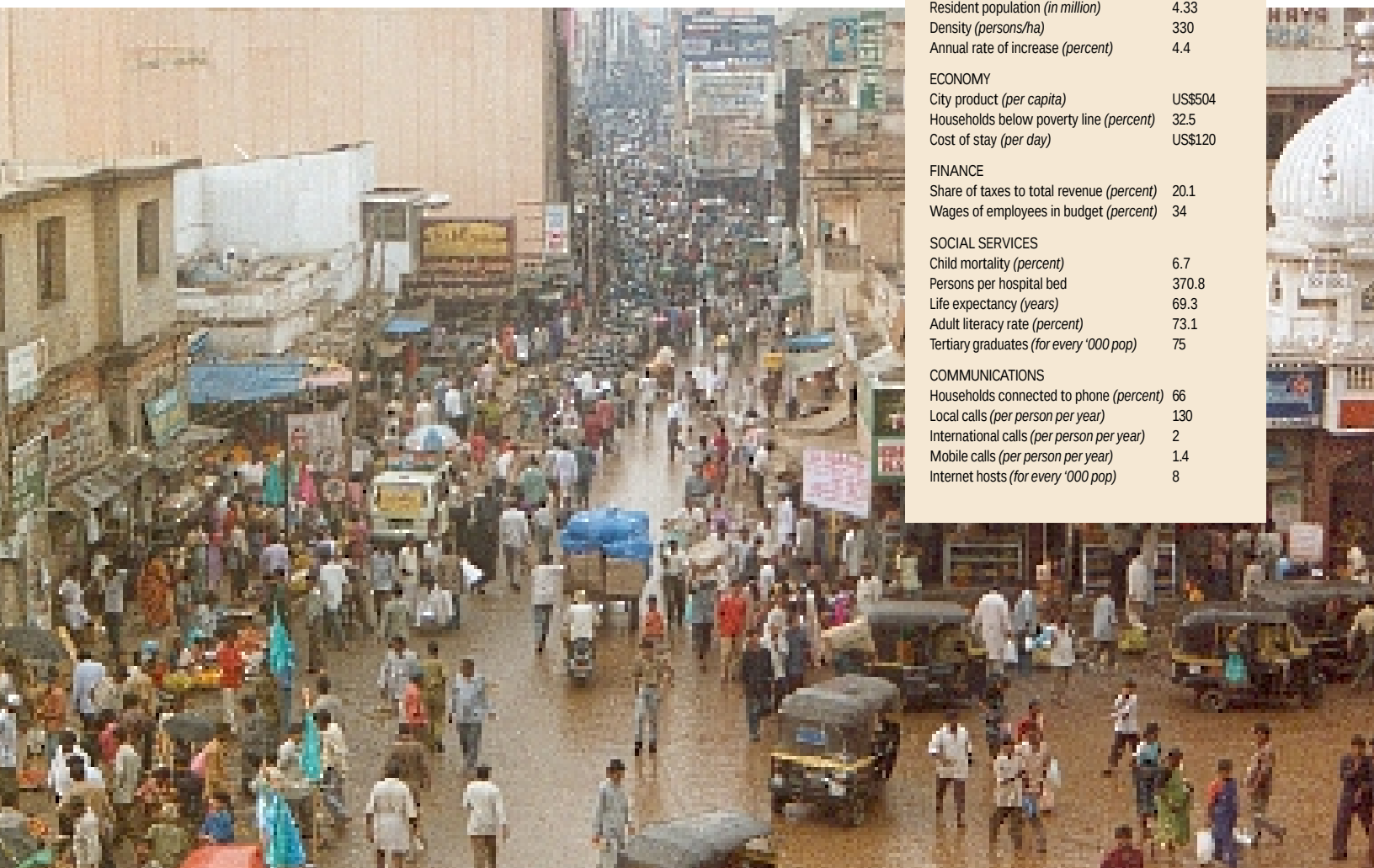
DEMOGRAPHY, LABOR FORCE, AND INCOME

From four million in 1999, Bangalore's population is projected to reach seven million by 2011. It is one of the ten cities in the world growing at more than 4 percent per annum.

Manufacturing, the dominant sector in the 1970s, was recently overshadowed by phenomenal growth in the services sector, especially in information technology.

Statistical Snapshot ...1998

DEMOGRAPHY	
Resident population (in million)	4.33
Density (persons/ha)	330
Annual rate of increase (percent)	4.4
ECONOMY	
City product (per capita)	US\$504
Households below poverty line (percent)	32.5
Cost of stay (per day)	US\$120
FINANCE	
Share of taxes to total revenue (percent)	20.1
Wages of employees in budget (percent)	34
SOCIAL SERVICES	
Child mortality (percent)	6.7
Persons per hospital bed	370.8
Life expectancy (years)	69.3
Adult literacy rate (percent)	73.1
Tertiary graduates (for every '000 pop)	75
COMMUNICATIONS	
Households connected to phone (percent)	66
Local calls (per person per year)	130
International calls (per person per year)	2
Mobile calls (per person per year)	1.4
Internet hosts (for every '000 pop)	8



The city population's income level was generally higher than the state average of \$240 in 1998–1999. About one third of the population lived below the poverty line and about 10 percent lived in slums in 1999.

POLITICAL STRUCTURE

India, a union of 26 states and six union territories of states, was reconstituted linguistically in 1956. There is a three-tier political system of union, state, and local governments. The urban areas are governed by representative bodies like municipal corporations, city municipalities, and town municipalities depending on the population. Rural areas are governed by village panchayats, taluk panchayats, and zilla (district) parishads.

Two pieces of legislation govern creating and managing urban areas: the Karnataka Municipalities Act of 1964 dealing with places with fewer than 0.5 million people and the Karnataka Municipal Corporation Act of 1976 dealing with all places with over 0.5 million

Two buildings which are of architectural importance are the International Technology Park - White Field (above) and the Bangalore City Hall (below)



Buses, autorickshaws and bicycle ply the roads of the city

people. Specific legislation on town and country planning created authorities like the Bangalore Development Authority (BDA), for planning Bangalore's development.

URBAN GOVERNANCE

Bangalore Mahanagara Palike (Municipal Corporation) (BMP) covers 225 square kilometers (1995) and is divided into 100 wards, seven city municipalities, and one town municipality and rural area.

The city is governed by a representative council of 100 councilors elected once in five years from 100 wards. The Government nominates an additional five councilors who elect the mayor and deputy mayor annually.

Four standing committees guide the council and the administration in taxation, finance, and appeals; public health, education, and social justice; town planning and improvement; and accounts.

The state government retains authority to supersede the council's resolutions when it is determined that the council is not effective or is misusing power. The state government also has final approval in altering property tax, fixing user charges beyond certain limits, initiating new policies, appointing contractors for works of more than \$0.69 million, raising loans, and floating bonds.

Local government has obligatory and discretionary functions. Among the obligatory are cleaning streets, collecting sewage, maintaining storm water drains, lighting streets, maintaining open spaces and parks, regulating offensive and dangerous trades, maintain-

ing places for disposal of the dead, operating ambulance services, providing pre-primary schools, vaccinating people, planting and maintaining trees, constructing and improving streets, bridges and culverts, regulating building construction, providing water supply and sewerage systems, collecting refuse, and handling calamities.

Recently, the local government has improved roads and has constructed flyovers, underpasses, large markets and commercial complexes, and electric crematoriums.

Local government's obligatory and discretionary functions are implemented with proceeds from collecting property taxes and user charges, and from grants and loans from the state government. Property taxes constituted 20 percent of the total income from about 0.40 million properties during 1997–1998.

Capital expenditure is not uniform over the years and is less than 50 percent of recurrent expenditure. Capital and recurrent expenditure budgeted during 1999–2000, at current prices, amounted to \$10.28 per capita and \$25.05 per capita, respectively. Loans were moderate as debt servicing was 7.43 percent of the budgeted expenditure for the same years.

The administration is divided into nine departments including general administration, revenue, engineering, health, town planning, education, horticulture, and statistics. Also the chief executive officer (commissioner) belonging to the Indian Administrative Service leads a team of officers in technical and non-technical departments.

URBAN INFRASTRUCTURE

Roads

There are about 4,000 kilometers of roads. These generally need improving and roads in old parts of the city are narrow and haphazardly laid out. There is no rational hierarchy of road pattern or plans for utility improvement and expansion in newly planned areas. Properties abut arterial roads and hinder safety and traffic flow. To improve arterial and subarterial roads, BMP has raised funds by floating municipal bonds to cover the project costs of \$28.87 million.

Water Supply

The city's piped water supply dates back to 1896. Three water sources, the two reservoirs from the Arkavathi and Cauvery rivers, and the Bangalore Water Supply and Sewerage Board (BWSSB) established in 1964 provide potable water at 629 million liters per day. Domestic consumption is about 96 liters per capita per day.

The cost of operating and maintaining water supply is high because of electricity charges that take about 60 percent of total costs. Low-level tariffs and illegal connections erode revenues and BWSSB's efficiency in servicing the households of the 262,850 connected domestic users (1999). About 85 percent of households are served while the remainder depend on individual or community bore wells.

Sewerage

Bangalore has underground drains with a waterborne system for sewage disposal. Despite moderate to rugged topography permitting easy flow, part of the sewage escapes into natural valleys from trunk sewers which run along valley beds. This is causing serious pollution and health problems for thousands of valley households.

Sewer connections were estimated to reach 80 percent of households. The others use soak pits for water closets, and drains that lead to unhygienic surroundings. Few corporate areas have septic tanks. About 57 percent of a total of 496,000 cubic meters of sewage generated daily is being treated in three plants.

Electricity

Bangalore consumes 40 percent of the state's power supply. Almost 100 percent of households are connected to low voltage electricity characterized by unscheduled load shedding and substandard distribution networks. An underground connection serves the central business district (CBD).

Poor people and slum dwellers are served with electricity at subsidized rates through single points and unmetered lines.

Telecommunications

The Bangalore Telephone District has been providing telephones more quickly, but has yet to meet demand. Residential connections



Buses park in the city central bus station



The old railway system is proposed to be replaced by a modern light rail transit system

reached 561,676 (March 1999) and were made possible with capital infusion by the Telecommunication Department.

Internet connection grows at 80 percent per annum. The overall Internet user base is expected to be 22.5 million by 2001 against 2.1 million in 2000, reflecting a compounded annual growth rate of 77 percent. This results from increased personal computer penetration, reduced Internet tariffs triggered by competition from private Internet service providers, and above all the Government's liberalized policy.



New multistoried markets like the Shri Khrisnarajendra City Market are being constructed

TRANSPORTATION

Bangalore's biggest problem is with transport. Traffic jams, particularly during peak hours, result from the high density of vehicles (including animal-drawn and pushcarts) and narrow roads and badly designed junctions. Growth in vehicle numbers has been phenomenal in recent years. There are 57,600 auto rickshaws, and more than one million (March 2000) commuters use bicycles.

Buses are run by the state-owned Bangalore Mahanagara Transport Corporation.



Greenery dot the apartment blocks along Mahatma Gandhi Road

Most commuters avoid the tube train which is expensive to ride and the proposed light rail transit system remains only a proposal. There are no sidewalks in old areas while sidewalks in planned areas have been narrowed by widened carriageways.

HOUSING ACCESS AND AFFORDABILITY

Only the 1991 census assessed housing stock, tenure, etc. Without a government policy on housing there is land price manipulation and too little land for public housing. The BDA provides small serviced plots of about 54 square meters and constructed two housing projects under a self-financing scheme, but without success. Nearly 1,000 flats built by Karnataka Housing Board were lying vacant in older parts of the city as their quality was not as good as those privately developed. The 14.5 percent stamp duty on sales is high and dampens the housing market.

Without a pragmatic and sustained strategy for planning and development, the city sprawls with single-storied houses on small plots which consume valuable cultivable lands and stretch roads and services to uneconomic lengths.

ENVIRONMENTAL MANAGEMENT

Federal and state governments have enacted legislation to manage the environment. The State Pollution Control Board regularly monitors air and water pollution and finds levels of sulfur dioxide and nitrogen oxide in the busiest places in the CBD are tolerable, but particulates reach alarming levels on 258 days a year.

The BWSSB monitoring of water quality from Bangalore's three water sources indicates the quality varies. And leaks from service mains and house connections are problems as the pipes are laid under roads.

Local government hopes to improve the system for solid waste collection and disposal by privatizing the services.

CULTURAL HERITAGE

Bangalore is home to the fine arts of music, dance, and drama with different venues for concert, dance, and drama programs. The 100-year-old government museum, 40-year-old technological museum, planetarium, and art galleries of old temples, mosques, and churches add to the cultural heritage.

Several public buildings are of architectural importance like the Vidhana Soudha housing the Government Secretariat, the High Court (1862), Central College (1880), Victoria Hospital (1900), Town Hall (1935), Lalbagh Glass House, and the Palace. Buildings like the International Technology Park are state-of-the-art structures.

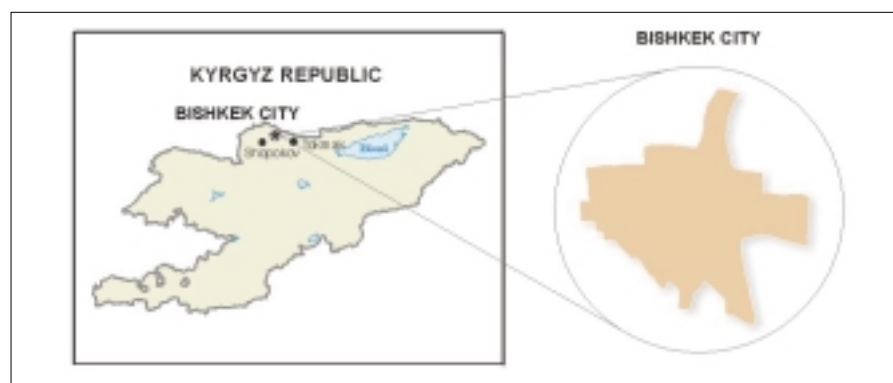
MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

The Government has decided to decongest the city by constructing the Outer Ring Road (ORR) system proposed in the Outline Development Plan (1960s). ORR and other major urban development projects fall under the Mega City Program and include flyovers, bridges, improved arterial and subarterial roads, and water supply augmentation. These, funded by the Government, the Asian Development Bank, and domestic financial institutions herald a less congested and more livable Bangalore.

L. R. Rudraiah is an urban planner at the BDA. Prior to his stint at the BDA he worked as a freelance consultant and as a planner in the Directorate General of Housing, Dhofar Province, Salalah, Sultanate of Oman; at the Karnataka Housing Board, Bangalore; and in the Department of Town Planning, Karnataka. Mr. Rudraiah is a civil engineer.

KYRGYZ REPUBLIC

Bishkek



GENERAL DESCRIPTION OF THE CITY

Bishkek, the capital city of the Kyrgyz Republic, lies at 750 meters above sea level in the Chu River Valley near the Kyrgyz Mountains. It is situated along the Ala-Archa and Alamedian rivers and is intersected in the north by the Bolshoy (Great) Chuysky Canal. Founded in 1878 and formerly known as Pishpek or Frunze, it was renamed Bishkek in 1991. With its annual average of 322 days of sunny weather, Bishkek experiences very little rainfall. It has parks, fountains, ensemble of squares, and permanently snow-capped Ala-

Too mountains visible to the south. Part of the city's charm also lies in its beds of flowers, tree-lined avenues, and bazaars and fairs.

Bishkek is laid out as a grid with wide avenues. Much of its industrial area is in the eastern and western parts of the city. Most residential areas are in the southern part with parks and educational institutions; the northern part of the city is mostly individual apartment houses. The central part has been reconstructed with many modern office buildings influenced by oriental architecture.

The city is the political, economic, scientific, and cultural center and serves as the region's main transport hub.

In 1998, Bishkek contributed 46 percent of the country's gross domestic product and

16 percent of its total industrial output. During the same year, its share in the country's retail sales turnover was 40 percent, or about 11 percent higher than in 1997. In 1998, economic growth was promoted with a 99 percent growth in service revenues, a 131 percent increase in transport passengers,

Statistical Snapshot ... 1998

DEMOGRAPHY

Resident population (in million)	0.614
Density (persons/ha)	41.6
Annual rate of increase (percent)	1

ECONOMY

City product (per capita)	US\$1,750
Households below poverty line (percent)	7.2
Cost of stay (per day)	US\$112

FINANCE

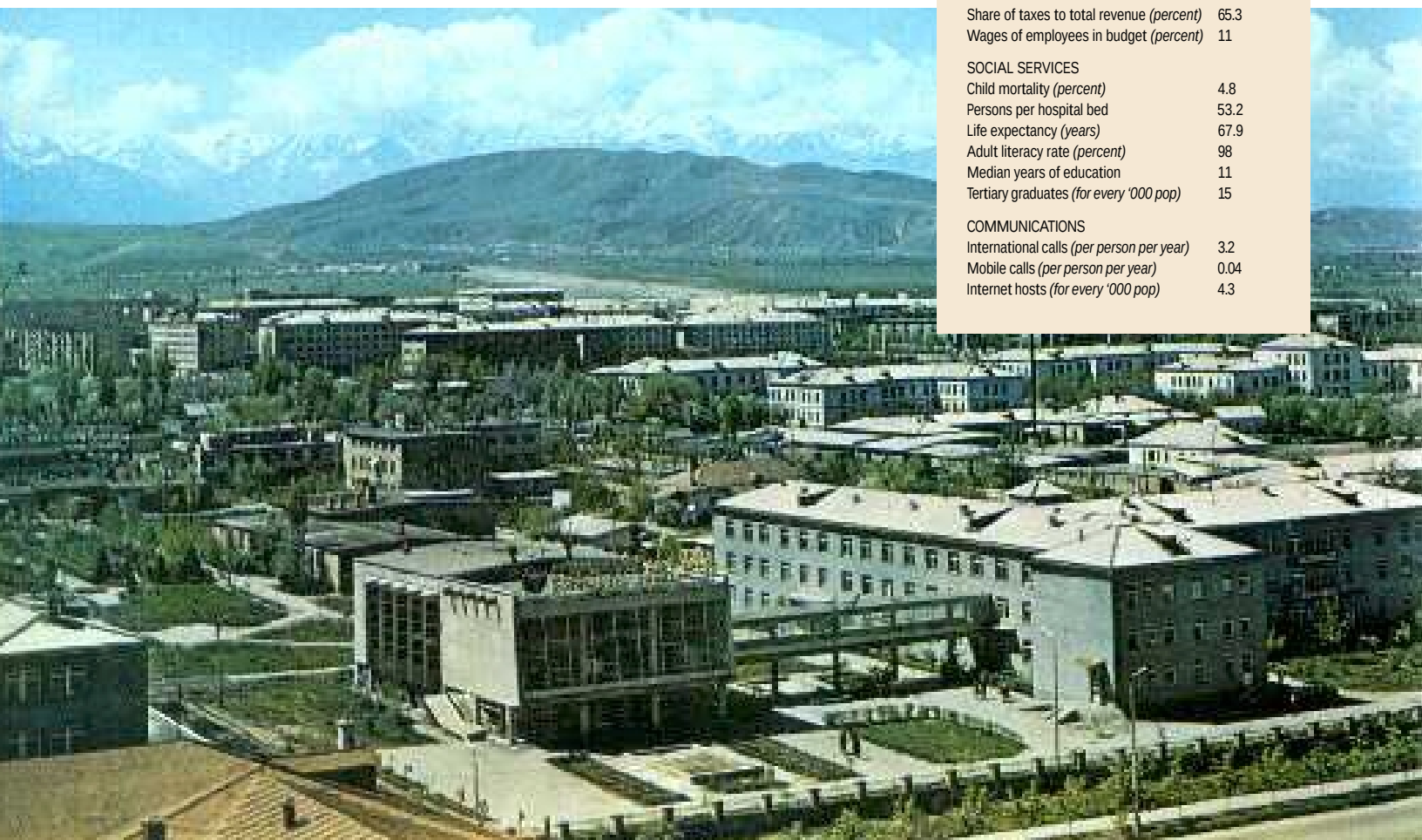
Share of taxes to total revenue (percent)	65.3
Wages of employees in budget (percent)	11

SOCIAL SERVICES

Child mortality (percent)	4.8
Persons per hospital bed	53.2
Life expectancy (years)	67.9
Adult literacy rate (percent)	98
Median years of education	11
Tertiary graduates (for every '000 pop)	15

COMMUNICATIONS

International calls (per person per year)	3.2
Mobile calls (per person per year)	0.04
Internet hosts (for every '000 pop)	4.3



and a 96 percent growth in commercial cargo volumes.

Bishkek is predominantly industrial with the main industries being machine building, textiles, construction materials, and food processing. Typically, Bishkek industrial zones are located along the railroads. Recently significant attention was given to reviving the horse breeding industry, an ancient and major export-oriented industry. Equestrian events remain the Kyrgyz Republic's national sport.

There are 24 banks linked with foreign correspondent banks whose transactions, like international remittances, are mostly electronic. In October 1998, the city was given a rating of B+ by the London-based FITCH IBCA. It was the first time the city was included in such an evaluation.

Several Internet providers and local and global corporate computer networks are operating and Bishkek has several paging companies and two cellular communications operators using standard GSM and AMPS/DAMPS.

Foreign conglomerates such as Mercedes-Benz, Audi-VW, Daewoo, Sumitomo, Federal Express, DHL, UPS, LG-Electronics, Phillips, Siemens, Reemstma, and Coca-Cola have set up operations. Supreme bodies of the state authority of the



About two thirds of the city's employed are women

Republic, consulates, and various international institutions also have headquarters in the city.

In education, about 5,500 students graduate annually in the city's higher learning institutions which include the National Academy of Sciences, 18 universities, 20 institutes, and nine academies. Students and professionals form half of the city's population.

Bishkek is also the country's seat of national culture with music and drama theaters, the Philharmonic Society, libraries, and museums.

DEMOGRAPHY, LABOR FORCE, AND INCOME

In 1998, 614,000 city dwellers representing over 50 different nationalities lived in Bishkek. More than a third of the city populace were Kyrgyz, half were Russian, and the rest were different nationalities. About 24 percent of the population was under 16, 61 percent was 16–59 years old, and 14 percent was over 60. More than half the adults have some form of qualification and about a third of the total population gained university degrees.

The populace is composed of mixed groups coming from various ethnic origins. There were 47 ethnic groups recorded during the first population census in 1924 and 80 groups in the 1989 census. Migrants began to arrive from Russia and the Ukraine at the end of the 19th century. The early wave of immigrants in 1937 were deported Koreans. Germans from the Volga region arrived at the beginning of the Great Patriotic War in 1941–1945, and immigrants followed from North Caucasus and the Crimea (Balcar, Chechen, Kabardin, Crimea, Tatar). At the end of the war, the Uigurs who fled from the People's Republic of China during the "Great Cultural Revolution" in the late 1950s likewise migrated to the Kyrgyz Republic.

From 1993, the flow of migration from other areas and regions of the Republic slowed and urban growth started to stabilize. In the 1990s out-migration was noted among the Germans, Jews, and Russians (mostly qualified specialists like teachers, doctors, and engineers) as they returned to their native lands. In 1998, 1,711 persons arrived in Bishkek and 3,759 persons left, creating an outflow of 2,048.

Out of 381,400 persons in the city's labor force about 50 percent are employed and of the unemployed, 65 percent are women. The average income per person in the city in 1998 was \$814, which was higher than the national average.

POLITICAL STRUCTURE

The Kyrgyz Republic is one of five Central Asian republics that gained independence after the disintegration of the Soviet Union. The Kyrgyz Republic, as a young independent state, quickly began major reform of its economy, the key elements being to

Woman vendor sells traditional utensils, ornaments and clothes



liberalize prices, introduce the national currency (the som), begin a bold program of privatization and structural reforms, introduce strict controls on budget expenditures, and approve the bankruptcy law.

The Kyrgyz Republic is a constitutional republic and independent sovereign state. It has a democratic government with a parliament (Jogorku Kenesh) consisting of the upper chamber or Legislative Assembly and the lower chamber or People's Assembly, the executive consisting of local akimiats (local offices of the Government), ministries and national government establishments, and the judiciary consisting of the constitutional court, the supreme court, and the Highest Court of Arbitration.

The President of the Kyrgyz Republic is the nationally elected head of state. The governmental bodies in the regions and districts are represented by corresponding local administrations, headed by akims (mayors), the local soviets of people's deputies, and by city councils. The country is developing democratically and more than 130 social organizations are registered in the republic and in the capital with the National Revival Party "Asaba," the Democratic Party "Erkin Kyrgyzstan," and "Rukh" being most influential.

The national Government retains many powers under the constitution, including the right to close down local government. It de-



Many government offices are at the central square at Ala-Too

termines external and internal policy, economic policy, land regulation, and regulation of foreign investments. It aims to radically change the older centrally planned system by large-scale economic and political reforms. The Government seeks to remove all restrictions on exports and imports and is determined to pursue a harmonious credit, finance, monetary, and taxation policy. Its basic policy is to attract advanced technologies and promote joint venture programs involving foreign investment in communication, energy supply, and civil aviation. The Government also supports the private sector in storing, marketing, and processing agricultural products.

Local government, subject to the national strategy, conducts the social and economic development of cities including strategies for sustainable human and economic development.

URBAN GOVERNANCE

Bishkek, the Republic's largest city, is divided into the administrative districts of Leninsky, Pervomaisky, Sverdlovsky, and Oktiabrsky. Local government bodies in these districts are represented by corresponding local state administrations headed by an akim. Mayors are nominated by, and report directly to, the President.

The national Government assists local government bodies by allocating funds from the budget for operating several departments or divisions of the city, and maintaining services like electricity and water, and constructing roads, schools, and hospitals. It also transfers funds to local government to finance projects like public health services and education.



The central square at night features well lit fountains

The national Government also undertakes urban planning and development and provides services. Its programs include developing new settlements around the city, promoting export-oriented industries, and accelerating the privatization of large industrial enterprises.

At the city level, many local programs support national initiatives. For instance, Bishkek plans to develop joint venture enterprises by creating free economic zones and develop local energy sources to be self-sufficient. Currently it depends on imported fuels.

The city encourages its citizens to participate in decision making in councils and committees in both the public and private sectors, for example, in female committees, business people councils, and nongovernment agencies. The public has representatives in the City Council (Kenesh) where they serve for a minimum of four years. The City Council approves the budget and programs for social and economic development, monitors the progress of projects, and conducts



The central part of the city has been reconstructed with modern office buildings



The Pinara Hotel is one of Bishkek's finest

audit checks to determine if government funds are used appropriately. It also enacts laws to collect local taxes and manage land use and natural resources.

URBAN INFRASTRUCTURE

Most households are connected to electricity and clean water. Piped water in Bishkek is believed to be among the best in the region. However, the water system, together with the drainage system and clearing structures, is dilapidated and badly needs rehabilitating. About 73 percent of households have telephone connections and 77 percent of the population use natural gas.

Most utilities are state-owned enterprises. Kyrgyztelecom, for example, is a state-owned enterprise that provides domestic communication and international connections. It also translates languages for five radio broadcasting programs, which is considered an important service in the Kyrgyz Republic's multiethnic society. The Government obtained international development assistance to modernize Kyrgyztelecom.

Broadcasts from six state-owned television networks are received from Russia, Kazakhstan, Uzbekistan, Turkey, and the Kyrgyz Republic. There are also several independent television stations and a cable TV network, though individual satellite dishes are uncommon.

There are now only about 4,300 Internet connections. Low incomes, prohibitive computer prices, and relatively high Internet connection and subscription fees have limited broader access to the Internet. "Katel" and "Bitel" provide cellular networks with international access.

TRANSPORT

The city has a railroad system with two terminals, two suburban bus terminals, and an international airport. The main railroad line divides the city into southern and northern sectors. Private cars ply the city, but stiff fuel prices, poor highways, and low incomes constrain growth in car ownership. Footpaths and bicycle paths that could offer alternative modes of transport for the population are generally undeveloped. There are two pedestrian malls, Erkindik and Prospect Chu, in the city center. Manas, the international airport, is 30 kilometers (km) to Bishkek's northwest and is being reconstructed to serve as a major airport with connections to Western Europe, Central and South East Asia, the Far East, Oceania, and North Africa.

About 730 km of urban roads are in disrepair and require \$82.7 million for rehabilitation. In 1998, the city only budgeted about \$575,000, which barely repaired 10 km of roads. To finance road rehabilitation, the city government proposed to the National Treasury in 1999 that the city retain about 50 percent of tax receipts from the use of highways. Revenue from this tax was estimated at \$384,000. If approved, private contractors will be encouraged to participate in road reconstruction because of assured funding. About 200 km of city roads are in an unsatisfactory condition. Only half of the 370-odd

buses are roadworthy and only half of the 100 minibuses are being maintained. Of the 203 trolley buses in operation, 40 percent are 11 years old and 11 percent are six years old. An estimated \$30 million is required to acquire 250 new buses and 200 trolley buses. A \$13.5 million loan from the World Bank was obtained to reconstruct several highways and \$0.95 million to improve urban public transport.

Local government is responsible for coordinating and systematizing the city's public transport system, licensing, selecting routes, and maintaining operating and safety standards. The city government organizes the public transport system, for example, by improving taxicab operations.

HOUSING ACCESS AND AFFORDABILITY

The national Government implemented a mass public housing program between 1960 and 2000. The first housing designs adopted were built with modular ferro concrete of up to four or five storeys. Residential buildings constructed in the 1970s had nine or more floors with apartment floor areas of 30 square meters (m²) for one-room apartments and 60 m² for three-room apartments. Brick multiroom housing units were also erected under individual contracts.

Recently, municipal housing construction has declined sharply with elite individual



Part of the city's charms lies in its beautiful parks and tree-lined avenues



The History Museum receives support from the city government

dwelling being constructed instead. Apartments recently constructed have modular metal frames and range between 87 and 525 m². In 1998, 178,000 m² of housing was constructed, 2.4 times more than in 1997.

A stock of private housing exists but is unaffordable for most people and construction of municipal (public) housing is also limited because few funds are available. Housing construction materials and land costs at the city outskirts are unaffordable for the majority. Only city residents with regular incomes can own houses, while the majority rent or lease.

A law provides for housing mortgages but cannot be effectively implemented because most people, with their low incomes and unemployment, cannot meet the eligibility requirements for mortgages. One solution proposed is to open an industrial bank, financed by foreign investors, which can lend at lower rates for housing over longer periods.

ENVIRONMENTAL MANAGEMENT

Eight government agencies manage the environment and deal with concerns like preserving nature, hydrology, and meteorology. Enterprises delivering potable water and recycling household scraps have also been

established. The state enterprise for water supply has a production capacity of 506.8 thousand cubic meters per day. It also monitors water quality through chemical bacteriological analysis in the laboratory. All multistoried houses in the city are connected to water drains, while individual houses have septic tanks which are being monitored to conform to standards.

Bishkek is in a valley at the foot of the northern part of the Tien-Shan Mountains which trap polluted air from automobile exhausts and industry emissions. Air pollution is mainly from poorly maintained vehicles. In 1998, nitrogen oxide, carbon monoxide, and suspended particulates often exceeded the maximum allowable concentration.

Solid waste collection and disposal is an acute problem, but foreign firms are introducing new technologies in the design of the city's solid waste collection and disposal system.

CULTURAL HERITAGE

Bishkek's symbol is the statue of the legendary warrior Manas on horseback. An ancient epic about Manas narrates the warrior's courage, sense of duty, and love of the motherland. It is a poem of 500,000 lines which has been passed down through gen-

erations and preserved without being recorded. The epic work serves as a reliable historical, linguistic, ethnographic, and psychological study of the people's life. *Manas* is performed by talented storytellers (*manaschi*). The most talented *manaschi* recite the epic over days, creating a great impression with their splendid memory and mastery of the epic.

The soul of the people is likewise expressed in songs and Kyrgyzian melodies are remarkable for their diversity and originality. The favorite musical instrument is the three-stringed *komuz* which possesses many expressive sounds.

Near Bishkek, monuments preserved from the Mussulman State of Karakhanids (10th century) include the famous Burana archeological and architectural complex, and the central ruins of Shakhristan. In the eastern part of Shakhristan there is a knoll revealing 10th to 12th century excavations. On the southeastern side of the knoll there is the Burana tower, a minaret of the 11th century.

The city's distinct culture is also reflected in its traditional utensils, ornaments, and clothes. The people's creative handicraft is ornamental and is shown in a variety of articles like carpets (*shirdak* and *alakiyiz*), bags for keeping dishes (*alk-kup*), leather dishes (*keker*) and metal jewelry



Fresh fruits are usually sold at the market

such as rings, amulets, bracelets, and belts and girdles worn by men and women.

The city government supports preserving the people's cultural tradition. Each year a budget is allocated for culturally-oriented projects like restoring historical monuments, conducting festivals of national significance, and exhibiting applied arts.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

The city government has prepared a comprehensive development program up to 2010, within the framework of the national plan. Its objective is to maintain economic growth and the quality of life. In the plan, the economic conditions during 1991–1999 were analyzed and incomes were projected to increase twofold. The plan proposes increasing production, developing small- and medium-scale businesses, promoting trade, exports and services, and improving and expanding infrastructure.

The national program for overcoming poverty in the Kyrgyz Republic, "Araket," was developed in 1998 to define the concept and scales of poverty, categories of poor people, and distribution of poverty by regions. It

sought to reduce poverty for socially vulnerable groups and increase living standards. Overcoming mass poverty, which affects over half the population of the republic, is a long-term strategic objective that depends on successful reforms like a fairer distribution of income through a better system of taxation and decreased tax load on low-income groups.

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PHILIPPINES

Cebu



GENERAL DESCRIPTION OF THE CITY

Next to Metro Manila, Cebu City is the second most important city in the Philippines and is part of a bigger agglomeration of towns and cities called Metropolitan Cebu.

Cebu is a tropical metropolis averaging at least 325 days of sunshine annually. In 1995, it was ranked by *Asiaweek* as the eighth most livable city in Asia. It is a bustling community offering numerous business and tourism opportunities, and the locals, called Cebuanos, are generally friendly and fluent in English.

The city is 365 miles south of Manila on the coastal side of the central eastern portion of Cebu Island. The island is geographically situated to act as the hub for most of the tourist, business, and commercial activities in the region. More than 80 percent of Philippine shipping lines are based in Cebu and Mactan International Airport, in the nearby city of Lapu-Lapu, is the city's international gateway.

DEMOGRAPHY, LABOR FORCE, AND INCOME

In 1998, the city's population was about 655,000, representing more than 50 percent of Metropolitan Cebu's 1.3 million inhabit-

ants and 4 percent of the country's population. Its population growth rate of 1.6 percent for the last five years is below the national figure and its household size of 4.9 is lower than the 5.5 national average.

By Cebu City Council's definition, Cebu's population is urban and rural with its 80 urban and rural barangays (villages) in the city. In 1995, 89 percent of the population lived in the urban area of 24 percent of

Statistical Snapshot ... 1998

DEMOGRAPHY

Resident population (in million)	0.655
Density (persons/ha)	92.6
Annual rate of increase (percent)	1.6

ECONOMY

City product (per capita)	US\$2,021
Households below poverty line (percent)	34.2
Cost of stay (per day)	US\$40

FINANCE

Share of taxes to total revenue (percent)	41.3
Wages of employees in budget (percent)	38

SOCIAL SERVICES

Child mortality (percent)	4.1
Persons per hospital bed	306
Life expectancy (years)	66
Adult literacy rate (percent)	93
Median years of education	14
Tertiary graduates (for every '000 pop)	145

COMMUNICATIONS

Local calls (per person per year)	28
International calls (per person per year)	0.12
Mobile calls (per person per year)	10.4
Internet hosts (for every '000 pop)	6





The Port of Cebu is one of the largest ports in the Philippines

the total area of the city, while 11 percent was dispersed in the rural area with 76 percent of the land space. Pushed by growing pressure in the urban lowlands and pulled by economic potentials in the uplands, people tended to settle in the uplands which resulted in a 4 percent population growth in the rural barangays and a low growth rate of 1 percent in the urban areas between 1993 and 1998. Land prices have become prohibitive for residential purposes and rents have increased around the central business district (CBD), causing people to

move towards Metropolitan Cebu's outlying areas.

Cebu's population grows to more than 800,000 in the daytime as people come to the city to work, do business, or study. There are 39 colleges and six universities in the city serving the entire region. Cebu is a service-oriented city with the bulk of the working population comprising 72.7 percent of the total employed in the sector. Only 6.9 percent of employed persons are engaged in agriculture while 20.4 percent are employed in manufacturing and industry-related jobs. The

average annual household income of \$4,160 is more than in other parts of the country.

Cebu's economy grew from the mid-1980s until the Asian regional crisis in the mid-1990s with much of its economic success being from export growth which averaged 17 percent for the past five years. Cebu's exports account for 10 percent of total Philippine exports and the city has the largest concentration of exporters in the Philippines with over 930 large and small firms.

POLITICAL STRUCTURE

Independent of the national Government and other local government units in the province, the government of Cebu is a local government unit (LGU) with a city government headed by the city mayor, who is elected for three years and is limited to three consecutive terms. The mayor heads the executive branch of the local government and is directly responsible and accountable to the President of the Philippines through the Department of Interior and Local Government. The vice mayor presides over the city's legislative council or Sangguniang Panglungsod with its 16 elected councilors and two appointed ones. The vice mayor and councilors are elected for the same term as the mayor. Two councilors are appointed and chosen from the villages or wards (barangays) and the youth sector.

The city has 80 lower-level LGUs (barangays), each headed by a barangay captain. The captain and the council help maintain peace and order in their respective barangays and are instrumental in providing feedback for residents who air their concerns to the city government.

URBAN GOVERNANCE

Governance at the local level has been grouped into the four functions of providing basic services, making policies and regulations, generating revenue, and offering support services. Cebu, like all LGUs in the Philippines, relies on the Internal Revenue Allotment (IRA) or share from national taxes, which is distributed under a formula stipulated in the Local Government Code. About 40 percent of the city's budget comes from IRA, about 60 percent is generated from taxes, user charges, permits and fees, etc., and 6 percent is from loans from banks and



One of the oldest universities in the country -- the University of San Carlos is found in Cebu



Cebu City Hall serves as the nerve center of the city

other financial institutions. In general, it can be said that Cebu City is better off than many other LGUs in the country because of its lower IRA share dependency and relative independence from the national Government.

URBAN INFRASTRUCTURE

The city has been a port city ever since Asian traders began using it as a trade route. At present, 5 percent of the country's exports pass through Cebu's international port which is a convenient access point for the Philippines and the region.

Mactan International Airport, 15 km from Cebu City, is second to the Ninoy Aquino International Airport in Manila for the number of the regular domestic and international flights and cargo traffic. It handles over 300 domestic flights a week to 25 destinations and an average of 30 international direct flights a week.

Water remains a problem because it mostly comes from groundwater sources which, according to recent studies, are being depleted by over-withdrawal causing saline intrusion into the coastal aquifer. Moves to develop other surface water sources have stalled due to project implementation difficulties. The network system serves only a third of the population while the rest turns to alternatives like drawing from the same aquifer and thereby worsening the problem. The cost of \$1.31 per cubic meter is generally higher than in the rest of the country.

There is abundant power supply, at least for the next decade, because Cebu is connected to a bigger power grid which draws its energy from geothermal sources on the nearby islands of Negros and Leyte. Inefficient transmission and distribution systems, however, cause occasional power outages.

The city's urban amenities rate highly compared to the rest of the country, even com-

pared to Metro Manila, albeit on a smaller scale. Telephone connections are readily available, especially in the urban area and cellular phone services are likewise sufficient compared to the rest of the country and the signal transmission is quite clear. The city has 13 AM radio stations and 20 FM stations. Telex and telegraph services are present as well as cable TV services. There are three daily community papers while the national newspapers usually find their way to the streets by early morning. National banks, as well as other major business companies, have regional headquarters in the city. There are three major malls or shopping arcades offering a variety of local and international goods and services.

TRANSPORT

Urban transportation in Cebu City is mainly composed of private cars and jeepneys, the latter being a paratransit mode of public transportation. In 1992, 80 percent of the total person-trips made in the city were on public transport while 20 percent were private. It was estimated in a 1992 study that the 20 percent private transport mode would grow to 38 percent by 2002. This projected increase in private transport is a concern, and jeepneys which carry 10–20 passengers are considered inefficient for urban use. There are moves to phase them out and shift to higher modes of transport such as buses or the light rail transit.

A fleet of about 5,000 airconditioned taxis ply the city's streets. The number of private cars steadily increased in the late

1980s and early 1990s, but slowed since 1998 because of the Asian economic crisis.

There is no rail-based transportation and beyond regular jeepney routes transport consists of tricycles, trisikads, motorcycles, and bicycles mounted with passenger sidecars in residential subdivisions.

The city's traffic management arm, Cebu City Traffic Operations and Management, is a model emulated by other Philippine cities and municipalities with its highly-trained and efficient traffic enforcers and parking attendants. Cebu City boasts of its highly sophisticated Sydney Coordinated Adaptive Traffic System, a network of automated traffic signals coordinated from a central computer which monitors the volume and speed of vehicles, transmitting the data to a local controller that controls traffic signal lights to give the most efficient cycle times. This has made traffic management in Cebu one of the best in the country. The geographic information system supports urban and land use management by providing high quality computer generated maps and analysis to user departments.

HOUSING ACCESS AND AFFORDABILITY

Housing accessibility, especially for lower income groups, is generally limited. Settlers in many of the informal settlements have been there for 40 years and cannot be easily relocated. High land costs, particularly near the city center, make housing hardly affordable for most people.



Traffic signals are coordinated from a central computer system



Locals and tourists enjoy a walk in the Fuente Osmeña Park

Housing development remains a major concern for the city government and is a high priority on its development agenda. Socialized housing programs were created, resettlement sites were identified and developed, and some affordable tenements were constructed to make Cebu City “squatter-free in ten years.” But there is still a long



Magellan's cross, planted in 1521, remains a favorite tourist attraction

way to go before housing problems are resolved.

ENVIRONMENTAL MANAGEMENT

There is no central sewerage system, only an old system near the CBD which serves a few industrial factories. Most households have their own septic tanks, which serve as the primary treatment of household effluents. Wastewater is released into the city's deficient drainage system usually without treatment and this affects the city's rivers and creeks, which are considered biologically dead and need to be rehabilitated and revived.

The drainage system cannot cope with rainwater during the rainy season and floodwaters burst out of waterways and cause flashfloods in different parts of the city. Unplanned development contributes to this problem. Without an overall drainage plan only uncoordinated drainage solutions have been pursued.

Solid waste collection, disposal, and management is reasonably good. The city operates a sanitary landfill which was improved in recent years through a project funded by the national Government. The existing landfill has a limited lifespan and there is a dire need to identify a new landfill site and new technologies on solid waste management are also being considered.

CULTURAL HERITAGE

As the oldest settlement in the country, Cebu is rich in its historical and cultural heritage. Ferdinand Magellan, the Portuguese voyager, died in Cebu in 1521 after planting a wooden cross which today is a tourist attraction.

Cebu was under the Spanish for 300 years and many Spanish legacies can be seen in the city. The old core of the city is reminiscent of the typical configuration of Spanish settlements with a triangle of civil government (present day city hall), the military fort (Fort San Pedro), and the church (Basilica del Santo Niño). The latter is an important religious edifice in the city and the center of religious devotion. The feast of Sinulog is held every third week of January with major citywide festive celebrations,

participated in by city residents and visitors from all over the country and overseas.

Many buildings and edifices reflect the city's culture and the Casa Gorordo museum holds many artifacts. Recently, the city government intensified its efforts to preserve the past and embarked on the Cebu City Waterfront Development Project to revive the waterfront district of the original city core and make it a new tourist destination. Other edifices like Chinese and Taoist temples reflect the city's culture and draw crowds of visitors.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

The city drew up the Cebu City Strategic Master Plan Study to provide a 20-year planning perspective. The plan envisions a three-corridor transport system segregating industrial, public, and private traffic. Land use will be harmonized throughout the metropolis.

As the city is envisioned to be a trade and services center in the Philippines and for Southeast Asia the proposed plan emphasizes livability, sound environmental management, social responsibility, and equality. City planners envisage the city as host to regional business, especially as a major information site for technology industries and other advanced technologies.

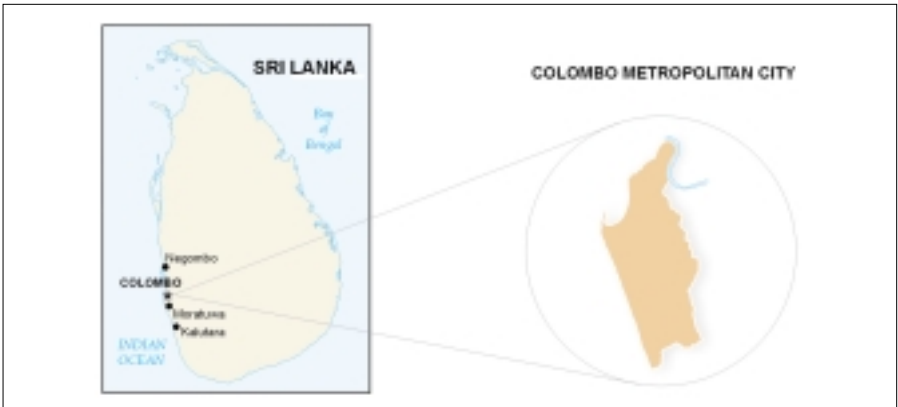
Core projects being undertaken by the city government include the Metro Cebu Development Project Phases I, II, and III. Phase III includes the Cebu City South Reclamation Project, which aims to provide 100,000 jobs when completed and create the city's economic base for governing well and providing urban services.

Photographs were obtained with permission from the Cebu Investment Promotion Center (CIPC)

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SRI LANKA

Colombo



GENERAL DESCRIPTION OF THE CITY

Colombo is situated on the west coast of Sri Lanka with the Kelani River as its northern boundary, vast stretches of home gardens and low-lying lands as its southern and eastern boundaries, and the Indian Ocean as its western boundary. The city has jurisdiction over 37.3 square kilometers of generally flat terrain

ranging to 20 meters above sea level. The large inland Beira Lake and a network of canals function as support systems for storm water discharge, particularly during the monsoon season. Colombo receives heavy rain most of the year, particularly during the southwest monsoon from May to July and the northeast monsoon from October to December. With average temperatures between 25° and 30° Celsius, the city is blessed with a comfortable tropical climate.

The city was first noted as a Moorish trading settlement and from 1505 its significance was further strengthened under the Portuguese, and then under the Dutch until

1796, and lastly under the British until 1948. Local leaders have administered the city since it gained independence from the British in 1948. Its harbor has developed to be one of the busiest container handling ports of South Asia and the country's administrative, financial, trade, commerce, and transport links have focused on Colombo. Colombo Municipal Council (CMC), the city's administrator since 1866, now has about 53 elected council members.

The city currently contains about 1.5 million people daily, of whom 1 million are residents. Daily commuting is common on low-cost trains, with some people travelling 50 miles or more to work.

Statistical Snapshot ... 1998

DEMOGRAPHY	
Resident population (in million)	0.8
Density (persons/ha)	298
Annual rate of increase (percent)	2.4
ECONOMY	
City product (per capita)	US\$550
Households below poverty line (percent)	12.9
Cost of stay (per day)	US\$80
FINANCE	
Share of taxes to total revenue (percent)	51.4
Wages of employees in budget (percent)	71
SOCIAL SERVICES	
Child mortality (percent)	1.9
Persons per hospital bed	100
Life expectancy (years)	71.8
Adult literacy rate (percent)	94.5
Tertiary graduates (for every '000 pop)	23
COMMUNICATIONS	
Households connected to phone (percent)	53
Local calls (per person per year)	64
International calls (per person per year)	1.2
Mobile calls (per person per year)	5
Internet hosts (for every '000 pop)	9.63



DEMOGRAPHY, LABOR FORCE, AND INCOME

Colombo is a multiethnic city with about seven ethnic groups of which the largest is the Sinhalese (50.1 percent), Tamils (24.5 percent), and Ceylon Moors (21 percent). The city's annual population growth rate has been relatively low in recent decades at 1.2 percent in 1971, 0.5 percent in 1981, and 1.8 percent in 1994. It is estimated to increase to 2.4 percent between 1994 and 2010. A demographic survey by the Department of Census and Statistics in 1994 indicated that Colombo had a fairly large economically active population (54.7 percent in the age group 15–44). Its dependent population was about 30.9 percent of which 24.9 percent belonged to the age group 0–14.

Of the economically active population 82.5 percent are employed and 17.5 percent unemployed. The national unemployment rate was 9.7 percent in 1999. Household income distribution for six months in 1996/97 showed that 57.3 percent of the population fell within the top 20 percent quintile while 7.5 percent and 3.3 percent of the population were included in the next to bottom and bottom quintiles. Data for 1995 shows that the Colombo Metropolitan Region, composed of the three districts of Colombo, Gampaha, and Kalutara contributed some 43 percent of GDP, of which Colombo itself contributed some 30 percent. Employment in 1998 was dominated by personal services (27.6 percent), manufacturing (24.3 percent), and wholesale trade and tourism (20.2 percent). Child labor has all but disappeared, declining to 0.1 percent in 1997, no doubt influenced by government regulations and NGO awareness programs.



A strong tourism industry gives rise to new hotels and commercial centers

Informal employment is significant in the city. The Ministry of Urban Development, Housing and Construction (MUDHC) in 1999 estimated about 50 percent of the capital's population live in low-income settlements (underserved settlements) and 90 percent of their population is employed in the city's informal sector (wholesale and retail trade, street vending, transport, food, and various industries). According to the MUDHC survey, the city's 1,506 underserved settlements accommodate about 66,022 households. Between 1978 and 1994 the Government implemented major housing improvement programs, and it remains concerned with their poor standard of basic amenities and social services.

Some two million households or half of the country's population benefit from the Government's Samurdhi Programme for poor relief. An ultrapoor group is identified as those families with more than three dependents and monthly incomes of less than \$15.50. This category of the poor constitutes some 20,000 families nationwide. The Samurdhi Authority spent \$12.08 million on various poor relief programs in 1998, including banking, insurance, savings, training, and self-employment. The Department of Poor Relief spent \$12.85 million in 1998. In addition to these national programs, the CMC spent \$1.33 million on relief for destitute families and skills training for the youth of poor families in the city.

POLITICAL STRUCTURE

CMC operates under the legal provisions stipulated in the Municipal Ordinance of 1947 and its amendments. Although the Council is relatively autonomous in handling its affairs within the city, some important issues such as recruiting staff, handling financial, administrative, and health issues, and securing public security are under the direction of the central Government and provincial governments.

Some government functions have been transferred to provincial councils (PCs), created in 1988 as new authorities above municipal authorities. Therefore the CMC is now required to seek approval on the above matters either from PCs or through PCs to the central Government.

Municipal Council activities are governed by a council of multiparty elected

members with the mayor and deputy mayor selected from the party that gains a majority of wards at the council election. Council affairs are organized through about 15 standing committees of elected members who direct the officers of different operational departments of the municipality. The mayor and the council are elected every four years under the council election law. The city is divided into 47 municipal wards, and 53 members are selected for the council based on the multiparty proportionate system. The 47 wards are grouped into six municipal districts for carrying out certain functions at district level (solid waste management, public health and engineering, medical centers, and recreational activities).

URBAN GOVERNANCE

Colombo has already earned a good reputation among south Asian cities for recently introducing several initiatives for good governance. Advisory committees (parallel to the 15 standing committees) of senior citizens and professionals were set up to advise the mayor on different services the CMC is providing for its citizens. These members serve voluntarily. In addition, a steering committee at the municipal level to decide on CMC's important management issues was set up consisting of the mayor, deputy mayor, municipal commissioner, the two deputy municipal commissioners, municipal engineer, municipal treasurer, and the municipal secretary. The committee meets regularly once a week and a monthly meeting chaired by the mayor or deputy mayor allows representatives of the community development councils in low-income communities to air their problems at the forum. This forum, the "Housing and Community Development Council" meets monthly. A weekly public day also allows people to bring their grievances to the mayor, deputy mayor, and heads of departments of the council at municipal offices. A City Watch Committee was formed consisting of senior citizens of the city who voluntarily contribute to developing the CMC. They contribute ideas and make constructive criticisms about CMC matters aimed at improving the city's performance. The committee meets monthly with the mayor.

The CMC gives \$12,626 annually to each council member to spend on improving basic amenities in underserved settlements.



Historical buildings in the Colombo Fort area

These low-income communities are considered illegal or informal as they do not come under the council's regulations, and therefore ratepayer's money cannot be used to improve them. However, considering the need for improving the quality of life of residents in these settlements, CMC is allocating money to them from the mayor's funds.

Customer-oriented training for municipal staff is part of the corporate plan for 1998–2002 outlining the key issues, strategies, and specific action for improving the quality of CMC services. In keeping with this vision, staff are being trained to better satisfy people's needs and the CMC has streamlined its complaint handling desk. For the first time, the CMC now has a service directory indicating its services and the relevant contact personnel. City ratepayers received 100,000 free copies.

URBAN INFRASTRUCTURE

The Government is prioritizing improving infrastructure, especially in Colombo, to attract more investment to help cope with the challenges and opportunities under the globalization process. However, the demands of the ongoing civil war mean that fewer funds are available for infrastructure and other works.

Just over half the households have water connections with the remainder depending on standposts, shallow wells, tube wells, and river water. Water is supplied in bulk by the National Water Supply and Drainage Board and distributed by the CMC. Unaccounted for water, of which some 45 per-

cent stems from system leakages, amounts to 45 percent of supply. As for sewerage facilities, about 80 percent of the city is covered by the municipal sewerage network, 15 percent by septic tanks, and 4 percent by underground pits. Having no wastewater treatment facilities, the city's waste is discharged directly into the sea.

The Ceylon Electricity Board supplies power to about 90 percent of the city population, with maintenance by the CMC.

Telephone traffic has increased rapidly, with 315,241 connections in 1997 and 455,598 in 1998 (53 percent concentrated in the metropolitan area). There has also been strong growth in private sector telephone connections (cellular, paging, data communication, etc.) of which 70–80 percent is estimated to be within Colombo city limits. About 90 percent of Internet connections were located in Colombo in 1998.

The CMC provides solid waste collection services for some 90 percent of households in Colombo, with half being provided by a private sector contractor and half by the CMC directly. Collection is daily in commercial areas and twice weekly in residential areas with a total daily collection of 625 tons. Nearly all solid waste is dumped or burned in the open.

TRANSPORT

Colombo acts as the country's central transport node connecting six main highways and all railroads serving interior regions. The CMC maintains and improves the city's 480 kilometers of roads and constructs new roads

within the city limit. Of the total infrastructure budget for 2000, 16 percent, or \$5.77 million, has been allocated to road and transport sector activities in the city. The Sri Lanka Railway Department looks after the railroad network.

Transport services in the city are run by government-owned bus companies as well as private companies and individuals. Train services between Colombo and other major cities are accessed by commuters. Residents and visitors also use private cars, three-wheelers, and motorcycles. Nationally, car ownership more than doubled between 1996 and 1998, while ownership of dual purpose vehicles increased fourfold. Recently, traffic congestion grew as a result of inefficient transport management, inadequate road capacity, and the requirements of the security situation. The city is without adequate parking facilities and motorists tend to park vehicles on the roadsides, which hinders traffic and passenger movement. In addition to passenger transport vehicles, many commercial vehicles including container carriers operating between the harbor and suburbs contribute to traffic congestion (total cargo handled in the port increased by 18 percent between 1996 and 1998).

HOUSING ACCESS AND AFFORDABILITY

Some 60 percent of housing stock in Colombo is owned or inherited; 24 percent is rented and 7 percent is rent free. It is estimated that 59 percent of housing stock complies with regulations, but generally the city's housing condition is unsatisfactory. Of the total housing stock only 49 percent is permanent, while the balance of 51 percent



The government implements several rail and road projects to improve accessibility

constitutes substandard housing including slums (27 percent) and shanties or temporary illegal housing (24 percent). Most of these substandard housing settlements do not have sufficient basic amenities such as water, toilets, electricity, and drains. They are classified as underserved settlements. However, programs have improved housing and basic amenities in about 60–70 percent of the city's underserved settlements.

The CMC led in implementing the above programs and is keenly interested in improving basic amenities in underserved settlements. Allocating \$12,626 per council member in 1999 and \$18,939 in 2000 for improving amenities in the city's underserved settlements is a determined step to improve poor people's living standards. In addition, the new "Sustainable Township Program," implemented jointly by the CMC and the Ministry of Urban Development and Housing, aims at developing multistorey condominium housing for low- and middle-income households in the city. The program aims to gradually upgrade all 1,506 underserved settlements.

Some social development programs at the community level are improving poor people's social status and savings capacity, as well as health and environment standards. These in turn help the urban poor gain access to housing.

The State Mortgage and Investment Bank issued 60,000 housing loans by 1998. In addition, other commercial banks provide mortgage finance.

A 1994 survey by the Department of Child Care and Probation estimated there were some 10,000 street children in Colombo, but government, religious, and NGO programs may have halved this number now.

ENVIRONMENTAL MANAGEMENT

The Central Environment Authority (CEA) and National Building Research Organization have assessed air quality in Colombo and the results, although unpublished, show that pollution levels do not exceed WHO standards. There are no published data on noise, but it is understood the CEA receives about 100 complaints about industrial and traffic noise monthly.

DISASTER-RELATED RISKS

One major natural disaster affecting the city is floods caused by monsoon rains between May and July. The low elevation of the city's urban area and the poor storm water drainage system aggravate the flooding especially for the low-income settlements in the north-east and eastern sections of the city. Epidemics such as cholera, typhoid fever, encephalitis, and food poisoning follow flooding.

In addition to the above natural disasters, emergencies like the civil war result in bomb blasts which injure people and damage property. Motor vehicle accidents and fires are other hazards. The CMC takes flood preventive measures jointly with the Sri Lanka Land Reclamation and Development Corporation. For public health improvement, the CMC seeks the assistance of the Government's Health Ministry and the CMC's public health and engineering departments have been implementing programs to improve infrastructure and people's health. A special committee is to recommend ways to manage city disasters.

CULTURAL HERITAGE

Colombo has places which are historically and culturally important, mostly built by foreign rulers who controlled the city for over 450 years. The CMC, as well as the Archeological Department of Sri Lanka, seeks to preserve archeologically and historically important structures in Colombo and allocated \$25,252 in its 2000 budget for maintaining and preserving heritage buildings.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

The Colombo Metropolitan Regional Structure Plan, prepared by the Urban Development Authority of MUDHC in 1998/99, formulated a zoning plan for Colombo. This was gazetted in July 1999. Under this plan, special development programs were identified for Colombo. Some of the major projects include (i) developing seven nodal points within Colombo's limits; (ii) improving Colombo Harbor and its related facilities; (iii)

developing a ring road around the city's border for traffic to bypass the city; (iv) improving low-income settlements through a program of urban renewal ("Sustainable Township Program") under which small urban areas will be developed within the city; (v) rehabilitating the city's canal network under the Greater Colombo Canal Rehabilitation Program (since 1990); and (vi) easing traffic congestion in the city with the Base Line Road Widening Project.

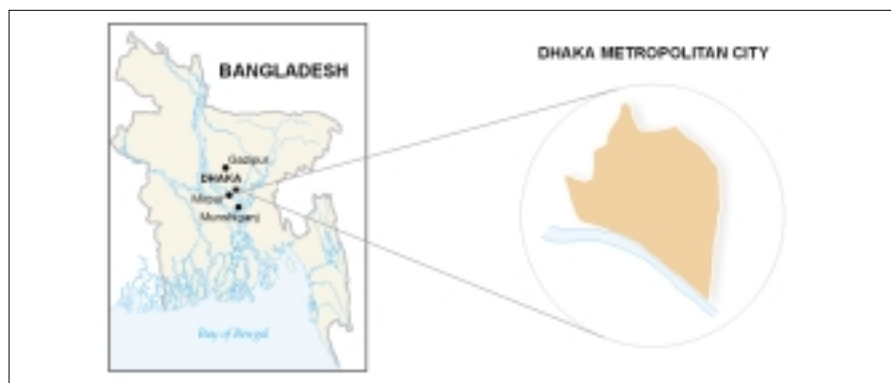
The Government realizes the importance of investing in urban development to improve Sri Lanka's economic productivity and infrastructure network. Several programs undertaken are (i) improving small towns through national programs; (ii) improving urban infrastructure and housing; (iii) encouraging foreign investors in development projects with incentives such as leasing land, allowing tax holidays, and providing infrastructure services; (iv) introducing environmental improvement programs to arrest the deterioration of the urban environment; and (v) introducing good governance so that traditional concepts of controlling and managing urban affairs are now seen as participatory development initiatives.

A unique recent development in Sri Lanka is the shift in national, provincial, and local authority level policies, which emphasize improved participatory development initiatives operating at municipal level. There is a trend for municipal councils to be increasingly active in urban development, as well as demanding devolution of authority from the central Government. The CMC leads in introducing such municipal level development programs in Sri Lanka.

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BANGLADESH

Dhaka



GENERAL DESCRIPTION OF THE CITY

Dhaka City, Bangladesh's capital on the Buriganga River, is Bangladesh's largest city with 6.5 million people living in its 360 square kilometers (km²). The city's primacy is revealed through its having 21 percent of the greater urban area population and its concentration of social and economic investments. It is one of six municipalities in the middle of the Dhaka

Metropolitan Area known as RAJUK, or the Capital Development Authority.

Dhaka is known as the city of 1,000 mosques and was once famous for its fine muslin fabrics which were produced in the city area and exported. Historically, the city experienced many ups and downs. It was the capital of Bengal, a province of India during the early 17th century, but in the latter part of the century its importance diminished with the shifting of the capital to Rajmahal. The city regained its importance as capital of East Bengal in 1905, but again lost its

importance in 1912 after annulment of the partition of Bengal during British rule. The city became the provincial capital of East Pakistan with the partition of India in 1947, and the national capital after Bangladesh's independence in 1971.

Dhaka includes the central business district (CBD) of Motijheel-Dilkhusa and the four satellite business districts of Kawran Bazar, Mohakhali, Mirpur, and Sadar Ghat, all located within a ten-kilometer radius of the CBD.

Statistical Snapshot ... 1998

DEMOGRAPHY	
Resident population (in million)	6.5
Density (persons/ha)	953
Annual rate of increase (percent)	4.2
ECONOMY	
City product (per capita)	US\$900
Households below poverty line (percent)	47.7
Cost of stay (per day)	US\$175
FINANCE	
Share of taxes to total revenue (percent)	26.7
Wages of employees in budget (percent)	49
SOCIAL SERVICES	
Child mortality (percent)	9.3
Persons per hospital bed	924
Life expectancy (years)	60.5
Adult literacy rate (percent)	60.3
Tertiary graduates (for every '000 pop)	43
COMMUNICATIONS	
Households connected to phone (percent)	9
Local calls (per person per year)	17
International calls (per person per year)	0.40
Mobile calls (per person per year)	0.50
Internet hosts (for every '000 pop)	9.23





Dhaka's population increase is largely attributed to in-migration from the rural areas

Dhaka is, in effect, an island within the delta, especially during floods in the wet season. The limited potential for expansion, coupled with rapid population growth and low per capita incomes, is straining city services, affordability of land, social relations, job opportunities, and environmental conditions.

DEMOGRAPHY, LABOR FORCE, AND INCOME

Dhaka City is densely populated with an average of 170 persons per hectare (330 persons per hectare in the old part of the city). The age pyramid shows females dominating

in the 0–14 age group by 4 percent, while males dominate females in the 15–59 age group by 4 percent. In the 60-plus year group, the male and female populations are roughly balanced.

Dhaka City's population has grown rapidly from 0.33 million people in 1951 to 0.55 million in 1961. In the 1974 census, the city population was recorded at 1.6 million, a figure which more than doubled to 3.44 million in 1981 and 4.1 million in 1991. This rapid growth has been mainly caused by high immigration from rural areas, territorial expansion, and natural growth. According to one study, over 60 percent of Dhaka's population are migrants, most of whom are the

rural poor. Commuters in the city are estimated at 0.5 million.

Ethnically, Dhaka's population includes Muslims (94 percent), Hindu (4.3 percent), Christian (0.7 percent), Buddhist (0.15 percent), tribal (0.11 percent), and others (0.1 percent). While the old part of the city is mostly populated by Hindus, Christians and Buddhists are concentrated in the new part, and others are fairly widely distributed.

The civilian labor force in the city is estimated at 1.79 million (1995), of which 1.23 million is male and 0.56 million female. The labor force is 23 percent unemployed. Dhaka's 67 percent of employment in the informal sector is one of the highest shares among Asian cities. Dhaka accounts for about 60 percent of consumer industries and almost 95 percent of the export oriented garments industry. Its per capita income is \$500, which is higher than the national average of \$280. Dhaka itself is a large market and has some comparative advantage with cheap and better quality labor to attract foreign investment to its export processing zone. However, there is a high rate of child labor which nationally stands at some 11 percent. Expansion of periurban agriculture is also promising. However, according to the Dhaka Metropolitan Development Planning Structure Plan, the city has to create an additional four million to five million jobs by 2015, a big challenge for both the Government and city dwellers.

POLITICAL STRUCTURE

Bangladesh's centralized system of government has a local government system of urban and rural components. Urban areas with populations above 0.1 million are designated as cities; there are 18 of them. Urban areas with populations of at least 5,000 and other facilities such as electricity and water are designated as urban centers (Census 1991). Urban centers which have an elected committee to run town functions are called municipalities and at present there are about 203 municipalities (pourashavas).

The Dhaka City Corporation (DCC) area has been divided into 100 wards, each one having a commissioner directly elected by people in the ward, while the city has a mayor directly elected by city residents. In addition, the city council consists of 18 members drawn from the women's com-



Temples and historical buildings of different architectural influence can be found in the city. Ahsan Majid is shown here



munity. DCC's administrative chief is the chief executive officer (CEO) from the Government. For administration, revenue collection, and service delivery, the city is divided into ten zones, each under a zonal executive officer (ZEO).

DCC is highly centralized with little authority delegated to the CEO or department heads, much less to ZEOs and ward commissioners. This centralized administrative structure impedes lower levels from adequately responding to citizen needs. However, to improve city local governance and citizen participation, a decentralized service delivery is being tried in three of Dhaka's wards.

Public sector responsibilities in urban development include providing site and services projects for urban housing and providing utility services such as water, electricity, gas, telephone, solid waste management, street lighting, and town planning. The Town Improvement Act, 1953, empowers RAJUK to prepare and implement development plans, and carry out development control in the metro area. The City Corporation Ordinance of 1988 also empowers DCC to prepare town plans, undertake development within city areas, and provide civic services such as street lighting, road development and maintenance, and solid waste collection and disposal.

Private sector participation in Dhaka's urban development involves land and housing development, commerce and industry, and transport. In the civic service sector, the private sector's involvement is negligible. The public sector is beginning to draw the private sector into urban development.

NGO participation in urban affairs, particularly in the city, started after 1988's flood. NGO urban sector work is expanding and the Coalition of Urban Poor has been formed with 50 NGOs networking and working with the



The Parliament Building (shown left) and the Supreme Court Building are two of the city's historical buildings

urban poor in Dhaka. A recent survey of 59 organizations working for the urban poor in Dhaka shows that more than \$4.26 million is being invested in different urban poverty reduction programs by NGOs who have already achieved significant success. It is reported that nearly 80 percent of their total investment and allocation is related to credit.

URBAN INFRASTRUCTURE

Urban development of the city and the metropolitan area is shared by 52 agencies belonging to 18 ministries involved in planning and developing the metropolitan area. Among these, RAJUK and DCC are very important. RAJUK has prepared a development plan of the metropolitan area called the Dhaka Metropolitan Development Plan (DMDP) for 1995–2015. The DMDP comprises the Dhaka Structure Plan (DSP) (1995–2015), Urban Area Plan (UAP) (1995–2005), and Detailed Area Plan (DAP). The DSP provides a long-term (20 years) strategy with broad-brush policies for developing Dhaka's metro area which has been divided into 26 strategic planning zones with a target population of 15 million. The UAP provides an interim mid-term strategy for the ten years to 2005, for developing urban areas within RAJUK's boundary. The DAP provides more detailed planning proposals for specific sub-areas of Dhaka, while RAJUK has prepared one DAP and six others are being prepared.

DCC is the other important agency for urban development in Dhaka, but although DCC is empowered to prepare and implement plans within its area, this has hardly been practised. DCC has remained a service agency providing civic services. Dhaka Water and Sewerage Authority (DWASA) and Dhaka Electric Supply Company (DESA) are other agencies which undertake projects and implement them in the city, however, these are mainly sectoral or subsectoral projects.

The city population's rapid growth has exerted excessive pressure on urban infrastructure and services including transport, water supply and sewage, solid waste management, electricity and gas, telecommunications, health, and education, which are mainly provided through the public sector.

DWASA is the only agency providing water and sewage services in the city with only 42 percent of dwellers connected to piped water. The water rate is \$0.40 per cubic meter. DWASA's service area is 344 km² and its water production has expanded from 260 million tons in 1993/94 to 354 million tons in 1997/98; an annual increase of 8 percent. The per capita consumption of water is 160 liters per day. However, the high rate of system loss (41 percent in 1997/98) means demand is hardly met. Scattered deep tube wells are the major source of water supply. DWASA has a treatment plant, 33 sewerage lift stations, 640 kilometers (km) of sewerage lines and 44,000 sew-



About one fifth of travelling is done by rickshaws



A 12-km trip to work would require 45-60 minutes by bus

erage connections. The sewage system covers only 15 percent of the city; 40 percent is served by septic tanks, 15 percent by pit latrines, while 30 percent has no access to sanitation and uses roadside drains and other spaces.

About 3,000 tons of solid waste are generated daily in Dhaka, of which about 50 percent is collected by DCC and the rest discarded in streets. Waste composition consists of 47 percent domestic, 22.5 percent construction materials, 17 percent commercial, 13 percent industrial, and 0.5 percent clinical waste. About 20 percent of city waste is reduced by scavengers and 50 percent of waste is recycled. About 300,000–500,000 people are involved in recycling. DCC has a fleet of 378 trucks, 104 demountable trucks, 3,000 handcarts, and 5,200 cleaners for collecting and transporting solid waste. There is no sanitary landfill

or any incineration facilities. Solid waste service providers have been developed for house to house collection in most city neighborhoods and NGOs have developed waste disposal, such as Waste Concern which is creating compost from solid waste.

Electricity is provided by DESA and DESCO. About 90 percent of city dwellers are connected to electricity and per capita consumption is 45 kilowatts per hour. Demand for electricity in the city is growing by 12 percent per year. System losses exceed 30 percent and supply is unstable during summer.

The nationalized Titas Gas Company supplies gas to the city through the main network covering Dhaka, Jinjira, Tongi, Gazipur, and Narayanganj. Demand currently exceeds supply, and the existing gas line does not guarantee a constant supply and there is low pressure in the old city and to the east and west. Large nondomestic users are major consumers.

The Bangladesh T&T Board (BTTB) operates a telephone network based on underground primary cables throughout Dhaka's urban area. About 9 percent of city households have telephone connections and there is one telephone for every 60 city dwellers. Demand for telephones far exceeds supply and BTTB is trying to install new lines and upgrade old ones. A shortage of telephones has led to the private branch of exchange

PABX serving neighborhood demand. There are about 78,000 cellular telephones in the city, provided through the private companies City Cell and Grameen Phone. Internet connections are also provided by private enterprises such as BD Net, Grameen CyberNet, BanglaNet, BD Online, Agni, KaifNet, DrikNet, and SpaninnNet.

TRANSPORT

Dhaka has a mainly road-based transport system with a poorly developed network. There are only 200 km of primary roads and too few secondary and collector roads (about 260 km). Lastly there are some 2,500 km of narrow roads. There are many missing strategic links in the main road network and several areas have inadequate accessibility to the network. The north-south railway route through the city between Tongi and Narayanganj is mainly used for long distance travel and also serves some urban passengers. However, its role is limited. Waterways around Dhaka are mainly used for interdistrict transport and serve some urban transport needs. Transport infrastructure maintenance is inadequate because of poor management and lack of finance.

The city's rapid population growth is inflicting excessive pressure on the transport system and daily traffic congestion occurs although motor vehicle traffic volume is still small compared to other large urban areas in Asia. One study estimated that a 12-km work trip during peak hour requires 45-60 minutes by bus. Ineffective traffic management reduces the potential transport capacity, causes traffic accidents, and amplifies air pollution. Rickshaws are often perceived as the main cause of traffic problems but actually it is due to the use of road space by pedestrians (60 percent of total trips), rickshaws (19 percent), buses (10 percent), cars (3 percent), baby taxis (2 percent), and others which are not properly segregated or managed. The city center has too few parking facilities and parking along major roads and on sidewalks, including rickshaws waiting for passengers, aggravate traffic congestion.

The public transport systems buses, rickshaws, and baby taxis are operated by the government and private sectors. Whereas public sector involvement through the Bangladesh Road Transport Corporation

is small, private sector operators are fragmented and numerous. Consequently, the public transport system is not as developed as in many cities in South Asia. Recently, route franchised specialized bus services such as the premium bus service, NIRAPAD (Safe), have been introduced. A mass transit system is required using buses along the city's major corridors.

HOUSING ACCESS AND AFFORDABILITY

Population growth has led to a phenomenal increase in housing demand. The city's housing market consists of owner occupied, private rental, rent free, squatter areas, and slums. Physically, housing extends from makeshift arrangements to temporary, semi-permanent, and permanent houses.

Dhaka's high proportion of poor people (65 percent) are unable to afford housing. One study (DMDP 1995) observed that the first quintile of city households had zero affordability for housing. The second quintile could afford \$2.9–\$6.2 per month, the third \$6.3–\$8.2 per month, the fourth \$9.8–\$12.3 per month, and the fifth \$20.5–\$51.1. Only 3.85 percent of households could afford above \$52. Affordability indices imply that the Government has to be the provider and enabler for different income groups.

Housing conditions vary greatly between high- and low-income groups as well as by area. The gap is obvious between luxurious high-income apartments and houses in high-income areas such as Gulshan-Baridhara and small, poorly constructed temporary housing (jhupri) cramped on floodprone land. About 30 percent of slum dwellers live in jhupri-type housing, compared with 2.5 percent in semipucca and 0.5 percent in pucca structures. Only 1.2 percent of households are social housing and about 54 percent are rented privately, while 31 percent are owned.

ENVIRONMENTAL MANAGEMENT

Dhaka's air is highly polluted by vehicle emissions. On average 200,000 motorized vehicles ply the streets, in addition to 300,000 to 500,000 nonmotorized vehicles. A significant proportion of those motorized are both reconditioned and old, emitting large quan-

ties of CO₂, CO, NO_x, and VOC. The most notorious are the two-stroke three-wheelers, popularly known as baby taxis and tempoos, which emit clouds of black smoke. Since gasoline (octane) contains lead, Dhaka's air contains large concentrations of lead particles along with dust and other particulates. The Government has stopped the importation of three-wheelers and has decided to expand the facilities for energy efficient compressed natural gas operated vehicles. Leaded petroleum has also been restricted and catalytic converters are now compulsory in imported secondhand cars.

The city's water pollution results mainly from people discharging wastewater into the sewage system. Only 12 percent of wastewater is treated and the rest is discharged into rivers around Dhaka. The lakes within the city are also polluted with human excreta, decomposable kitchen waste, other nondecomposable waste, and industrial effluents. Analysis of drinking water from different sources reveals that both the total and fecal coliform counts are unacceptably high. There are over 1,000 small- and medium-sized industries in and around Dhaka. The biological oxygen demand (BOD) load from industrial sources shows that in most bodies of water, including rivers, both chemical and BOD are high and the water cannot sustain fish. In its many slums and squatter areas Dhaka's sanitary ser-

vices are absent so that people defecate and urinate either in open spaces or in makeshift jhupris, which ultimately leads to water pollution.

DISASTER-RELATED RISKS

Dhaka experiences natural disasters such as floods, localized drainage congestion induced by high intensity rainfall, hail storms, and tornadoes. Fire is the most devastating disaster which the city experiences regularly during summer (April–June).

City flooding goes back to as early as 1787. Heavy rainfall, drainage congestion, high surrounding water, and overflow from rivers are the principal causes in metropolitan areas. Local flooding affects 65 percent of slums and squatter dwellings and 22 percent of city dwellings are regularly flooded during minor rainfall.

Nine major floods have occurred over the past half century. Among these, the floods of 1988 and 1998 were catastrophic, with about 77 percent of the city submerged to depths between 0.3 and 4.5 meters. About 60 percent of the city population was directly affected by the 1988 flood, with damage to housing, infrastructure, industry, and commerce estimated at \$41 million. The western part of the city now has embankments and flood walls to protect it against floods but the eastern part is still unprotected. Con-



Dhaka City is known as the city of 1,000 mosques. The National Mosque is shown above

struction of an embankment or eastern bypass is necessary to protect the city from future flooding.

Geologists warn that Dhaka is on at least three fault lines which, if they become active, may cause colossal losses. In the mid-1980s, there were earthquakes with Richter scale readings between 5 and 6. Many scientists believe Dhaka will face tremendous earthquake damage if the present rate of lowering of the piezometric surface of groundwater continues.

Fire is a common hazard in the city with Dhaka experiencing 736 fires in 1995, 809 in 1996, 758 in 1997, 734 in 1998, and 858 in 1999.

CULTURAL HERITAGE

The city has a reputation for its mosques and minarets and new buildings of different styles. The city is home to Lalbagh Fort, constructed in 1678, the royal residence of Bara Katra, built in 1663, and Binat Bibi's Mosque, built in 1457. Temples and other historical sites can be found within Dhaka.

Commensurate to the rich cultural heritage, the people of Dhaka are culturally active. Few cities in the developing world can boast of a regular international art event (Dhaka's Asian Art Biennale), open-air poetry sessions, street plays, musical performances, and lengthy book fairs. The Pahela Baishak Carnival (Bengali new year) and Ekusey (21 February), now observed as World Mother Language Day, are massive cultural events. Huge religious gatherings, like Eid congregations and Viswa Ijtima, and Durga Puja are always peacefully celebrated and have profound social and economic implications.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

Bangladesh is without national policy on urbanization or urban development. Recently, the Government announced a national land use policy with zoning suggestions for land use. The umbrella strategies recommended for Dhaka's urban development include regional integration, strategy integration, and

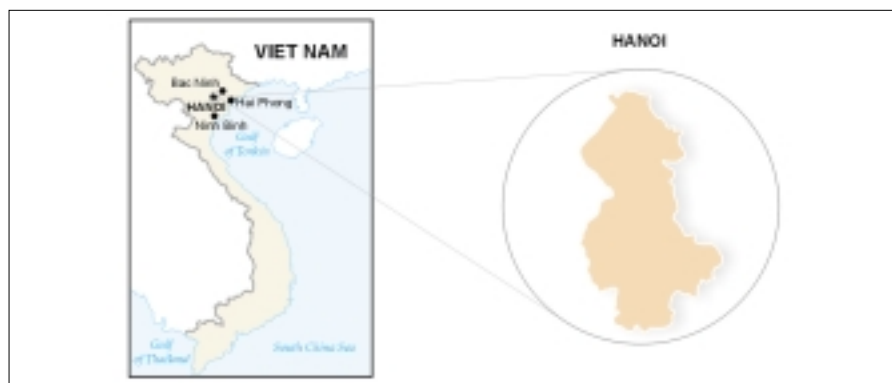
institutional development. Other strategies have been further delineated including economic development, poverty alleviation, growth management, human development, financing infrastructure and services, urban environment and disaster management, urban land and housing, urban transport, public utilities and services, and institution development.

For 1999–2000, 19 out of 32 approved projects listed in the Annual Development Program for Dhaka were basically financed by the Government. In the same year, 27 projects in Dhaka were financed by donor agencies with funding worth about \$1.5 billion to \$2 billion or roughly \$500 million a year on average. It has been observed that although these projects and programs cover a wide range of planning issues and many of them involve an institutional development component, there are no substantial projects to improve urban land and housing and financing infrastructure and services. Further, the projects have not been identified in the citywide overall plan, but only subsectorally. Only one project, the Dhaka Urban Transport Project, is provided with a mechanism through the Greater Dhaka Transport Planning Coordination Board to improve inter-agency coordination mechanisms for planning and implementation in the transport sector.

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VIET NAM

Hanoi



GENERAL DESCRIPTION OF THE CITY

Hanoi is Viet Nam's political, economic, cultural, and tourist center. Founded in 1010 under Ly Cong Uan King, the city lies on flat terrain between the Red and Nhue rivers and is isolated by embarkments and dams.

Hanoi's economy is in transition from being centrally planned to market oriented. From an underdeveloped agricultural economy the city is moving toward a dynamic and multi-commodity system with reforms encouraging private ownership, foreign investments, and exports. And while the Government holds a large percentage of

service sector employment, the picture is changing as some state-owned enterprises (SOEs) are equitized, leased, or liquidated. After three phases of SOE restructuring which started in 1994, the number of SOEs has been slashed by more than 50 percent.

Recently, because of the Asian crisis, Hanoi's growth slowed as official development assistance funds and foreign direct investment, which contributed almost 20 percent of the country's total foreign investments, were dramatically reduced. Internal structural problems and frequent policy and regulatory changes also contributed to the downturn.

Like other cities in developing countries, Hanoi faces problems of emigration and urbanization, distinctions between rich and poor,

and overloaded public services and infrastructure. Increasing urbanization, complexity in management, and the growing demand for public services exert pressure on Hanoi authorities' responsibilities.

Within its 918.46 square kilometers (km²), Hanoi's 2.7 million people are contained in 12 districts at a density of 2,900 people per km². The city holds 3.5 percent of the country's population and although there are 54 ethnic groups in Viet Nam, no minority group exceeds 1 percent of Hanoi's population.

Statistical Snapshot ... 1998

DEMOGRAPHY

Resident population (in million)	2.55
Density (persons/ha)	146
Annual rate of increase (percent)	3.5

ECONOMY

City product (per capita)	US\$709
Households below poverty line (percent)	US\$99

FINANCE

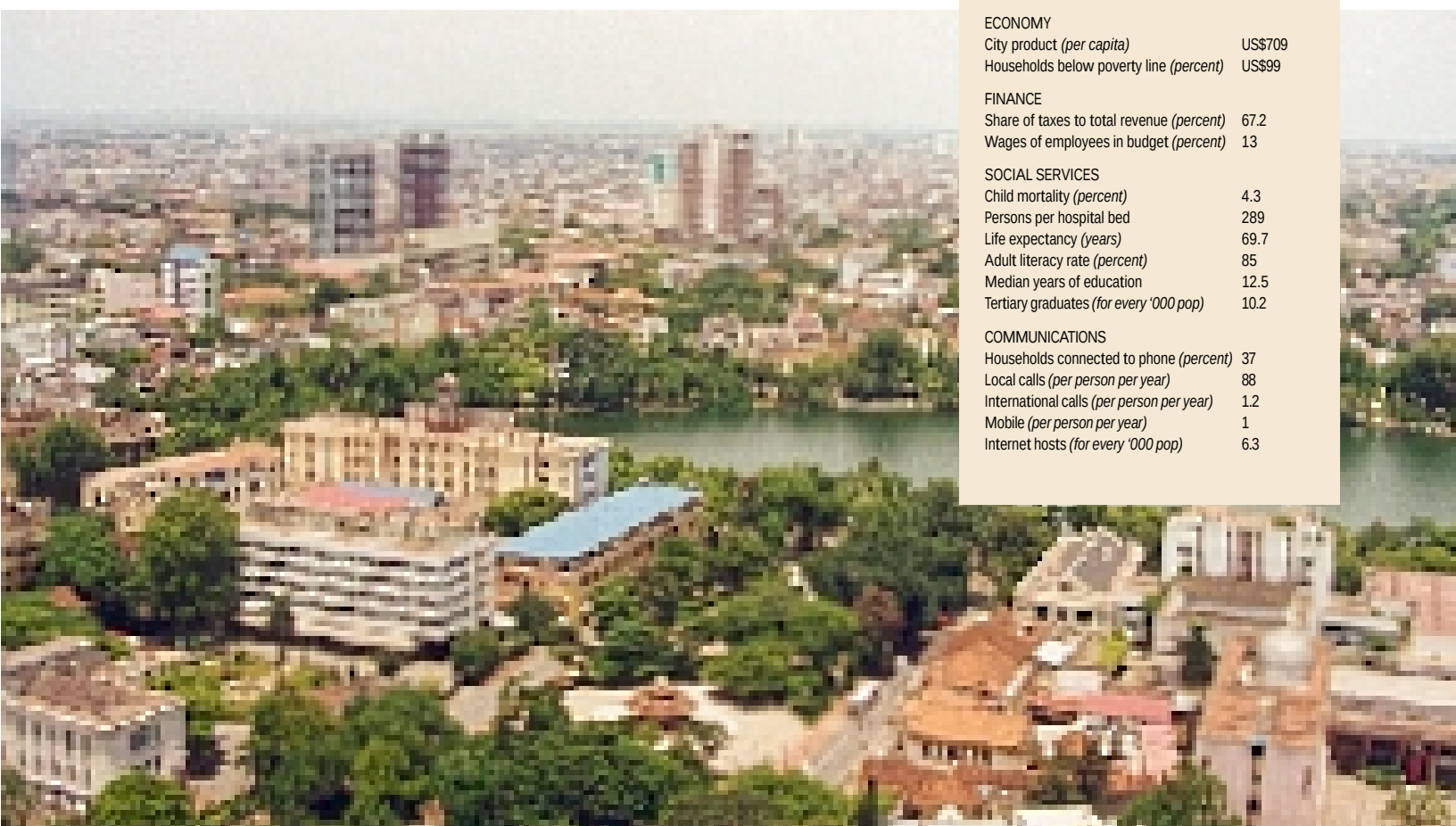
Share of taxes to total revenue (percent)	67.2
Wages of employees in budget (percent)	13

SOCIAL SERVICES

Child mortality (percent)	4.3
Persons per hospital bed	289
Life expectancy (years)	69.7
Adult literacy rate (percent)	85
Median years of education	12.5
Tertiary graduates (for every '000 pop)	10.2

COMMUNICATIONS

Households connected to phone (percent)	37
Local calls (per person per year)	88
International calls (per person per year)	1.2
Mobile (per person per year)	1
Internet hosts (for every '000 pop)	6.3





Bicycle is the most popular means of transportation in Hanoi

Hanoi is headquarters for many government offices, social organizations, and international institutions and foreign representative offices. Over 1,000 SOEs, nearly 4,000 private companies, and 324 direct foreign invested projects are based in Hanoi.

Limited by an underdeveloped private sector, most public services and infrastructure projects have been carried out by local enterprises and administrative organizations. Large-scale domestic businesses are still mainly SOEs with their joint ventures with foreign investors.

Of the total 91,846 hectares (ha) of urban land, business activities take about 63 percent of the total area of which 40,800 ha is used for agriculture and animal husbandry; 12 percent of the land is devoted to residential use; 13 percent to roads, ports, and airports use; 11 percent to government offices, international organizations, and military bases use; and about 1 percent or about 923 ha to public open space. The two largest open areas are found around the Hoankiem and Hotay lakes.

The Government has no system of land-ownership. In urban areas, only 2 percent of urban dwellers have land titles or land use certificates. The majority of the land is owned by national agencies and the

military and consequently, land for private or commercial use is limited. Prime commercial land prices in Hanoi can be as high as \$2,256 per square meter.

DEMOGRAPHY, LABOR FORCE, AND INCOME

Hanoi grew at 3.5 percent per year in the last five years with about 56,000 people migrating from the provinces annually.

Informal settlers who occupy 61.1 ha in the city do not legally own land and are mostly street vendors, street children, and those involved in small businesses.

Poverty is a serious concern among local authorities. Several governmental and social institutions have implemented poverty reduction strategies such as providing education and health care services to reduce the number of households living below the poverty line (\$131 per person per year) to only 1.8 percent.

POLITICAL STRUCTURE

Local governments are heavily subordinated to the central Government and Hanoi is no exception. It is not permitted to close down the council or remove councilors from office. The General Department of Taxes designs taxes and tax collection is effected by its local branches, with local authorities assisting. The Government assesses requests for local expenditure and proposals for imposing user charges and fees are reviewed against the levels of fees imposed in other cities or provinces. The municipal government, for instance, can set user charges and

fees for particular services (buses, fresh-water, or marketing fees), consistent with fee levels implemented nationwide. Local government is also unable to borrow funds, but can undertake projects up to \$7.5 million through the winning bidders selected by the Government.

In general, Hanoi's local government has good relations with its citizens. A recent Hanoi Statistical Office survey shows 85 percent of the business community and 80 percent of residents are satisfied with local government and municipal services. The government periodically publishes an annual report on the city's projects and social and economic strategies for the community. Complaints and suggestions are also regularly solicited from all levels of government.

URBAN GOVERNANCE

Hanoi's local authorities have limited intervention in the delivery of most public services like water supply, sewerage, electricity, mass transport, road maintenance, health care, primary and secondary education, and social security. Road maintenance is financed by the local budget, but bidders can be state owned or private companies. In services like water, electricity, sewerage, or refuse collection, the local government receives subsidies and administrative instructions from other government organizations, which work as "public benefit enterprises." These firms which are largely financed by government funds function almost independently. The level of subsidy depends on the progress of activities reviewed at the end of each financial year.



Hanoi is headquarters for many government, private offices and international institutions

Delivery of services (police, emergency, education, health care) are regulated by the administrative offices' annual plans.

Local authorities in Hanoi intend to pursue programs aimed at improving the city's socio-economic development, delivery of public services, and political stability.

Hanoi aims to achieve an efficient infrastructure, effective public service, and improved urban environment as prerequisites for sustainable development. However, the city, like all local authorities in Viet Nam, is unable to borrow funds and has only limited resources because of legal constraints on its authority. The existing legal framework limits infrastructure, disbursement, and resettlement. Resettlement and compensation costs are too high, in some cases they consume 60–70 percent of project expenditure, and this is a disincentive to development. The low level of competence among urban government staff considerably limits local authorities in planning and implementing social-economic strategies. Many staff cannot speak or write a second language or use computers for their daily work. In addition, lack of responsibilities and bureaucracy are other serious weaknesses among Hanoi's civil servants.

Further, urban management lacks a system of indicators which could assist in planning and operations. For example, the absence of environmental indicators to monitor air and water pollution is a basic shortcoming.

The local budget is derived mainly from taxes (67.2 percent), user charges (17.6 percent), and the central budget (7.7 percent). Local government is not permitted to borrow from domestic and international institutions. Local budget expenses focus on recurrent expenditures (62.42 percent) and the contracted recurrent expenditure ratio is near zero and implies inefficiency in local state offices' operations. Another burden on the local budget is employee salaries. For every 1,000 people, there are about 10.1 local government employees, with their wages taking 12.6 percent of the local budget.

URBAN INFRASTRUCTURE

The system of public service provision is dominated by the remaining SOEs and other government organizations. While external investors may invest in industrial, commer-



Hanoi's Ho Tay Lake is the biggest lake in central Hanoi

cial, or real estate development the Government is the main investor in health, sanitation, environmental protection, roads, drainage, public transportation, and public safety. Government institutions, for instance, monopolize provision of electricity, freshwater, waste collection, and postal and telecommunications services.

Larger projects are also managed directly by national ministries. Local authorities in Hanoi are disallowed from implementing infrastructure projects belonging to Group A (projects with capital exceeding \$7.5 million); they are undertaken by the Government. This restricts the local government in planning on a large scale.

Electricity and telephones are two important municipal services, provided by two nationwide suppliers belonging to the central Government. Local government cannot decide pricing or supply of these services, but it can give financial assistance and land for setting up stations for expanding networks.

Other services are provided by SOEs subordinate to local authorities. There are cases when it is more convenient for the Hanoi People's Committee to supply a municipal service, as it recently did by boosting the supply of freshwater and waste collection.

Drainage and sewerage require extensive improvement; the sewerage system now also functions as drains for both storm water runoff and wastewater.

Drainage System	Unit	1996	1997	1998	1999
Canal drain	km	38.6	38.6	38.6	38.6
River drain	km	36.8	36.8	36.8	36.8
Underground drainage system	km	160	174.5	182	182
Treatment system for wastewater	ha	600	600	600	600

Source: *Hanoi Statistical Yearbook*, 1999. HSO, Hanoi, 4/2000.

In 1999, there were about 86 kilometers (km) of drainage pipes leading to canals and rivers and 182 km of underground drainage pipes. About 78 percent of households are connected to these pipes; however, only 3 percent of the wastewater is treated and most wastewater is discharged into rivers.

TRANSPORT

Motorcycles are the most popular means of transport. Private automobiles are limited to the minority high-income class. To stimulate use of public transport, local authorities subsidize about 34.4 percent of bus operators' operation costs. Taxi services are increasing as a result of the open market policy.

Road infrastructure investments rely mostly on the central budget because of inadequate financial resources. Small-scale projects such as reconstructing and paving inner roads amounted to \$8.8 million or 16.8 percent of local spending on infrastructure.



Around the Hoan Kiem Lake are many commercial and tourist attraction areas

Hanoi's two airports and railway activities are central Government responsibilities. The city's inland water port on the Red River handles 1.42 million tons of commercial goods annually.

HOUSING ACCESS AND AFFORDABILITY

Although public housing provision no longer exists, most households still rent an apartment from a housing business company connected to the Government.

The center of the city is characterized by apartments while the suburbs are mostly single family housing. There are 12,393 temporary dwellings belonging to illegal immigrants, or those illegally built on converted land.

The Government has plans to sell state-owned apartments to renters to reduce the burden on the public housing budget and increase the proportion of owned houses. However, tenants' low incomes and complicated procedures stalled access to housing. Social housing comprises 12.49 percent of the total.

While the Government supports converting land from other uses like business and public land to residential use, registration fees are too high for average income earners. This represses the housing market and pushes prices of the owned housing and rents to levels that compare with higher-income countries in the region. House prices are generally 15 times above annual incomes while tenants pay 15 percent of their incomes on rent.

To encourage rapid development of new housing, the Government plans to make land available in small plots with minimum ac-

cess and services standards on which people can build their own houses. Because of the complexity of issuing land use rights in Viet Nam it may be difficult to provide formal land use certificates for individuals and an alternative of leases for a limited period is being considered. There are also plans to encourage resettling in the suburbs while promoting sales of ancient villas in the center.

ENVIRONMENTAL MANAGEMENT

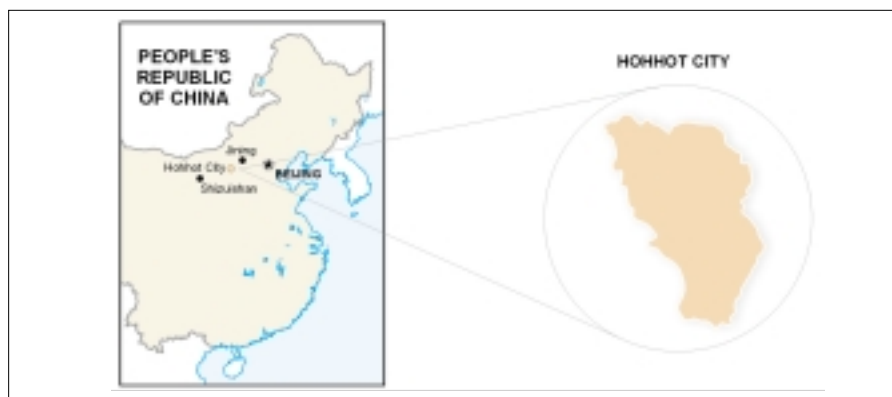
With over 1,100 ha of water surface and 180,000 trees, Hanoi prides itself as a green city. Furthermore, air pollution remains low because most citizens go to their offices on bicycles and motorcycles. Increasing population is straining the urban environment. Each year, 441,300 tons of solid waste is generated while air and noise pollution are rising in commercial and residential areas. To deal with these problems, local government plans to move old and polluting factories to the suburbs. New refuse dumps have been built while the drainage system, including canals and natural lakes, has been scarped. The authorities also plan to persuade people to use buses to reduce crowding in the center at rush hours.

Photographs were obtained with permission from the Hanoi Statistical Office and the Vietnam News Agency (VNA) and from Jeffrey Mudrick, Local Initiatives Support Corporation.

Do Thuc is the Director of Hanoi Statistical Office (HSO). Prior to his being appointed as the Director of HSO in 1997 he served as the Director of Personnel and Administrative Management Department in 1992 and Vice Director of HSO in 1993. Mr. Thuc holds a doctorate degree in Economics.

PEOPLE'S REPUBLIC
OF CHINA

Hohhot



GENERAL DESCRIPTION OF THE CITY

Hohhot, capital of the Inner Mongolia Autonomous Region (IMAR), is located approximately 440 kilometers (km) west of Beijing and north of the Great Wall. It is an inland city on the 1,000-meter high Tumuochuan Plain with its smooth and fertile terrain, rich in water sources, between the Huanghe River and the southern foot of Daqing Mountain.

Statistical Snapshot ... 1998

DEMOGRAPHY

Resident population (<i>in million</i>)	1.02
Density (<i>persons/ha</i>)	684
Annual rate of increase (<i>percent</i>)	2.2

ECONOMY

City product (<i>per capita</i>)	US\$845
Cost of stay (<i>per day</i>)	US\$50

FINANCE

Share of taxes to total revenue (<i>percent</i>)	85.6

SOCIAL SERVICES

Child mortality (<i>percent</i>)	5
Persons per hospital bed	375
Life expectancy (<i>years</i>)	71.5
Adult literacy rate (<i>percent</i>)	83
Median years of education	15
Tertiary graduates (<i>for every '000 pop</i>)	15

COMMUNICATIONS

Households connected to phone (<i>percent</i>)	9
Local calls (<i>per person per year</i>)	55
International calls (<i>per person per year</i>)	0.19
Mobile calls (<i>per person per year</i>)	7
Internet hosts (<i>for every '000 pop</i>)	0.85

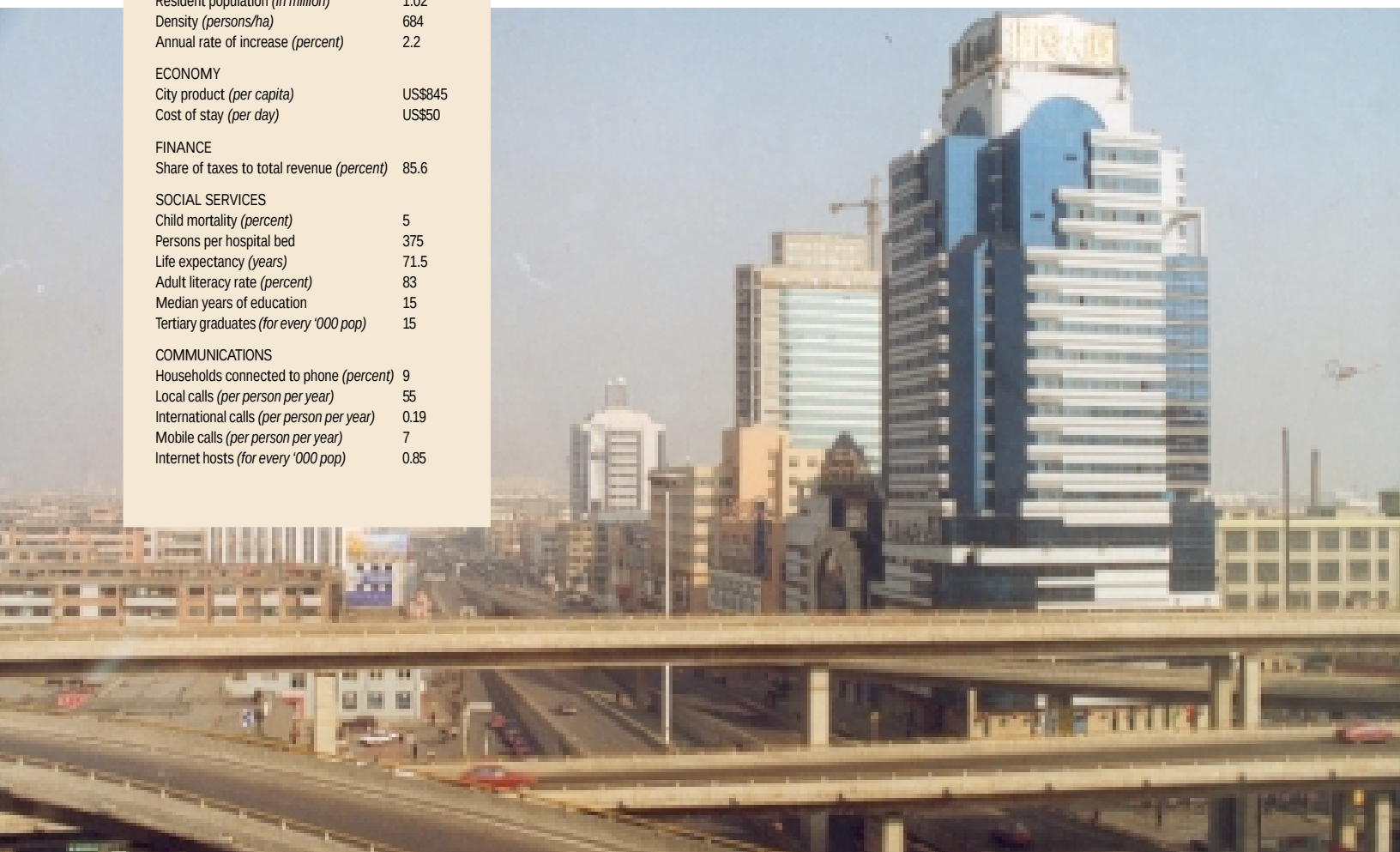
Artifacts discovered in many parts of the city indicate that people lived here during the Han Dynasty about 2,000 years ago. Today, the city is considered the regional center of politics, economy, culture, science, and technology and in 1986 the State Council designated it as the center for history and culture.

Hohhot experienced rapid urbanization from 1990 to 1998 when the urban population during daytime working hours increased by 18 percent from 602,000 to 712,000. Its total population is 2.04 million with a density of 119 persons per square kilometer (km²). Hohhot is divided into Hohhot City, Hohhot great urban area, Hohhot metropoli-

tan area, and Hohhot urban area. The city's administrative region was further subdivided in 1995 into the four districts of Huimin, Yuquan, Xincheng, and Suburban and five counties of Tuoketuo, Tumotezuo, Helingeer, Qingshuihe, and Wuchuan.

Hohhot's temperatures range between 37.7° and -32.6° Celsius with an annual average temperature of 6.2° Celsius. More than 60 percent of precipitation occurs between July and September.

Bordering Mongolia and Russia, the IMAR enjoys a geographical advantage in developing barter trade via two main ports, Manzhouli and Erenhot, which reach out to Eastern and Western Europe through Russia.





The Inner Mongolia Museum is the first comprehensive museum in Inner Mongolia

In 1999, border trade reached \$56 million, an increase of 140 percent over the previous period. Major exports included agricultural products and garments, while major imports included lumber and chemical products.

The region is also richly endowed with natural resources and has been described as a land with "grain in the south, animals in the north, forest in the east, iron in the west, and coal everywhere." The central Government favors the region with many preferential policies for developing the central and western areas of the People's Republic of China (PRC).

The city's main industries are dairying, manufacturing wool and cashmere, and growing livestock. In 1998, grain production was 955,000 tons, the highest in recent years. Connected to Beijing by rail, the city is a trade center for northwest PRC. Manufacturing industries include chemicals, textiles, fertilizers, agricultural machinery, construction materials, beet sugar, and other processed foods.

During the late 1990s Hohhot's economic growth rate was relatively high. In 1998, the total gross domestic product (GDP) was \$1.7 billion, an increase of 11.2 percent over that of 1997. The average increase in GDP stood at 10.7 percent between 1993 and 1998, while the GDP per capita was \$841 in 1998. The total financial income was \$209 million, while the total capital investment was \$1.10 billion in the past five years. The total accumulated capital in 1998 was valued at \$1.734 billion, 1.87 times higher than in 1997.

The city's performance is noteworthy in reducing poverty from 169,000 poor people in 1995 to 11,000 in 1999. Despite this achievement the city's continued economic development is constrained by its weak economic structure, poor condition of state-owned enterprises, and increasing number of laid-off workers.

In general, the living condition of Hohhot's residents has greatly improved. In 1998, the average annual income per capita was \$572 or 11 times that of 1980. The aver-

age household floor area is approximately 10 square meters (m²) or 5 m² bigger than in 1980. By the end of 1998, 95 percent of households had piped water supply, 70 percent had piped or liquid gas supply, and 68 percent had heating supply.

DEMOGRAPHY, LABOR FORCE, AND INCOME

There are 235,000 people belonging to minority groups comprising 11 percent of the total population. There are 35 minorities living in Hohhot with Mongolians comprising 13 percent of the city population. There are more than 10,000 Hui (Muslims) and Man and together with the Han these groups are scattered in the urban area. Based on state policy the minorities have more rights, opportunities, and priorities than the Han in the minority-dominated areas. For example, minority families can have up to two children, while the Han can have only one child. Minority officials also have more priority than the Han. Among 60,000 officials, the

minorities account for 17.7 percent, while Mongolians comprise 13.5 percent. Minority officials in ranks above bureau head level account for about 38.6 percent of the total officials. In the universities minority students account for more than 20 percent of the total students.

In general, the transition from central planning to a market system has been smooth with more than 80 percent of the state- or collective-owned enterprises being sold, transformed to either shareholding or merged companies, or declared bankrupt. In 1998, 433,662 people were employed of which 80 percent worked in state-owned enterprises (SOEs), 10 percent worked in collective-owned organizations, and others worked in proprietorships and joint ventures. The picture has changed recently with a notable rise in unemployment as SOEs downsized to improve efficiency.

To deal with this problem the Government introduced training opportunities, a job placement service, career guidance, and small business training for laid-off workers. Reemployment introduced by the Government as an active labor market intervention registered a ratio of more than 63 percent. The Government has also initiated several poverty reduction measures such as grant-

ing social security benefits to workers and providing basic allowances, special care, basic living fees, and other privileges to those laid off.

Per capita monthly income in the urban area in 1998 was \$47.8 while consumption expenditure was \$36. Aside from the monthly income, employees get benefits from their employers, such as bonuses, physical benefits, and insurance. These benefits vary from one organization to another. It is perceived that such increases in income may in the long run be offset by increased costs in education, housing, health care, and other services.

POLITICAL STRUCTURE

At present, the PRC has five national autonomous regions and IMAR was instituted earlier than the other four in areas where ethnic minorities live in concentrated communities. Organs of self-government in national autonomous areas are the people's congresses and people's governments of autonomous regions, autonomous prefectures, and autonomous counties.

The four cities of Hohhot, Baotou, Wuhai, and Chifeng and eight leagues are under the regional government. Under the

leagues and cities are 100 banners, counties, and districts including three ethnic minority autonomous banners—the Oroqen, Ewenki, and Morin Dawa Daur as well as 13 county level cities. Under the banners, counties, and districts is sumu, an administrative division peculiar to IMAR with 1,565 townships and towns.

As the Hohhot government is supervised by the IMAR government, the city government implements IMAR's policies. All Hohhot city government agencies report directly to the corresponding IMAR government agencies which then report to central Government agencies.

While the municipal government formulates local policies and regulations to run the city, like imposing taxes and user charges, acting as guarantor for loans, and selecting contractors, its independence from the IMAR government and the central Government is limited. Many policies and regulations have to be approved by the Hohhot National People's Congress (NPC) and the higher government before they are implemented at the municipal level. One agency under the Hohhot Municipal Government which is somewhat autonomous is the finance bureau. It manages its own revenues and expenses. Based on the national tax



One of the oldest temples in Hohhot is the Xilitu Temple which was built in 1585



Road network has improved over the years

policy the municipal tax goes to the municipal finance bureau and the state tax (part of which is returned to the municipal finance bureau) goes to the state tax bureau.

Political structure in Hohhot is similar to other cities in the PRC. There are the China Communist Party (CCC) of Hohhot Committee, the NPC, and the Chinese People's Political Consultative Conference (CPPCC) of Hohhot. The CCC forms the core of Hohhot's leadership and the NPC is the highest power organization in the city. The NPC entrusts the city government to administer the city and it gets advice from the CPPCC on important issues.

NPC members are representatives from the different city sectors such as workers, farmers, and teachers. They are elected every five years and endorsed by the party committee. The NPC legislates, selects, and dismisses government officials, and supervises the operations of the police bureau, courthouse, and the government of Hohhot and all its agencies.

URBAN GOVERNANCE

If the urban services are unsatisfactory, people can complain through the complaint offices set up in Hohhot, NPC, CPPCC, and higher-level government offices. In general, there is peace and order and few incidents of drug dealing are reported. Reported crimes are 4.8 per thousand people.

URBAN INFRASTRUCTURE

Hohhot's water supply was established in 1965 with groundwater as its main source. The system was gradually expanded from 10,000 cubic meters (m³) per day capacity serving a 100,000 people in 1966 to a system with a total capacity of 242,000 m³ per day in 1998. Some industrial enterprises do not rely on the system and have installed their own water supply systems. Despite the construction of several water supply expansion projects, water shortage is still a problem and water was diverted from the

Yellow River in 1999 as a long-term solution to the water shortage problem.

The quality of water is relatively good and is used by consumers without treatment. The Municipal Water Supply Company supplies water pumped from confined aquifers through wells for domestic, commercial, and partly industrial consumption with a water leakage rate estimated at 10.8 percent. The average commercial water consumption is 364.4 liters (l) per day while the average residential consumption is about 140 l per day.

Storm water and sewage are collected separately by storm water systems and municipal wastewater systems. Wastewater discharge was 80.3 million tons in 1998. The wastewater treatment has a capacity of 150,000 tons per day of which 40 percent can be primarily treated. The collection network services a total area of 58.5 m² in the urban area.

Wastewater treatment is unsatisfactory since only the primary treatment facil-

ity is operating. The removal rate of suspended solids, biochemical oxygen demand, and chemical oxygen demand at 36.7 percent, 38.54 percent, and 43.30 percent, respectively, is poor when compared to overall removal rate standards.

Municipal solid waste collected in the urban area has increased as a result of population growth, changing consumption patterns, and the expansion of trade and industry in the urban area. In 1996, 490,000 tons of municipal waste were generated.

The municipal collection serves an area of about 60 m² and does not collect industrial waste. Waste collected in Yuquan and Huimin districts is transferred each day to the Hohhot Comprehensive Waste Treatment Plant in the southwest while waste collected in Xincheng and Ruyi districts is transferred to the Hohhot construction and demolition waste disposal site in the northeast.

There are more than 900 collection points and 40 transfer stations spread over the urban area with a fixed time schedule for several collection points particularly for daily door-to-door collection. Street sweepers are employed using hand-pulled carts.

On average, about 180 tons of nightsoil per day is collected from the urban area. Almost half of this is from septic tanks and another half is from the public toilets not equipped with water flushing. Public toilet nightsoil is transferred to farmers for fertilizer. Most industrial enterprises like hospitals treat their hazardous waste before they dispose of it.

A large portion of the municipal operating budget is devoted to waste management specifically for collecting and transferring waste. There are no segregation and recycling programs being implemented at the municipal level though collection, trading, and recycling of waste are undertaken by several individuals and commercial enterprises.

Small stoves and boilers, mainly used for heating and cooking, are fueled by coal which is a major source of air pollution in the city and surrounding areas.

In 1998, about 40 percent of households use piped gas from a gas generation plant where coal is used as fuel. The oil refinery supplies liquefied gas and about 26.12 million m³ of gas are consumed annually. The costs for constructing and extending the distribution network are high, so the network is

incomplete and plans to extend it are deferred.

The Hohhot Power Plant, with an installed capacity of 174,000 kilowatts, supplies electricity and heating in the urban area. It generates excess power that is supplied to other regions.

About 19 percent of the city's households have telephone connections. Hohhot's communication facilities are fast growing and offer good infrastructure. In IMAR postal light cable and microwave lines are making telecommunications more convenient.

TRANSPORT

People go to work on bicycles and the median travel time to work is 30 minutes. Car congestion is nonexistent in Hohhot, as in most cities of the PRC; bicycles outnumbered cars nine to one in 1995. Buses cover about 40 percent of the urban area and ply 35 routes. Of the 68,000 vehicles in the city about half are private cars. The road network has improved over the years, and by the end of 1998 covered 3,114 km.

Trains run from Hohhot to other cities like Beijing, Shanghai, Xian, Yinchuan, Lanzhou, Nanjing, Ningbo, and Taiyuan in China and Ulaanbaatar in Mongolia. There are 11 flight routes from Hohhot to 12 cities

and an international flight to Ulaanbaatar in Mongolia.

HOUSING ACCESS AND AFFORDABILITY

Most residents live in apartments provided by their employers and as in other Chinese cities land is owned by the state. Institutions, industrial enterprises, and schools have an unlimited tenure over land through a land use certificate. Certificate holders can sell the right of land use if the land use complies with existing regulations.

Individuals can own houses through outright purchase, with an equity of 50 percent of the housing cost, and by subsidies from institutions for portion of the cost. Housing mortgage exists but is not well established. Following the slump in real estate and massive layoffs demand for housing has decreased.

ENVIRONMENTAL MANAGEMENT

In a national survey conducted between 1994 and 1996, Hohhot ranked as the most polluted city among 37 cities in the PRC. Air and river pollution, wastewater discharge, and waste disposal are some of the envi-



Airport Road

ronmental problems. Smoke dust covers a big part of the urban area. Air pollution is mainly caused by coal consumption and is worst during the winter, between November and February, when consumption is at its peak.

Water pollution is caused by industrial and domestic use. The water level of confined aquifers recedes at about two meters per year due to overpumping. To minimize this problem, emergency water plants and phreatic aquifers were constructed for industrial application. Industrial wastes which contain heavy pollutants such as biological oxygen demand, suspended solids, and phenol are discharged into rivers without treatment and affect surface water quality.

Waste generation has increased in the growing urban area, and the treatment plant's capacity is unable to meet the current volume of waste.

CULTURAL HERITAGE

The city consists of two sections. The old town is a Mongolian political and religious center dating back to the ninth century. It was the seat of the living Buddha until its removal in 1664 to Urga. The newer section which grew around the railway station after 1921 serves as the administrative center of the city today.

There are 31 historical and cultural sites in the city and 25 historical sites in the urban area established from the 16th to the 19th centuries. The city administration established a protection plan for historical and cultural sites in 1997. An interesting site which dates back to 1739, established during the early Qing Dynasty, has become a new walled town next to the present Xincheng overpass.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

Total capital investment in the past five years was \$1.1 billion. Infrastructure projects completed include the Gulou overpass, the underpass at North Street in Xingcheng, the north section of the first ring road, the road to the airport, 16 main roads, waste and water treatment, the railway station square, Xinhua square, and a gymnasium.

Projects commenced in 1998 included the underpass in Xincheng, the water supply project diverting water from the Yellow River, flood control, reconstruction of the power supply network, economic apartments, the second phase of district heating, environment rehabilitation, and the south section of the first ring road.

Projects for implementation include reconstruction of roads in Haixi, Gangtie, and Jinhai, the first ring road, the north section of the second ring road, Shinan and Daxuedong roads, the construction of the 70 km Guzhufu wastewater treatment plant, reconstruction and expansion of the storm drainage system and water supply plant in the east suburb, expansion of the gas supply network, the east suburb waste treatment plant, the district heating system and supply network in the northeast part of the city, government offices in the east suburb, and reconstruction of two old resident areas in Huimin and Yuquan districts.

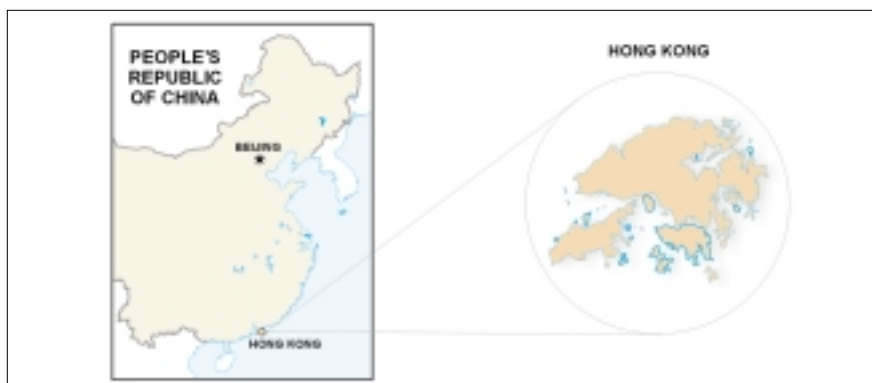
Several development strategies have been put forward. These include adjusting the economic structure, encouraging support for the main production industries, hi-tech industries, small enterprises, and expanding domestic demand and increasing infrastructure investments. It is envisaged that the socialist market system will be further developed, large-scale reforms on SOEs will be pursued, and enterprises will be encouraged to be competitive.

The goal is to increase the rate of GDP and financial income as well as increase the annual average income per capita to \$845, cap the rate of registered unemployment at 3.4 percent in 1999, and improve the people's well-being with security system grants and other benefits for laid-off workers.

Zhang Haiming is the Director of Hi Tech Division of the Inner Mongolia Institute of Agriculture and Animal Husbandry, Hohhot. He also currently serves as advisor of the Hohhot Pollution Control Committee. Mr. Haiming holds a masters degree in Agriculture Environment Protection.

PEOPLE'S REPUBLIC
OF CHINA

Hong Kong



GENERAL DESCRIPTION OF THE CITY

Hong Kong is a relatively small city of 1,097 square kilometers strategically located at the southeastern mouth of the Pearl River Delta almost midway along the coast of East and Southeast Asia.

It is an exceptionally beautiful city with a blend of sea and hills and expansive country parks and rural landscapes only a short distance away. Its location makes it the entrepot between the southern People's Republic of China (PRC) and the outside

world, a role that has been taken to new heights since the PRC's opening in 1978. Hong Kong plays a pivotal position in the Western Pacific Rim as it has the shortest total distance to all other urban centers in the region. It also has a deepwater, silt-free natural harbor, rated as one of the world's best three ports.

Ceded to the British after the Opium War of 1842, Hong Kong remained a British colony for a century and a half and was only reunited with the PRC under the "one China, two systems" policy in 1997. Among the British legacies are the rule of law, an efficient civil service, and a modern infrastructure system.

Much of Hong Kong's economic activity and population is concentrated in the metro area of approximately 20 hectares around Victoria Harbor. The harbor area has shrunk a great deal, as a result of extensive reclamation during the 1990s. Shenzhen, a special economic zone in the PRC, shares a

Statistical Snapshot ... 1998

DEMOGRAPHY

Resident population (<i>in million</i>)	6.7
Density (<i>persons/ha</i>)	67
Annual rate of increase (<i>percent</i>)	2.8

ECONOMY

City product (<i>per capita</i>)	US\$26,369
Cost of stay (<i>per day</i>)	US\$154

FINANCE

Share of taxes to total revenue (<i>percent</i>)	53
Wages of employees in budget (<i>percent</i>)	18

SOCIAL SERVICES

Child mortality (<i>percent</i>)	3.2
Persons per hospital bed	204
Life expectancy (<i>years</i>)	79.9
Adult literacy rate (<i>percent</i>)	91.1
Tertiary graduates (<i>for every '000 pop</i>)	350

COMMUNICATIONS

Households connected to phone (<i>percent</i>)	99
Local calls (<i>per person per year</i>)	420
International calls (<i>per person per year</i>)	71
Mobile (<i>per person per year</i>)	132
Internet hosts (<i>for every '000 pop</i>)	278



common border with Hong Kong, and is increasingly integrating with the latter in its development.

Hong Kong has tight economic relations with the PRC mainland. About 40 percent of the mainland's foreign trade is handled via Hong Kong and the PRC is the largest source of foreign investment. Hong Kong is the largest source of foreign direct investment in Guangdong. In 1997, Hong Kong funded over 70 percent of foreign investment projects in the province and Hong Kong's capital accounted for 72 percent of the province's actual utilized capital. Investment has been mainly in the manufacturing sector in electronics, toys, garments, shoes, plastics, and computers and accessories. By 1999, 54.1 percent of the 341,720 foreign funded projects on the PRC mainland were tied to Hong Kong investors. Contracted and used capital inflows from Hong Kong were \$311 billion and \$154.8 billion, respectively, accounting for 50.7 percent and 50.3 percent of the national total. On the other hand, the PRC mainland is the second largest source of external investment in Hong Kong.

To assist cooperation with the PRC mainland, Hong Kong has announced plans for constructing a Hong Kong-Shenzhen

Bridge to begin in 2001 and be completed in 2005. It is further preparing itself as the go-between for the PRC and the world.

DEMOGRAPHY, LABOR FORCE, AND INCOME

Hong Kong's large and cosmopolitan population can be attributed to migration. Natural population increase continued to fall in the 1990s, from 6.8 per 1,000 population in 1990 to 2.7 per 1,000 population in 1999. Legal immigration from the PRC was set at 150 per day, or a yearly total of 56,039 in 1998. The expatriate community consists of about 7 percent of the population, with Britons, Filipinos, Canadians, and Americans being the most numerous. About half of the population lives in the metro area, with the rest dispersed in new towns in the New Territories. The population has been aging, with a median age of 36.2, and 10.7 percent of the population aged 64 and above in 1999.

Hong Kong's per capita GDP was the world's 15th highest at \$24,471 in 1998. By purchasing power parity reckoning, its position on the income ladder would be even higher. Its high income stems from its being the world's eighth largest trading entity, a financial center, a transport hub, and a regional headquarters for transnational corporations. There were 819 corporate headquarters in 1998 with businesses being attracted to Hong Kong by its predictable and simple tax regimes.

Despite growing prosperity, signs of growing socioeconomic polarization have surfaced. Inequality in income distribution has worsened and the number of social welfare recipients has dramatically risen, increasing the gap between the rich and poor.

The unemployment rate continues to climb, as a result of economic restructuring, and reached 4.7 percent in 1998. The Government's commitment to subsidized education and public housing, free medical care, retraining, and other government subvented welfare services has assisted low-income households, the disabled, elderly, and single parents. Public spending on comprehensive social security assistance increased to \$1.51 billion in 1998, an increase of 36.9 percent over 1997.

Several changes in the labor force structure resulted. In particular, there has been massive industrial relocation to the

Pearl River Delta since the early 1980s. The dominance of the manufacturing industry has declined, both as a share of GDP contribution and of the total people employed. People employed in manufacturing declined from 29.5 percent of the labor force in 1989 to 12.2 percent in 1998.

At the same time there were employment gains in a widening range of sophisticated services. Hong Kong has become a distinctly service-oriented economy, providing jobs in a growing array of services for more than 70 percent of the labor force, of which one third works in wholesale and retail trade, restaurants, and hotels.

POLITICAL STRUCTURE

Hong Kong became a special administrative region (SAR) of the PRC on 1 July 1997. Under the new Government, Hong Kong's constitutional and administrative structures are governed by the Basic Law. Under this law, the HKSAR enjoys a high degree of autonomy except in defense and foreign affairs. It exercises executive, legislative, and independent judicial power, including that of final adjudication.

The chief executive, as head of the HKSAR, is the highest decision maker, responsible for implementing the Basic Law and with key functions related to promulgating laws and signing bills and budgets passed by the Legislative Council. The head is assisted in policy making by a 14-member Executive Council.

Election of the first 60-member Legislative Council of the HKSAR was held on 25 May 1998 with a record 1.49 million voters setting the highest turnout rate of 53.3 percent in history. The next national assembly election will be in 2002. The urban and regional councils, after their provisional existence since 1999, were disbanded and the municipal services have since been taken over by a new policy introduced by the Bureau of Food and Environmental Hygiene.

The third level of administration, the district administration, was established in 1982 and remains intact. It responds to district needs and problems with major responsibilities for public inquiry service, emergency services, rural planning and improvement strategy, and licensing and building management. It has 18 district boards, with 469 members.



Headquarters of the Hong Kong and Shanghai Bank

Hong Kong has a wide network of advisory boards and committees that advise on major policy and development directions. Advice is provided to the Government through a policy secretary or a head of department. Its policy on openness was strengthened by the creation of the Office of the Ombudsman in 1989 to enable citizens to go outside the civil service to investigate and report on grievances arising from administrative decisions or omissions. The Equal Opportunities Commission was likewise set up in 1996 to support this policy.

URBAN GOVERNANCE

Hong Kong has been consistently rated by international organizations as one of the best places in the world to conduct business. Its political structure provides checks and balances so that, in general, urban governance in the administrative region has been efficient, target-oriented, and open. There is little corruption and crime rates rank among the lowest in the region. The system of public administration has been toward greater openness and transparency, especially since 1997.

The efficient and target-oriented approach of public administration is aided by the annual budget formulation in March and target setting by the Chief Executive in his Policy Address in October 1997. The Financial Secretary consults regularly, especially with the political parties, before forming priorities and decisions. Similarly, the policy address is also preceded by carefully feeling the pulse of the community, by keeping in contact with the people. Policy decisions are religiously implemented and major policy targets periodically assessed.

Hong Kong's administration has increasingly demonstrated openness and transparency. All legislative council, district council, and housing authority meetings are open to the public and televised. Major policy documents habitually allow a period of professional and public consultation before they are taken through the legal process for approval. To keep the public informed, all government bureaus and departments issue annual reports and all information can be accessed on the Internet. Furthermore, most government departments have an information officer to provide information requested by individuals or companies.



The earliest (opened in 1973) and busiest cross-harbor tunnel in Hung Hum

URBAN INFRASTRUCTURE

A cornerstone of Hong Kong's policy to maintain its competitive edge was investing massively in its infrastructure, especially during the 1990s. The trigger was the governor's policy speech in October 1989 launching the Port and Airport Development Strategy (PADS) to meet Hong Kong's port and air traffic growth expectations up to 2011. All newly associated industrial and residential facilities, transport links, and other infrastructure will be incrementally provided according to an integrated and cohesive plan. A central component of PADS is the Chek Lap Kok airport in northern Lantau. All ten projects in the massive Airport Core Program have been completed, with the last two, the airport and the airport railway, opened in July 1998.

Hong Kong is well provided with municipal services. Water is supplied by a long-term agreement with Guangdong to provide piped water (80 percent of Hong Kong's needs) across the border from the East River. The balance is provided by 17 reservoirs in the territory.

Electricity and telephone services are privatized. The Hong Kong Electric Company Ltd. supplies electricity to Hong Kong and two nearby islands (28 percent of total consumption) with the balance provided by CLP Power Hong Kong Ltd. to the rest of the territory.

Cable & Wireless HKT Telephone Ltd. has traditionally monopolized the telephone sector. The market has been deregulated, followed by keen competition, lowered prices, and many operators. About 27 firms (from six in 1999) have offered international services with different packages, making phone calls in Hong Kong the cheapest in the region.

It has also become one of the most sophisticated and successful telecommunications markets in the world, greatly buttressing the territory as a leading business and financial center. In 1999, the telephone density was 70 telephones or 55 exchange lines per 100 persons, which was among the highest in the world. There were over 370,000 fax lines, 3,401,025 mobile service subscribers (representing a penetration of about 50.6 percent), and 1.86 million



Kwai Chung Port is one of the world's busiest container ports.

registered Internet users. International direct dialing is available to 232 countries and more than 2,200 cities in the PRC mainland.

TRANSPORT

Heavy and sustained public investment in infrastructure, coupled with sound management, has resulted in Hong Kong's highly efficient system of internal and external transport. By 1998, it had 1,865 kilometers of roads and 1,737 highway structures, three immersed-tube tunnels crossing the harbor, and eight road tunnels penetrating the territory's hills. Internal transport was greatly improved during the 1990s under PADS. The airport core program projects have vastly improved connections between the metro area and western parts of the territory through the reclaimed area in West Kowloon and on Northern Lantau's new airport.

Transport modes in Hong Kong include buses, minibuses, trains, ferries, trams, automobiles, and bicycles. The overwhelming majority (92 percent) of the population move around by public transport, with buses (53

percent) being the most popular, followed by trains (34 percent). Both the Kowloon Canton Railway and Mass Transit Railway operate their surface and underground train services profitably. Walking is also common in the city.

In recent years, cross-border traffic has been increasing by leaps and bounds. In 1998, there were eight ferry operators to Macau and 24 ports in the PRC carrying 10.5 million passengers to Macau and 6.3 million passengers to the mainland. The traffic volume at the cross-border rail link at Lo Wu and three road links has grown so that an additional rail link at Loh Ma Chau is planned and road links are being expanded. Indeed, the mainland is the most popular destination for Hong Kong residents. Of the 39.1 million departure trips by residents in 1998, 82 percent were to the mainland, as compared to 80.9 percent in 1997 and 77.5 percent in 1996.

Hong Kong's external sea transport depends on Kwai Chung Port for cargo movement. It is one of the world's busiest container ports having handled about 14.65 million 20-foot equivalent units in 1998.

Some 74 percent of the cargo originated from the PRC, testifying to the importance of this trade.

With the new airport constructed at Chek Lap Kok, Hong Kong handled 163,223 flights with 27.2 million passengers and 1.63 million tons of freight in 1998. This makes Hong Kong one of the world's busiest airports.

HOUSING ACCESS AND AFFORDABILITY

Hong Kong has a major commitment to its citizens who have difficulty in housing themselves. In 1998, 3.3 million of its inhabitants lived in 952,900 flats built under the public housing program started in 1953. This represents 49 percent of the total population, higher than any Asian country except for Singapore. Public expenditure on housing (12.3 percent in 1998) ranks as a major item along with education, infrastructure, social welfare, and security every year.

Access to public housing is by a queuing system which could be as long as seven to eight years, but the Government is deter-

mined to shorten waiting time to three years by 2007. Private housing is expensive, ridiculously so during the run-up to the handover in 1997. In the Chief Executive's Policy Address in 1997, the Government adopted a policy of ensuring adequate supply to avert the incessant escalation of house prices and it targets a home ownership ratio of 70 percent by 2007, up from 46.1 percent in 1998. There is also annual housing production of 85,000 units, with public flats accounting for 45,000 units (a revised target) and the balance produced by the private sector, contingent on prevailing market conditions.

According to the 1995 Household Expenditure Survey, households spent, on average, 31 percent on housing, higher than any other item on the household budget.

Affordability has been improving since the handover, with the continued decline of house prices exacerbated by the Asian financial crisis. In 1998, the house price to income ratio was 11.7 compared to 15.5 in 1997. The importance of the housing market is shown by as much as 30.1 percent of total lending going to housing mortgages.

Continued housing demand is evident from the persistent problem of squatters, rooftop structures, bedspace apartments, and the homeless. Many in private housing live in the worst housing conditions and the Government is determined to improve the situation. The 1998 Policy Address announced the establishment of the Urban Renewal Authority to replace the existing Land Development Corporation to speed up

urban redevelopment, including improved housing conditions.

ENVIRONMENTAL MANAGEMENT

Pollution is a growing problem in Hong Kong. One scholar recently summed up the Hong Kong environment as "a first world economy but a third world environment."

Over the past decade, the Government has devoted a much enlarged budget, with legislative power and administrative support, to tackle environmental problems. Commissioning the study on Sustainable Development for the 21st century is evidence of its plan to improve the environment. The 1989 white paper *Pollution in Hong Kong* also marked a significant milestone. It sets out a



Public expenditure on housing constitutes a major budget item

ten-year program to deal with environmental problems.

The administration likewise invested in the Strategic Sewage Disposal Scheme for treatment and final disposal. Drawn up in 1996, it will cost \$1.47 billion to implement in stages by 2005.

Despite these efforts and capital outlays, environmental problems continue to make headlines. Air quality is one that is particularly attention-catching, as it is partly caused by inappropriate domestic energy use and partly by pollution from Guangdong. Diesel smoke and fine dust in urban areas are the most pressing problems. In late March 2000, the street-level air pollution index read 174 in Central, setting a record and ranking Hong Kong with some of the worst polluted cities in the world.

CULTURAL HERITAGE

Hong Kong, lying at the crossroads of Western and Chinese cultures, has always been a culturally vibrant and innovative community. It has five major museums — science, art, railway, space, and Sam Tung Uk—each with between 340,000 and 567,000 people visiting annually. Equally huge crowds have been drawn to the lunar new year fireworks display, the Hong Kong Flower Show, the national day fireworks display, the Hong Kong International Film Festival, and the Hong Kong Arts Festival.

Recently, the Government increased its budget for promoting sports and the arts and Hong Kong's recent achievements in the Asian Games testify to its success.

In further developing Hong Kong's tourist industry, one selling point is to make the territory the events capital of Asia. The successful negotiation for a Disneyland to be built for a 2005 opening is evidence of the Government's effort in promoting tourism and the service industry.

The lack of a world-class arts performance venue resulted in a worldwide design competition for a large integrated site on reclaimed land in West Kowloon in 2000.

The unusually free and lively cultural environment is attested to by 45 daily newspapers, 684 periodicals, two commercial TV companies, and a growing number of registered Internet subscribers. On the other hand, the Antiquities and Monuments Office, with assistance from the Antiquities Advisory

Board, ensures the historical dimension of Hong Kong's cultural heritage is preserved.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

To strengthen Hong Kong's position as a regional transport hub and further improve its citizens' quality of life, more than \$30.1 billion will be spent between 1999 and 2003 on major road, rail, land, and port projects. New railways and highways continue to be planned; Container Terminal 9 will be ready soon; the airport has its second runway; a science park and the Cyberport are being built to prepare Hong Kong for the information age; a design competition for a world-class performance venue in West Kowloon is being launched in 2000; and construction of Hong Kong Disneyland will commence soon.

To improve on past development practice, since 1997 the Government has streamlined and coordinated departments that plan and implement development projects. Land supply is planned ten years ahead of time, with details of land supply and disposal announced in rolling five-year and one-year cycles, respectively. The Town Planning Ordinance, first enacted in 1939, is being revised to meet current demand. All in all, Hong Kong is preparing itself well for the future.

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NEPAL

Kathmandu



GENERAL DESCRIPTION OF THE CITY

Kathmandu, the capital city of the Kingdom of Nepal, is the only metropolis in the country. It is situated in a valley at an altitude of 1,350 meters with temperatures ranging between 0° and 32° Celsius. Average rainfall is 1,307 millimeters per year with 90 percent of the precipitation occurring between June and September.

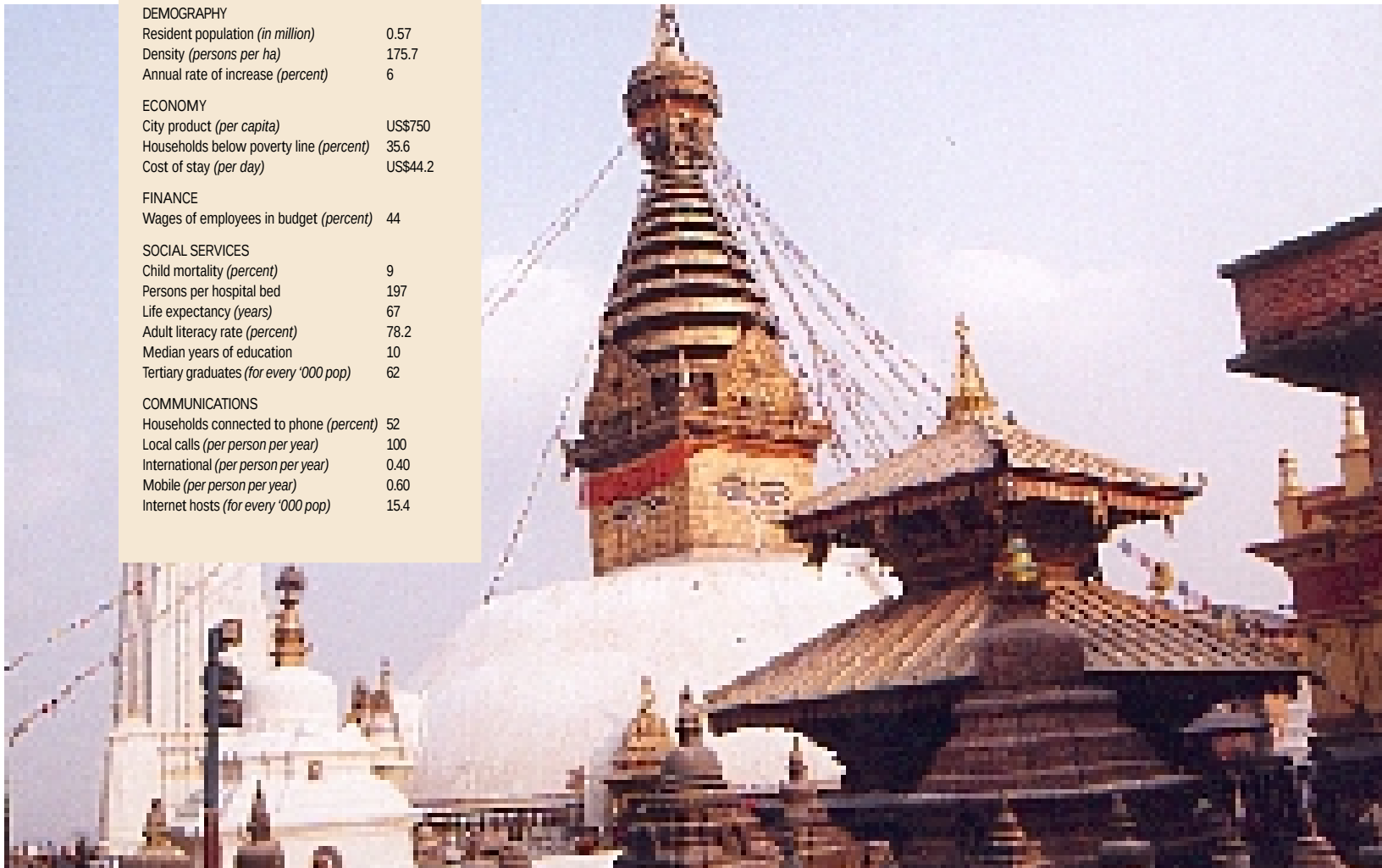
Kathmandu is among the oldest settlements in the central Himalayas with historical monuments, ancient temples, numerous shrines, golden pagodas, and deities making it an open-air museum of 50.7 square kilometers. It can be broadly divided into the historic city core, city center, and city outer ring. Administratively, the city is divided into 35 wards.

Though agriculture has traditionally been the main occupation, most Kathmanduites are now involved in the commerce and service sectors. Culture-based tourism is a major source of revenue; others include the carpet, garment, handicraft, and service industries.

DEMOGRAPHY, LABOR FORCE, AND INCOME

In 1991, the city population was 421,258 with an annual growth rate of 6 percent. Assuming the same growth rate, the population in 1998 was estimated at 575,652 with a residential density of 176 people per hectare. The average household size in the city is five persons and the rate of household formation is high at some 8 percent per year. The city's population increases by about 50,000 during the day, with people from nearby cities and villages like Bhaktapur and Lalitpur seeking employment in gov-

Statistical Snapshot ... 1998	
DEMOGRAPHY	
Resident population (in million)	0.57
Density (persons per ha)	175.7
Annual rate of increase (percent)	6
ECONOMY	
City product (per capita)	US\$750
Households below poverty line (percent)	35.6
Cost of stay (per day)	US\$44.2
FINANCE	
Wages of employees in budget (percent)	44
SOCIAL SERVICES	
Child mortality (percent)	9
Persons per hospital bed	197
Life expectancy (years)	67
Adult literacy rate (percent)	78.2
Median years of education	10
Tertiary graduates (for every '000 pop)	62
COMMUNICATIONS	
Households connected to phone (percent)	52
Local calls (per person per year)	100
International (per person per year)	0.40
Mobile (per person per year)	0.60
Internet hosts (for every '000 pop)	15.4





Kasthamandap is one of the oldest pagodas in Kathmandu

ernment offices and the central business district.

The basic demographic issue in the Kathmandu Valley is unregulated population growth. As in most cities in developing countries, Kathmandu has a young population structure and the dependent population (35.6 percent for males and 37.8 percent for females) puts great pressure on the working population (15-59 years of age).

Rapid economic development in commerce, manufacturing industries (especially in garments and carpets), and building construction has encouraged migration, both national and international. It is estimated that in 1998, 48,234 people migrated from various parts of the country and 83,511 from international destinations, especially India.

Although Kathmandu is traditionally agricultural, it now has diverse economic activities. People are involved in personal and commercial services (33 percent), social services (28.6 percent), and consumer services (20.8 percent). Migrants form the majority of informal sector employment which is estimated at one third of total employment. In recent years, the education system has improved, producing a more educated workforce. However, a lack of suitable formal sector jobs forces many workers to the informal sector. The city's unemployment rate is 7.8 percent.

Child labor is a problem in carpet factories, restaurants, homes (servants), and public transport (conductors). Recently, organizations such as the Rugmark Founda-

tion tried to reduce child labor in the city. Nevertheless, the problem remains and the proportion of child labor is 7.6 percent for the Kathmandu Valley as a whole.

The average city product per capita is \$393, which is higher than the national per capita of \$222. However, 35.6 percent of households live below the poverty line (per capita income of \$95 per month per household). While women-headed households form only 14.4 percent of all households, 97 percent are estimated to live below the poverty line.

Most urban development projects provide economic opportunities and contribute to improving poor people's living conditions. The Kathmandu Municipal Council (KMC) is providing some services to the urban poor through its Public Health and Social Welfare departments. And some local groups such as Lumanti, the support group for shelter, and the Environment Health Development and Advisory Group (EHDAG), are also working to uplift the urban poor.

Poverty is exacerbated by the high rate of inward migration and a lack of high-level commitment to resolve urban growth problems. The Government has explicit population policies for reducing growth rates and regulating internal migration but these are not translated into action.

POLITICAL STRUCTURE

Democracy was restored in Nepal only 10 years ago when the nation got a new constitution which is seen to be liberal and so-

cially progressive, envisaging a parliamentary democracy with a constitutional monarchy. It guarantees citizens standard civic and political rights, provides for an elected government accountable to the parliament and declares, "the source of sovereign authority of the independent and sovereign Nepal is inherent in the people."

The Government has two houses of parliament: an upper house consisting of 60 nominated and indirectly elected members and a house of representatives consisting of 205 members elected by secret ballot. A 5 percent quota for women representatives has been secured in the constitution. There are several political parties but the Nepali Congress (NC) party and the Communist Party of Nepal Unified Marxist-Leninist (CPN-UML) dominate.

His Majesty's Government, the official designation for the Government of Nepal, consists of the council of 25 ministries, led by the prime minister.

At the local level, the country has 75 district development committees, 58 municipalities, and almost 4,000 village development committees. The local development officer is the key official at the district level, the executive secretary in the municipalities, and the village secretary at the village level. These are employees of the Ministry of Local Development.

The municipal government is headed by a mayor and a deputy mayor elected by the people for five years. The KMC, the highest policy-making body, consists of 177 elected representatives and 30 nominated members. It meets twice a year to review progress, approve the annual budget, and make major policy decisions. The Municipal Board meets more frequently.

Although the Local Self-Governance Act 1999 attempts to increase the status of local bodies, municipalities do not yet have local government status. Local governments are responsible for local taxation, physical development, water resources, education, sports, cultural preservation, transportation, health services, social welfare, industry, and tourism. However, many central government agencies are responsible for the same functions, and the municipalities, including Kathmandu, do not have the resources to implement programs in these areas. Furthermore, the municipality is headed by an executive officer, appointed by the Govern-

ment. The Act also abolished the Octroi tax, which was collected by municipalities and provided almost 80 percent of their revenue, and replaced it with the local development tax, which the Government collects. Therefore municipalities still function like units of the Ministry of Local Development.

URBAN GOVERNANCE

KMC is implementing a pilot project under the Urban Governance Initiative with the United Nations Development Programme to promote good governance, particularly for environmental improvement.

Recently KMC improved its governance practices by establishing an Information Department which regularly publishes newsletters and operates an FM station to communicate more effectively with the public. It is now also preparing strategies for various aspects of urban development and introducing a corporate accounting system to make the financial management system more effective and transparent.

The main problems associated with governing Kathmandu are several. First, the city has too many subdivisions, with 5,076 hectares divided into 35 wards with 177 members directly elected to govern such small areas. These members, together with the 20 nominated members, make KMC too large for effective management. Furthermore, party politics makes KMC meetings more disruptive than productive. Secondly, the Ministry of Local Development appoints the chief executive officer who is loyal to the central Government, and in the past three years KMC has had nine chief executive officers. Finally, following abolition of the Octroi tax, KMC has little financial autonomy and is facing a major crisis. With most of its revenue being spent on salaries, the city government is unable to do any major development work or offer its people essential services. Its population growth of 6 percent is worsening matters.

URBAN INFRASTRUCTURE

Although only 15 percent of Nepalese can access electricity, in Kathmandu 99.1 percent of households have electricity connections. However, as the supply of electricity has been less than demand in the last two years, the city suffered heavy load shedding

during the dry season. In 1998 there were regular power cuts of six hours per week and one hour per week in 1999.

Present water demand in Kathmandu Valley is estimated to be more than 150 million liters per day (MLD) of which 86 MLD is for Kathmandu City alone. However, total average water production is only 94 MLD, of which 60 MLD is distributed in the city (NWSC 1999) with a leakage of 40 percent in supply systems. People are also using other sources of water like household wells, stone spouts, and private tanker services estimated at 9 MLD. Therefore, the actual water consumption per capita is estimated at 78–80 liters daily.

Although 92 percent of the households in Kathmandu are connected to a piped drinking water system, many receive water for two hours a day only and alternate day supply during the dry season. In several areas of the city, water almost never flows from taps because of low pressure. Therefore, many consumers have installed pumps for pumping from the main drinking water line or from groundwater.

There are plans to bring water from the Melamchi River through a 22-kilometer (km) tunnel. However, it is not clear if this project will be implemented, and there are no plans to immediately meet the growing demand for water.

Drinking water in Kathmandu is considered safe, but bacteriologically it is not always fit for drinking. Bacterial contamina-

tion increases as water travels from the water treatment plants through old distribution systems (some more than 100 years old), so it requires boiling.

Kathmandu's sewerage system has evolved over 200 years and a combined storm water and sanitary sewer system still exists in Kathmandu's center. Sewer collection facilities are still inadequate, with only about 42 percent of households connected and a further 40 percent of households using septic tanks. The remaining households have either pit latrines or no toilets. The limited capacity of sewer and drainage lines often results in flooded roads during monsoons.

Kathmandu has excellent telecommunication services and is interlinked by local, STD, ISD, cellular phones, e-mail, and Internet. Nepal Telecommunication Corporation (NTC) is the only agency providing telephone services nationwide including distant telecommunication like STD and ISD. NTC has introduced a cellular system and distributed 4,100 mobile phones. There are 12 Internet service providers (ISPs) in the city with about 10,000 subscribers. The number of ISP and Internet users is increasing rapidly as services improve and prices decrease.

There is a move to privatize various utility services in some sectors such as household waste collection in selected areas. Similarly, bus park management has also been delegated to private participation



There are about 43 squatter settlements in the city



Many areas receive only about two hours water supply every other day during the dry season

under the Public Private Partnership Program. The KMC is also anticipating such partnerships in other sectors.

TRANSPORT

Kathmandu has a fairly good radial road network connecting it to other parts of the country. The city is connected to the eastern and western parts of the valley by the Arniko and Tribhuvan highways, while feeder roads connect the northern and southern parts of the valley to the city. Altogether the valley has 995 km of roads, of which 401 km is surfaced. The city is served by a ring road, which also acts as the city boundary. Experts have proposed an inner ring road, but recently few new roads have been added. There are many unplanned roads connecting properties to the road network. Poor design, construction, and maintenance along with diggings for maintaining utilities such as water supply result in poor road conditions.

The historic city core does have an excellent pedestrian network and travel in the city is still dominated by walking. Buses and tempos are the dominant modes of public transport in which the private sector is playing a major role. Private vehicles like motorcycles and cars have increased with the valley having over 120,000 vehicles, of which slightly over 50 percent are motorcycles.

A strategy plan suggests pedestrianizing the city core and already a short stretch of Kathmandu Durbar Square area has been pedestrianized. However, locals often oppose the idea. Recently, KMC implemented the Municipal Infrastructure Improvement Project which included upgrading roads, improving drainage, constructing pedestrian overhead bridges, and placing traffic signs in the city's historic core.

HOUSING ACCESS AND AFFORDABILITY

The supply of land and housing is dominated by private owners building for themselves or to rent. The process is haphazard, usually without planning permission, and people seek basic services such as drinking water and drainage only after building the house.

New mechanisms are being tried for land development including land pooling, sites and services, and guided land development. The land-pooling system is most popular, being self-financed by the beneficiaries with the Government only facilitating.

Housing permits have decreased from 5,107 (1994) to 2,250 (1998), although it is not known how many other houses are constructed illegally. Individual loans for housing are formally available through finance companies and the mortgage to credit ratio is 50 percent. The mortgage loan for women

is very low at less than 1 percent. Housing loans made available through financial institutions are minimal and poor people's access to credit is questionable.

About 66 percent of families in Kathmandu live in their own houses. This is lower than the national average of 94.6 percent, mainly because most migrants have their own houses elsewhere. About 29 percent of households live in rental housing. The system of housing where single owners rent flats to different families is an increasing trend. Though the Apartment Act allows for owning apartments or flats, it is not yet generally practiced.

Poor people from villages often live in Kathmandu's squatter settlements in marginal and unattended public land such as riverbanks and steep hill slopes. About 10,000 squatters live in 43 settlements, each consisting of 6–147 households. Social housing is negligible.

ENVIRONMENTAL MANAGEMENT

On average, Kathmandu produces 563 cubic meters of solid waste per day. KMC collects about 70 percent of the total waste generated from the streets and containers and most of this is carried to a transfer station and then to the Gokarna landfill site for final disposal. However, the collection and disposal system needs improving. Waste is

often dumped on the streets and although KMC cleans streets twice daily, many of them remain littered.

KMC is now promoting private and community participation in waste management. Presently, two private companies are working with KMC for door-to-door collection in selected areas. From the city's west sector about 12,000 households' waste is being collected in two separate bins, one for dry and another for wet waste, every alternate day and each dwelling unit willingly pays \$0.72 per month for the service. Similarly, many other community-based organizations are also working in this sector with their own initiatives. Aside from household collection, reuse and recycling of waste is being introduced at the local level.

Since 70 percent of waste is disposed of in landfill, its proper management is also of vital importance for the city. Waste is compacted and covered by soil every day. The landfill, however, does not control pollution resulting from leachate and gas. Furthermore, after 14 years the landfill is already full and a new one has not yet been developed. Local social pressure and politics often shut down the landfill site leaving waste uncollected on the streets.

Realizing that landfilling is not the best way to manage Kathmandu's waste, two thirds of which is organic matter, KMC is joining with a private company to build a 300-ton per day organic fertilizer plant. KMC also plans to set up a common incinerator to manage the city's biomedical waste.

The city's rivers are severely polluted from the daily disposal of over 25 million liters of raw sewage and the wastewater treatment plant is not functioning so that in several sections of the rivers, the biochemical oxygen demand level is as high as 100 milligrams per liter.

Recently, KMC introduced a constructed wetland system for treating septage (sludge from septic tanks). However, this small-scale wetland is only a demonstration plant for local communities. Another treatment plant will be completed in one year. The city needs an effective sewer system and several more treatment plants to ensure clean rivers.

In recent years, air pollution has emerged as the most visible sign of environmental degradation in the Kathmandu Valley. With its high elevation and bowl-



Travelling is done mostly by walking

like topography, the valley is especially vulnerable to air pollution which comes mainly from vehicles, a cement factory, and about 200 brick kilns.

Occasional studies by various agencies indicate that particulate matter in the air is as much as three times more than World Health Organization (WHO) guidelines. Concentrations of gaseous pollutants, such as SO_2 , NO_2 , CO, and Pb, are however, within WHO guidelines.

Recently, the Government decided to follow the Euro-I standard for vehicle emissions and removed over 600 polluting three-wheeler diesels and banned the import of vehicles with two-stroke engines. The electric vehicle industry has grown rapidly and now there are about 600 locally made battery-powered three-wheelers, called *safa tempo*, in Kathmandu.

CULTURAL HERITAGE

Kathmandu Valley has seven world heritage sites, of which four, Swayambhunath Stupa (4th century), Pashupatinath temple and Hanuman Dhoka Royal Palace (14th century) and Bouddhanath Stupa (15th century) are in Kathmandu. The United Nations Educational, Scientific and Cultural Organization (UNESCO) has also listed over 2,200 monuments in Kathmandu. Besides these, the typical courtyards and stone water spouts of the ancient city and houses with their intri-

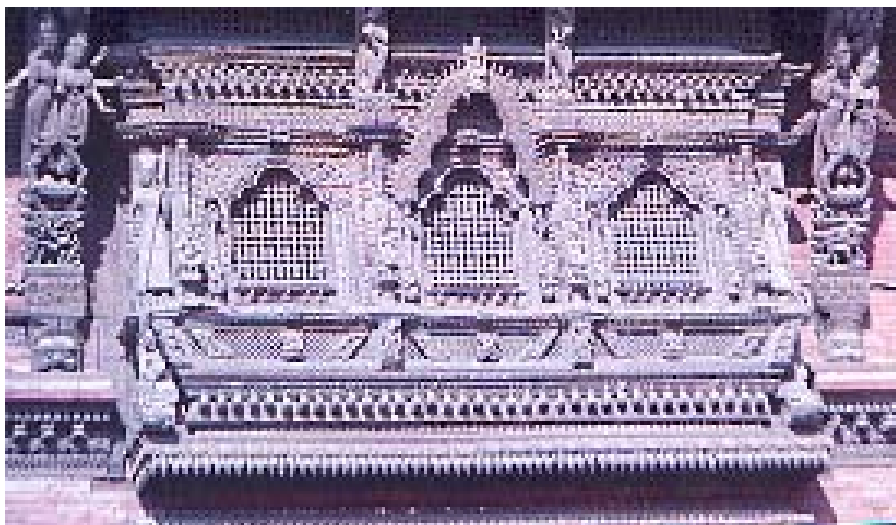
cately hand-carved doors and windows are also cultural assets and tourist attractions.

Many of these important heritage sites are poorly conserved and managed. UNESCO has warned several times that it will remove some sites, such as Hanuman Dhoka, from the world heritage list unless steps are taken to conserve them. KMC has established a Culture & Heritage Department which has begun to preserve historic and cultural monuments.

The living heritage or traditional cul-



The traditional culture of the city is impressive



Houses with hand-carved wooden windows are cultural assets to the city

ture of the city is equally impressive and important. Kathmandu celebrates a continuous flow of interrelated festivals throughout the year which are mysterious and colorful.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

Over the years many plans have been prepared for guiding Kathmandu's development. However, most of them were never implemented and an officially approved urban development strategy does not exist. The Town Planning Office was established in 1962 and the Government, assisted by the United Nations, prepared the first comprehensive master plan for Kathmandu in 1969. Although this is an excellent document, it was never fully implemented. The latest physical development plans for Kathmandu are the Kathmandu Valley Urban Development Plans and Programs of 1991. The recently completed Kathmandu Urban Development Project, funded by the Asian Development Bank (ADB), was based on this plan.

The Ministry of Physical Planning and Works is the main government agency responsible for physical planning of urban areas at the national level. Approved plans are implemented through the Kathmandu Valley Town Development Committee. KMC is also involved in planning and implementing urban development and is currently formulating a city development strategy, with key stakeholders participating, to provide a broad framework for the city's development and

to coordinate stakeholder efforts. KMC is also implementing the Kathmandu Valley Mapping Program, with assistance from the European Union. The program aims at increasing the effectiveness of urban planning for the delivery of municipal services. ADB is also providing technical assistance for institutional development of KMC and a national urban development strategy.

Photographs by Prakash Chandra Amatya and Min Bajracharya

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PAKISTAN

Lahore



GENERAL DESCRIPTION OF THE CITY

Lahore, the second largest city of Pakistan, surpassed only by Karachi in population, is located on the eastern bank of the Ravi River, with the Indian border only 25 kilometers (km) from the city center. A busy metropolis of 6.2 million, it is known to be the cultural, artistic, and educational capital of Pakistan. It has three universities (one in the private sector), several professional colleges, museums, art galleries, theaters, gardens, parks, and a zoo.

Lahore is one of the oldest living cities of South Asia and its known history dates

back to the seventh century AD. It has been the capital of Punjab province for over 1,000 years. Although almost half of the Punjab went to India when the subcontinent was partitioned in 1947, the remaining Punjab is still the province with the largest population. From 1956 to 1970, Lahore was the capital of West Pakistan which encompassed all the areas that now constitute Pakistan.

For many centuries, Lahore was the center of the Mogul Empire, a period which left its marks in the form of beautiful gardens, palaces, and monuments. In 1590, the Mogul emperor, Akbar-the-Great, built a wall around it and although the British demolished the wall, its gates still exist and some of them have been restored recently with World Bank

assistance. The British also built some of Lahore's most impressive buildings in what is called the Mogul-Gothic style. Most of these buildings remain in use. They also added a cantonment several miles south of the old city. Managed by a board, independent of the Metropolitan Corporation Lahore (MCL), the cantonment, though much smaller in size, is still a separate entity maintaining the character of a separate city.

Statistical Snapshot ... 1998

DEMOGRAPHY	
Resident population (in million)	4.50
Density (persons/ha)	240.6
Annual rate of increase (percent)	3.1
ECONOMY	
City product (per capita)	US\$1,039
Households below poverty line (percent)	29.9
Cost of stay (per day)	US\$108
FINANCE	
Share of taxes to total revenue (percent)	50.7
Wages of employees in budget (percent)	86
SOCIAL SERVICES	
Child mortality (percent)	10.8
Persons per hospital bed	369
Life expectancy (years)	63
Adult literacy rate (percent)	66
Median years of education	8
Tertiary graduates (for every '000 pop)	48.7
COMMUNICATIONS	
Households connected to phone (percent)	62
Local calls (per person per year)	78
International calls (per person per year)	1.9
Mobile calls (per person per year)	1.2
Internet hosts (for every '000 pop)	16.6



Lahore's economic base is broad and varied. A major industrial agglomeration, with about 9,000 industrial units, it has, since 1981, experienced a significant shift from manufacturing toward service industries. Some 42 percent of its work force is now employed in finance, banking, real estate, community, cultural, and social services. The city has a dry-port and is a major exporter of readymade garments and leather products. With a booming informal sector and computer-assembling industry it has strong trade links with Japan; Singapore; Taipei, China; Thailand; and the United Arab Emirates.

DEMOGRAPHY, LABOR FORCE, AND INCOME

According to the 1998 population census, of the 4.5 million people living within the MCL limits, 2.36 million are male and 2.14 million female. This gives a male to female ratio of 110 percent, which is higher by 3 percent than the provincial average of 107 percent. This can be attributed mainly to the presence of the male in-migrants, who, once settled, are likely to bring their families to the city. According to a recent study, there has been an increase in the economically active population in Lahore, resulting in a 7 percent decline in the dependency ratio.

Spatial growth of Lahore has been constrained in the north by the Ravi River



The Badshahi Mosque built in the 17th century can accommodate 60,000 people

(which floods heavily during monsoons), and the Indian border in the east. As a result the city has grown mainly southwards. With the exception of a few hasty interventions in the early 1950s, the cultural heritage of the walled city has been carefully preserved and urban services like piped water supply, sewerage, and natural gas have been brought in with little interference to the existing street network. Built and rebuilt over several centuries, the walled city now sits over a mound consisting of the debris of old buildings. This provides it with natural drainage not available to the rest of Lahore. Many old buildings of architectural merit in the walled city have been carefully conserved and some of them put to new use. Despite all this, however, the walled city is losing population, with people moving out to the suburbs in southern Lahore and the residential buildings being used as warehouses or simply being rebuilt as commercial plazas.

Outside the walled city, low-lying northern Lahore has a perpetual drainage problem. As a number of industries are located here, this is also the home of many industrial workers which characterizes the area with high occupancy rates.

Most government lands existing in pockets in the built-up area have squatter settlements, many of which have been regularized and upgraded to what is locally known as *katchi abadis*. This has given rise to an interesting blend of low and high-income communities in the urban fabric of the built-up area.

Spatial expansion in the south has also been a mixture of planned and informal development. The Lahore Development Authority (LDA) and private developers have provided plots in several sites with service schemes. Not being affordable for the needy families in low-income brackets, however,

most beneficiaries of these schemes have been the middle- and high-income groups and land speculators. On the other hand, low-income families have purchased plots in the illegal subdivisions, building houses in areas with little or no development, resulting in the emergence of slum areas.

Beginning with the influx of immigrants in 1947, Lahore's population grew rapidly until the early seventies. Both the population and area of Lahore doubled between 1951 and 1972. Although the trend continued until 1980, the city then experienced a slower than anticipated growth. The 1998 population census recorded the population of the MCL area at 4.5 million (excluding the cantonment area, with a population of 561,000), as against the popular estimate of six million. This can be partly attributed to the success of the rural industrialization program, which encouraged the setting up of new industry away from large urban centers. Another possible factor is the many rural migrants being absorbed by the adjacent city of Gujranwala, where the cost of living is significantly lower than Lahore's.

Lahore, however, has a large daytime nonresident population, commuting by intercity road and rail transport. Commuters come from the cities of Gujranwala, Sheikhupura, Faisalabad, Kasur, and Sahiwal, as well as from many small towns and rural settlements between these towns and Lahore.

Lahore is an important industrial, trade, and commerce center. By 1987 about 25 percent of the total industrial units of Punjab were located in and around Lahore. However, owing to the Government's decentralization policies during the last two decades, this proportion is now decreasing. The distant location of these industries caused the proportion of people employed in primary and secondary industries to decline in Lahore, with more people finding jobs in the tertiary industry. The highest proportion, 42 percent, of the labor force in Lahore is now employed in social and personal services and only about 34 percent is estimated to be employed in the formal sector. The remaining 66 percent work in the micro and cottage or informal enterprises, which constitute an important segment of the city's economy.

Average annual household income in Lahore has been estimated at \$2,280 per annum. With some 30 percent of households



Commercial activities abound inside the walled city

living below the poverty line, the household income distribution varies widely. A katchi abadi household makes less than \$750, while those living in high-income areas make more than \$6,000. Annual incomes of the top 5 percent of households in Lahore are however expected to be five to ten times higher.

POLITICAL STRUCTURE

Pakistan has a federal system of government with four federating units or provinces. The Constitution clearly spells out the functions and responsibilities of the federal and provincial governments and although not specifically recognized as the third tier of government, the “fostering” of local government is a provincial government responsibility. The legal framework for local government has been provided under the Punjab Local Government Act of 1998, the most recent amendment to British laws of the early 20th century. Under this Act, the MLC is headed by a lord mayor, elected by a house of 315 counselors who also elect a deputy mayor for each of Lahore’s eight zones. The provincial government has sweeping powers in local council affairs, ranging from appointing and transferring senior staff, approving the annual budget, dissolving the house, and replacing the mayor with a nominated administrator.

The MCL, like all other urban local councils, has only a meager share of locally collected taxes in its revenue and it is unable to quickly respond to local issues, particularly those pertaining to low-income communities. Sweeping reforms in local government are now proposed emphasizing devolution of power to a district level.

URBAN GOVERNANCE

Urban development and management in Lahore is MCL’s legal responsibility. The Punjab Local Government Act of 1998 spells out compulsory and optional functions for urban local councils. The compulsory functions include delivering and operating water supply, sewerage and drainage, preparing and implementing master plans and site development schemes, and exercising building control within the local government area. Included in the optional functions are promoting public health, environmental



The Punjab Provincial building is a prominent landmark

control, development and maintenance of public parks, and culture and welfare.

Another important government agency, the LDA, has been mandated to carry out urban development and control in areas overlapping and extending beyond MCL jurisdiction. The LDA prepared the Lahore Structure Plan of 1980, and is currently involved in preparing an integrated master plan for the Lahore metropolitan area. It has prepared and implemented sites-and-services schemes, and has been responsible for upgrading some katchi abadis and slum areas in Lahore. Besides, it has also developed parks in the city. One of LDA’s important contributions has been to comprehensively upgrade urban services in the walled city and conserve some buildings of architectural merit in this historic neighborhood.

URBAN INFRASTRUCTURE

Development and operation of urban infrastructure in Lahore are carried out by different federal, provincial, and local agencies. The federal Government-controlled Water and Power Development Authority and Pakistan Telecommunications Corporation are responsible for developing and operating the electricity and telephone systems. MCL is responsible for solid waste management and operation of sullage drains in older areas without sewerage and the Water & Sanitation Agency (WASA) is responsible for water supply, sewerage, and drainage in

most of the city. The Traffic Engineering and Planning Agency develops and maintains roads.

Located on an alluvial plain in the vicinity of the Ravi with adequate annual rainfall, Lahore has an abundant supply of easily tapable underground water. WASA extracts water through deep-well turbine pumps and supplies it to 73 percent of the residents. No treatment is required other than disinfection through chlorination. Other households have installed handpumps which are sometimes operated by electric motors to provide an economical source of drinking water. However, sunk only to a shallow depth, they yield water feared to be generally contaminated.

Owing to its flat topography, Lahore has an inherent problem in wastewater disposal, which is yet to be fully overcome. There is no separate storm water disposal system, with only an additional capacity of 50 percent provided in the municipal sewer system to allow for storm water. This provision proves inadequate during monsoons. As a result the streets remain inundated for hours, with the wastewater stagnating for many days in open spaces and low-lying areas. Owing to the flat topography, the sewage has to be pumped several times before its final disposal to the Ravi. A gated outfall has been provided and during floods the sewage is pumped over the lowered gates to avoid backflow of water from the river. With WASA’s plans to construct oxidation ponds for sewage treatment remaining



The Lahore railway station was built in 1864

unimplemented, untreated wastewater continues to be dumped into the Ravi, dangerously polluting many miles of the stream.

From community collection points, through two large transfer stations, to the disposal sites, the MCL operates a reasonably efficient system of solid waste disposal. However, the first and last steps of the system, taking the waste from the houses to the collection point and its safe final disposal, remain unguarded. Except for a few low-income communities where some NGOs have been able to set up a door-to-door waste collection system, large quantities of waste are not brought to the municipal collection points because of a lack of community awareness. Instead, it is dumped in open plots, at street corners, and in open manholes. There is no sanitary landfill in Lahore and waste is dumped, with no soil cover, along the Ravi.

Since 1996, the Punjab government and the MCL have been trying to formally involve the private sector in delivering and operating urban services. Elaborate management and performance contracts have been drafted with donor assistance, and international bidding organized. However, with the intended privatization of urban services and transfer of staff liabilities, these attempts have so far been unsuccessful. On the other hand, informal private sector participation has been successful and is widespread.

In low-income areas with no government built tertiary infrastructure, the households pool financial resources and acquire

the services of local masons to construct wastewater disposal arrangements. These arrangements are either small-bore, shallow sewers, or household septic tanks connected to open drains which are in turn connected to the government built secondary network.

For solid waste management, there are some 10,000 families of waste pickers in Lahore, who sort solid waste for recycling by small-scale industries. However, because hospital waste is often mixed with municipal waste, this is dangerous and needs to be regulated by the MCL. The waste pickers often operate a door-to-door collection service, using hand trolleys or donkey carts, taking waste to the MCL waste collection points. Some NGOs have helped organize this service in certain areas of Lahore.

TRANSPORT

The composition of road transport in Lahore has undergone a major change over the last 20 years. From about 40 percent in 1979, the proportion of animal drawn and other slow moving vehicles shrank to about 9 percent in 1997. The car (26 percent) and motorized two-wheelers (25 percent) now constitute over 50 percent of vehicles on Lahore's roads. Other popular modes of transport include auto rickshaws (9 percent) and peddle cycles (9 percent). Although on the increase due to recently offered incentives by the Punjab government, buses constitute only 2 percent of city traffic.

Outside the walled city with its winding precincts, Lahore's roads are wide enough, however, there is widespread encroachment which the MCL and LDA have campaigned against. The encroachers always return soon after a campaign loses its zest.

Parking is another problem downtown and in other commercial areas where new commercial buildings provide inadequate on-site parking. As a result service roads and even main roads are used for parking. Due to a lack of roadside parking control, recently built multistorey parking plazas remain underutilized.

HOUSING ACCESS AND AFFORDABILITY

Typically, people in Lahore live in detached houses, semidetached houses with three sides open, and row houses with an open backyard. Plot sizes vary from less than 70 to over 1,000 square meters, but larger villas are not uncommon. Although growing in number, apartments are not a preferred type of housing and are accepted only as temporary shelter by singles and young couples. They constitute less than 10 percent of the housing stock.

There are few shelterless people in Lahore. However, many households living in katchi abadis (11 percent) and slum areas (37 percent) have only limited access to urban services. Although electricity and drinking water supply are almost universally available, sewerage, drainage, and solid waste services only reach the fringes of these areas. Tertiary infrastructure brings these services to the doorsteps of privileged segments of society. With 29 percent of households living below the poverty line, they can hardly afford to pay connection charges and tariffs. Some NGOs have successfully worked as intermediaries and organized communities to build the internal services by self-help, with urban agencies building external primary and secondary infrastructure.

Over the last 20 years, households in Lahore have been incrementally improving their housing stock by rebuilding with permanent materials and adding more rooms. As a result about 95 percent of existing housing units in Lahore have now been built with permanent materials and rooms per housing unit have increased from two in 1981 to

2.2 in 1998. Despite these improvements, however, overcrowding still prevails at 6.5 persons per housing unit, and occupancy rates work out to be around three persons per room.

The House Building Finance Corporation provides housing finance under an interest free Islamic system (charging borrowers in proportion to the rental value of the house) which generates attractive 'mark-up' rates. However, this facility remains inaccessible to people living in informal areas, because their plots with unclear land titles are generally not accepted as collateral.

With existing laws favoring tenants over house owners, who are also subject to three types of taxes, less housing is being offered for rent in Lahore. An important deterrent to rental housing is the property tax which is far higher for leased properties. As a result, from over 10 percent rental housing in 1981, Lahore is estimated to have only 2 percent in 1998.

The federal Government has initiated a countrywide mera ghar (my house) housing scheme which is expected to reduce housing congestion in Lahore, because it includes the construction of about 10,000 dwelling units in the city. Being built on government land, through financing by commercial banks and the government owned development finance institutions, these units will be allotted to low- and middle-income households, under no-profit-no-loss, and the cost will be recovered in easy installments.

ENVIRONMENTAL MANAGEMENT

Although environmental management in Lahore is carried out by different agencies, including MCL and WASA, the agency exclusively mandated to do so is the provincial Environmental Protection Department (EPD). However, incapacitated by the lack of provincial legislation, (the bill is pending for approval by the provincial assembly), EPD relies on the relatively less stringent Federal Environmental Protection Act of 1997. As a result, most industrial units continue to discharge untreated waste into the municipal sewerage, and hospital solid waste is mixed with municipal waste.

With WASA's plans to construct oxidation ponds for wastewater treatment

remaining unimplemented, the entire wastewater of Lahore is dumped untreated into the Ravi. As a result, the dissolved oxygen levels have fallen below that required for the sustenance of aquatic life in about 20 km of the river. Lahore depends on underground water for drinking and the Ravi is the main source of aquifer recharge. By polluting the river, Lahore is endangering its citizens' health.

The MCL collects solid waste from its designated collection points. However, large quantities fail to reach these points and are dumped into open drains, sewer manholes, open spaces at street corners, and adversely affect environmental sanitation in residential areas. Again, efforts to build a sanitary landfill site in Lahore have been unsuccessful and solid waste is being dumped along the Ravi, with no soil cover and no safe disposal of leachate.

Most roads in downtown Lahore present poor air quality characterized by high particulate and dust concentration from vehicle emissions and resuspension of road dust by passing vehicles. With the exception of a few busy crossings, the carbon monoxide levels are generally satisfactory. Roads in



Lahore Museum has a rich collection of cultural artifacts

Lahore are generally noisy, exceeding allowable limits in most cases.

DISASTER RELATED RISKS

Lahore's two recent disasters were the floods of 1996 and a chlorine gas leak in 1997. Annual rainfall is normally from a few storms during monsoons in July and August, supplemented by light showers in winter. This makes it uneconomical to lay an independent storm water disposal system, so the waste disposal system caters for storm water drainage. The



The Government College Lahore is the oldest institution of higher learning in the country

combined disposal system is not designed for peak flows and a few hours of street inundation is always tolerated. In August 1996, however, Lahore received 56 centimeters of rain within 36 hours and streets were flooded by up to two meters in low-lying areas, forcing people to vacate their houses and find shelter on higher ground. Workers failed to reach their factories, daily supplies were disrupted, large quantities of foodstuff perished in markets, and electronic goods stored in basements were destroyed.

More than 20 people died and about 10,000 were affected in Baja Lines, a low-income, high-density neighborhood when poisonous chlorine gas leaked from two cylinders. Soil contaminated by the lethal gas could not be effectively removed and most people had to evacuate the area.

At the time of the disaster, laws were inadequate to deal with such situations and the much-awaited Federal Environmental Act was enacted only after the incident in 1997. Provincial environmental legislation, although yet to pass through the provincial assembly, comprehensively addresses the subject of hazardous chemicals and wastes and provides procedures for ensuring safety standards and penalties for noncompliance.

CULTURAL HERITAGE

Lahore is custodian of a cultural heritage that includes the tombs of two kings and one maharaja, a fort, palaces, mosques, gardens, museums, educational institutions, and monuments. This makes Lahore Pakistan's most visited city.

With the meager funds at its disposal, the Department of Archaeology has only decelerated deterioration of buildings of historic value and architectural merit. However, the Awqaf Department, responsible for religious buildings, like mosques and shrines, has been able to keep these buildings in better shape by using substantial contributions from devotees.

Conserving and upgrading the walled city was identified as one action area under the Lahore Structure Plan of 1980 and was carried out with World Bank assistance. Elsewhere, paucity of funds means conservation is limited to high priority public

buildings. A large number of private buildings of architectural merit, some of them over 100 years old, are only being modified or rebuilt as modern buildings according to market requirements.

The colorful kite flying festival of Basant is celebrated during spring in mid-February when Lahore is visited by kite flying enthusiasts from all over Pakistan and several cities of India. Kite flying by night has become popular and searchlights are installed on rooftops, overloading the electrification network which sometimes fails when moist strings cross over live conductors.

Another important event is the National Horse and Cattle Show combined with several interesting performances, including a colorful military tattoo. Lahore also has a fine cricket stadium and the world's largest hockey ground. The cricket stadium is equipped with floodlights to allow for popular one-day international games. The city has a large and modern open-air theater, besides a large number of indoor facilities for stage dramas, puppet shows, and musical programs which have become extremely popular recently. Some of these facilities are also used for more serious events like workshops, conferences, and seminars.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

Twenty-year plans like The Structure Plan of 1980 and the Integrated Master Plan of 1998 steer urban development. Major proposed projects encompass improvements in air traffic handling, transportation, sewerage and drainage, and new housing in walk-up apartments. Two important projects which have been delayed are the wastewater treatment plant and Lahore waste-to-energy, involving construction of a sanitary landfill, to produce 4.5 megawatts of electricity as by-product.

A number of international funding agencies have been helping Lahore. The government of Punjab recently set up the Punjab Municipal Development Fund. Administered by a specially created, nonprofit, private limited company (PMDFC), the fund will

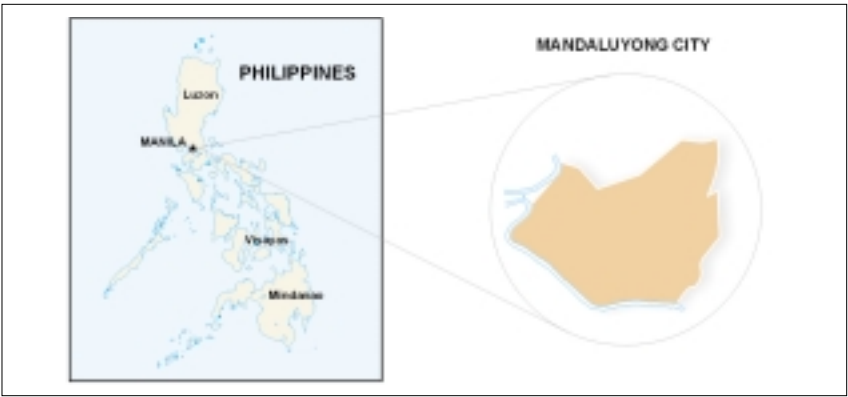
provide technical and financial assistance to all eligible urban local councils, including Lahore.

Pakistan's urban local councils are operating under government appointed administrators, and local government laws are being reviewed for major restructuring. Accordingly, PMDFC is not extending any large-scale credit, and is limiting itself to technical assistance and capacity building.

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PHILIPPINES

Mandaluyong



GENERAL DESCRIPTION OF THE CITY

Mandaluyong is strategically located in Metro Manila's expanding central business district (CBD). Stretching along the western part of the Pasig River and downstream portion of the San Juan River, it links the inner and outer cores as well as urban growth areas outside Metropolitan Manila. It is bounded by Manila City to its west, Pasig City to its east, Makati City to its

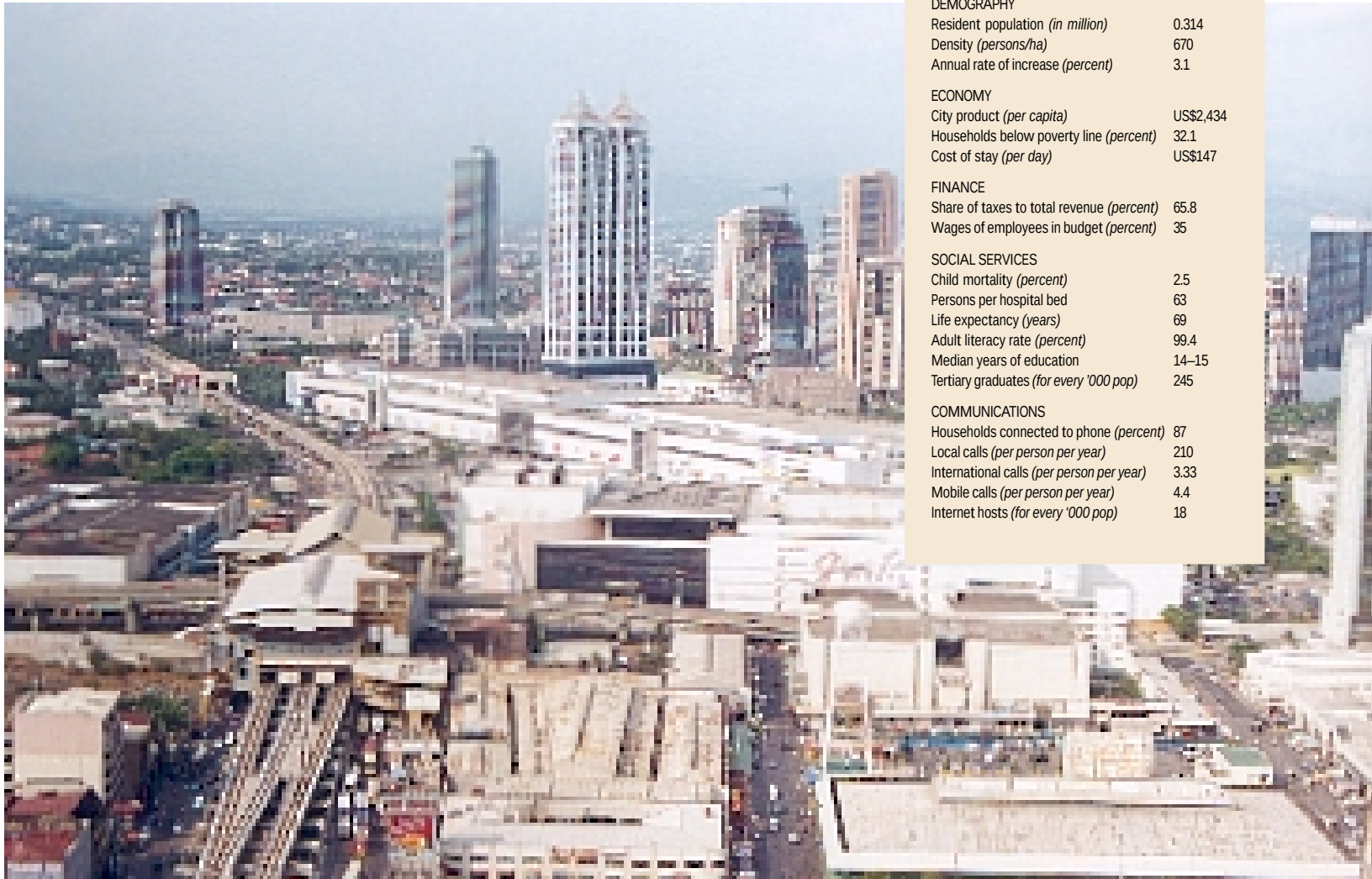
south, San Juan to its northwest, and Quezon City to its northeast.

After being devastated by the Second World War, Manila grew eastward and expanded to Quezon City, Pasay City, Caloocan, Makati, and Mandaluyong. Growth nodes developed in various parts of Manila, now known as Metropolitan Manila. Each node assumed a definite role in the city economy and caters to specific market groups. Makati, for instance, developed as a prime commercial and business center. In the 1980s, the Ortigas Center in Mandaluyong was created as a business

district to accommodate the spillover from the Makati and Manila business districts. Once a quiet residential suburb in the 1970s, Mandaluyong today is one of the most progressive business centers in the country.

DEMOGRAPHY, LABOR FORCE, AND INCOME

The city emerged as the new seat of business after the EDSA Revolution in 1986. Mandaluyong has attracted foreign and



Statistical Snapshot ... 1998

DEMOGRAPHY	
Resident population (in million)	0.314
Density (persons/ha)	670
Annual rate of increase (percent)	3.1
ECONOMY	
City product (per capita)	US\$2,434
Households below poverty line (percent)	32.1
Cost of stay (per day)	US\$147
FINANCE	
Share of taxes to total revenue (percent)	65.8
Wages of employees in budget (percent)	35
SOCIAL SERVICES	
Child mortality (percent)	2.5
Persons per hospital bed	63
Life expectancy (years)	69
Adult literacy rate (percent)	99.4
Median years of education	14–15
Tertiary graduates (for every '000 pop)	245
COMMUNICATIONS	
Households connected to phone (percent)	87
Local calls (per person per year)	210
International calls (per person per year)	3.33
Mobile calls (per person per year)	4.4
Internet hosts (for every '000 pop)	18



Reviving the life of the Pasig River requires citizens' support

local investments and now hosts some of the leading financial and business firms in the country. These include SM Megamall, San Miguel Corporation, and United Laboratories. The Asian Development Bank's main headquarters in the Ortigas Center is a landmark within the area. The city also has several large establishments engaged in processing and packaging food, sugar, steel, cigarettes, medicines, and plastics. The upsurge in business generated greater revenue and employment with Mandaluyong's income rising from \$2.6 million in 1986 to \$22.5 million in 1998.

The city's economic growth has been hindered by limited space. Aware of this, the city passed an ordinance declaring the Pioneer District, an industrial area east of EDSA and south of Shaw Boulevard, as part of its CBD providing opportunities for more business and commercial growth. Conversion of the area is expected to reap more revenue and employment for the city.

Inevitably, the city's economic achievements have resulted in crowded conditions as migrants arrive in search of better opportunities. This is pressuring the limited resources and services. The number of unemployed local workers increased because of stiff competition from migrant workers from other parts of the country. Recently, the labor sector demanded a wage increase to soften the inflationary effect of the Asian crisis, but the Government declared a wage moratorium (deferred payment of salary increases) to prevent closure of some industries. With rising living costs and high unemployment, workers must engage in informal employment to earn

enough for their families to survive. These informal workers are visible in the inner city, in "talipapa" (makeshift markets), small shops, jeepney parking stations, and informal settlements.

The actual labor population gainfully employed in 1995 was recorded at 110,967 with 98 percent belonging to the economically productive age group of 15–64 years. The bulk of the labor force was concentrated in the 20–44 age group. Overall, the male population dominated the total employed at close to 58 percent. In October 1998, unemployment was recorded at 17 percent, a higher figure than for most cities and municipalities in Metro Manila.

Despite the emphasis on financial and commercial office employment, informal employment, at 40 percent, plays a large part in the local economy. This is partly because earnings may be higher in the informal sector.

The proportion of households living below the poverty line is 32 percent, and the proportion of women-headed households is also 32 percent. There are various poverty reduction programs run by the Government (services in education, health, livelihood, infrastructure, housing, and utilities), by the city (community development, solid waste management, health, livelihood, and squatter resettlement), and by various nongovernment organizations (NGOs).

POLITICAL STRUCTURE

The Philippines is a republican state based on the 1987 Constitution with its Government managing state affairs covering

national goals, development guidelines and policy, and peace and order. Local government, serving provinces, cities, and municipalities, enjoys autonomy under the Local Government Code of 1991.

The smallest political unit or barangay is the primary planning and implementing unit of government policies, plans, programs, projects, and activities. It also serves as a forum for airing people's collective views and settling disputes. Each barangay is headed by a captain, seven council members, one youth chairman, a secretary, and a treasurer. The captain is the local chief executive and the councils act as legislative bodies. All barangay officials are accountable to the city mayor.

Mandaluyong was converted into a highly urbanized city by Republic Act 7675. The city constitutes a corporate political body enjoying the general power of a city under the Local Government Code of 1991. The city is represented by one member of Congress and is governed by a mayor, vice-mayor, and 12 councilors. It has two districts with 27 barangays headed by chairpersons. The mayor is the chief executive and each city department has its own head. The city council has legislative power and levies taxes. For accountable local governance, the government may discipline, suspend, or remove local officials who violate the Constitution, Local Government Code of 1991, and other laws.

URBAN GOVERNANCE

The 1991 Local Government Code ensures the city's self-reliance, through the Government's assistance, in providing services such as health, education, housing, social services, infrastructure, and peace and order.

Taking a holistic approach to urban renewal, the city instituted comprehensive land use policies to influence urban growth and development. An NGO was engaged to formulate a master plan which serves as a policy guide for the city's physical development. The public was involved in program formulation and public hearings and barangay consultation determined public acceptance of projects.

Delinquency in paying taxes and other fees has forced the city government to suspend implementing some infrastructure

projects. Waste management and environmental projects have suffered major setbacks in all metropolitan cities and municipalities.

URBAN INFRASTRUCTURE

The city's main sources of income are real property tax (66 percent), amusement tax, transfer tax, user charges, and other governmental regulatory fees. Central Government transfers amount to 27 percent. Though income increased population grew considerably, increasing demand for utilities and infrastructure.

The city derives its water from both surface and ground waters. Surface water is supplied by a regional distribution system provided by a concessionaire engaged by the national agency. Potable water is now connected to 83 percent of households, but supply suffers interruption in some barangays because of low pressure and old pipelines. Interruptions can be up to 56 hours per month. The present administration has taken aggressive steps to rectify this problem by constructing a pumping station and deepwells.

Mandaluyong has an efficient electric system from two major 115–34.5 kilovolt substations. Unfortunately, there are still many households, mostly in informal settlements, with illegal connections. The Manila Electric Company, through the city's initiative, launched a program to formalize illegal connections through the Depressed Area Electrification Project. In the last five years there has been a substantial 10 percent increase in electricity connections and 95 percent of households are now connected.



Don Bosco Technical College once sheltered revolutionary leaders who fought against the Spanish colonizer

Philippine Long Distance Telecommunication and Globe Telecom provide telephone systems to 87 percent of households. The entrance of Globe as a new provider and PLDT's new program have improved service quality and considerably reduced the demand for telephone connections. Several other niche providers use PLDT's network to provide long distance calls and cellphone services. There are separate cable networks operated by five providers offering Internet installation with monthly rates from \$7 to \$48.

TRANSPORT

Transportation in the city is predominantly land based. Internal circulation is supported by a network of city and barangay roads and ten national roads traverse the city linking it to neighboring municipalities and cities. Construction of the Mandaluyong-Makati Bridge has improved traffic circulation, but during peak hours the volume of vehicles is greater than road capacity. More bridges are planned to open new opportunities for development and help decongest major thoroughfares.

People depend on private cars and jeepneys and on tricycles and pedicabs in the inner built-up areas. The Pasig River is used for shipping cargo to and from industrial establishments along the riverbanks and a new Manila–Mandaluyong road is planned on the river's easement.

HOUSING ACCESS AND AFFORDABILITY

Mandaluyong remains predominantly residential, with 42 percent of its total land area devoted to housing. At least 52 percent of households have clear title or ownership of the house and land they occupy. Approximately 56 percent of dwelling types are single family housing, 35 percent are medium density housing, 8 percent are apartments, and the rest are temporary dwellings, institutions, and hostels, etc. Unfortunately, informal settlers occupy some of these dwellings in high density settlements.

The single family type is most common in the middle- and high-income groups and those who cannot afford a house of their own rent small apartments or apply for accommodation in one of the



Churches show imprint of Spanish influence on the city

Government's housing projects. The "barong-barong" or poor person's shelter is common in informal settlements. It is made of dilapidated and light materials and depreciates the value of the occupied land.

The scarcity and high cost of land and proliferation of squatters is a problem for low- and middle-income housing. Squatting is attributed to population growth and the influx of migrants seeking employment and livelihood opportunities.

Consequently, the local government launched two housing programs, "Land for the Landless" and "Home for the Homeless." Under these programs, the city bought private and government land and distributed around 5,000 lots to qualified beneficiaries. Similarly, about 1,359 medium rise units have already been distributed to average income earners and squatter beneficiaries.

Under this housing program, one apartment unit costs around \$9,000–\$12,250. A qualified beneficiary has to pay a \$65 monthly amortization payable within 20 years. For those who cannot afford the local government housing program, the city, by coordinating with the Government, offers affordable housing units outside Metro Manila. The loan package consisting of a house and lot may cost from \$2,000–\$3,750 with monthly amortization of \$12, at an interest rate of 9–12 percent per annum payable in 25 years. Informal settlers, particularly those living in danger zones such as river easements, opt for this cheap loan package. At present there are 300 families voluntarily resettled in areas outside Metro Manila under these terms. To prevent informal settlers from returning to the city, the

local government monitors areas that have been vacated.

ENVIRONMENTAL MANAGEMENT

The present administration acknowledges that solid waste is one of the most pressing environmental problems confronting the city. Mandaluyong largely depends on sanitary landfill being operated and maintained by the Metro Manila Development Authority (MMDA) for solid waste disposal. The city and some Metro Manila areas encounter collection and disposal problems due to the periodic repair and rehabilitation of the dumpsite. Unless the MMDA provides an efficient and permanent landfill, the problem will continue.

Because of the increase in population and commercial activities, the volume of garbage generated has been increasing at an average rate of 12.45 percent each year from 1994 to 1998; an equivalent increase of 35,000 cubic meters per year. Collection and disposal operations in the city are presently undertaken by the local Environmental Sanitation Center (ESC). The ESC, formerly under MMDA's technical supervision, was localized in 1991 and is directly supervised by the city. Its other activities are street sweeping, greening and beautification, and waste minimization programs. Plans are ready for constructing a compost center aimed at reducing waste to about 30 percent.

To maintain a healthier and ecologically balanced environment, the city implemented tree planting and greening of its major thoroughfares as well as developing parks and recreation areas including the Pasig River's easement.

The river is the main water body receiving liquid waste from domestic sources. Without a sewerage service, Mandaluyong relies on household septic tanks for treating its wastewater (accounting for 87 percent of household sewage disposal in the city). Although Mandaluyong is only one of the areas being traversed by the Pasig River, it considers the river its natural resource and rehabilitating it has become the concern of the Government and local government.

Air pollution is a government concern for the Department of Environment and Natural Resources (DENR) in collaboration with local government and the MMDA. DENR studies of Metro Manila's air indicated that standards in air quality pollution are exceeded.

CULTURAL HERITAGE

Mandaluyong City supports and encourages its residents to participate in its cultural affairs. One noteworthy event is Liberation Day, a one-week celebration in February. This historical event showcases cultural events, sports, exhibits, a cultural parade, competitions in art and entertainment, award ceremonies, and gift giving to less fortunate residents.

Another historical event is Rizal Day, celebrating the birthday of Dr. Jose Rizal, the nation's hero. This is an annual celebration followed by a variety of cultural programs and activities.

The city has constructed its own cultural building, "Kaban ng Hiyas," which showcases various collections of artifacts and paintings and one shopping mall has art exhibits by famous Filipino artists.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

Mandaluyong City is the first government unit to implement a development project using the build-operate-transfer (BOT) scheme. BOT is a contractual arrangement where a developer undertakes the construction, including financing, of an infrastructure facility, and its operations and maintenance. The developer operates the facility over a fixed term to enable it to recover investments at a reasonable rate of return.

In 1991, Mandaluyong sought to rebuild the public market that was destroyed by fire, but had difficulty financing it because it needed a \$1.6 million loan at 18 percent per annum and could not rely on market stall charges to service the debt. Reconstruction was made possible with the private

sector participating under a BOT scheme. The contract covers constructing a \$14.2 million six-storey commercial center with movie houses, bowling lanes, two-storey parking lot, department stores, and public market.

Mandaluyong City takes a holistic approach to urban renewal. The city council approved an ordinance converting the Pioneer-EDSA-Shaw Triangle to a CBD and has tapped an urban planning expert to form a comprehensive development plan for the city. Under the master plan, certain areas will be converted into broader and spacious districts with road widening and stricter enforcement of land use and commercial district zoning. The city will partner with the private sector and property owners for implementing this program.

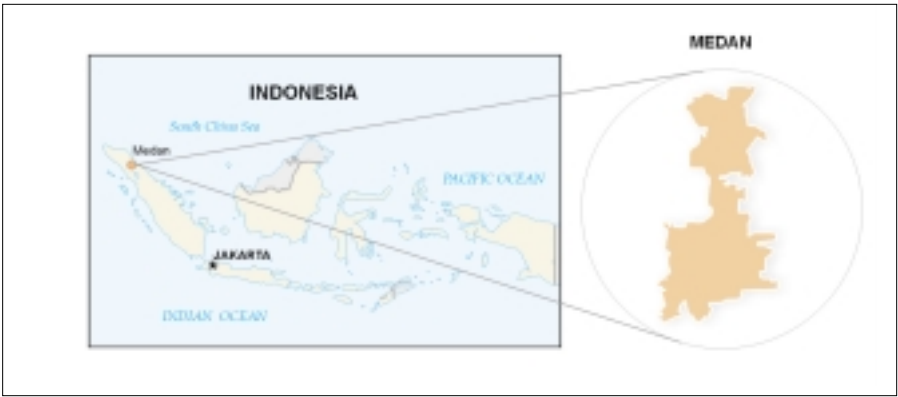
The city has implemented other major projects such as concreting and drainage improvement of main roads, drilling and construction of a water pumping station, and construction of government school buildings.

The private sector has also initiated other major projects for constructing high-rise buildings such as hotels, offices, and malls ranging from 15 to 40 storeys. These include Paragon Plaza, Pioneer Highland, Tiffany Tower, Cityland, Sun Plaza, and Lee Garden Tower, with an estimated cost of almost \$200 million. These projects have boosted economic activity in the city.

Armando T. Comandao is the City Development and Planning Coordinator of the City of Mandaluyong. Before that, he served as a senior development officer and project development officer of the city. Mr. Comandao is a civil engineer.

INDONESIA

Medan



GENERAL DESCRIPTION OF THE CITY

Medan City lies in North Sumatra Province and can be reached via Polonia Air port and Belawan Port, both within the metro Medan city region. The city is in the north of the province at 2.5–37.5 meters above sea level. Its temperature ranges from about 23° Celsius to 32° Celsius and its annual rainfall averages 365–1,893 millimeters with rain on 176–216 days a year.

Medan City was originally a small village named “Medan Putri” developed by Guru Patimpus, the grandson of King Singa Mahraja who ruled the state of Bekerah in the highlands of Karo. Its location was critical, near the confluence of the Deli and Babura rivers. Both rivers were crowded with commercial traffic and Medan Putri prospered as a trading center.

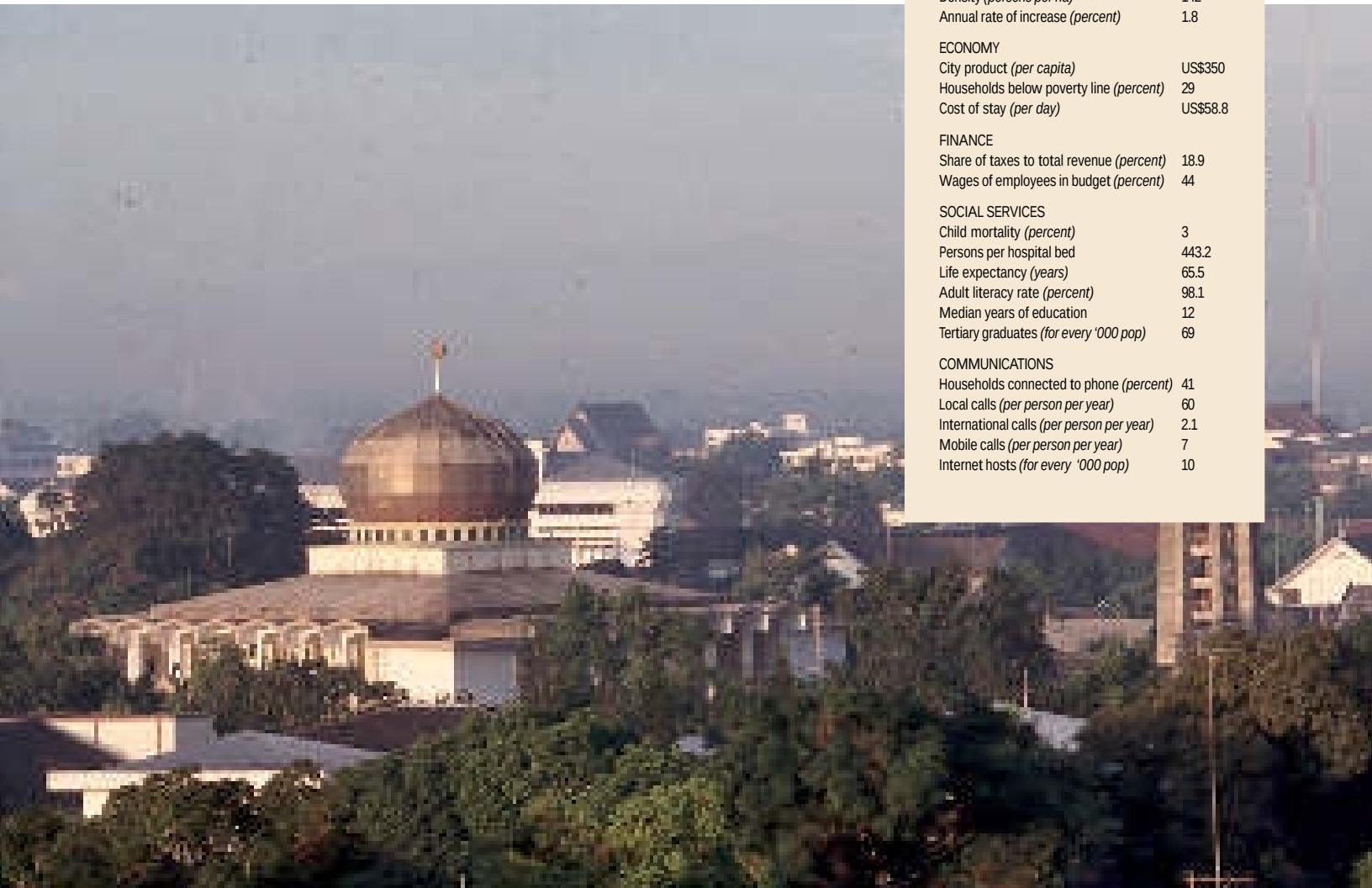
During the 19th century, north Sumatra became a center for plantation agriculture under Dutch control. Jacob Nienhuys, a Dutch entrepreneur, expanded his tobacco plantations in Martubung, Sunggal, Sungai

Beras, and Klumpang. Following the increased prosperity of the tobacco industry, Nienhuys moved his company's office from Labuhan to Medan Putri which became increasingly crowded and developed under the more popular name of Medan City.

Medan City has some special historical remains, especially ancient buildings such as the Deli Sultant Palace, the main mosque and Cathedral, and buildings the

Statistical Snapshot ... 1998

DEMOGRAPHY	
Resident population (in million)	2.03
Density (persons per ha)	142
Annual rate of increase (percent)	1.8
ECONOMY	
City product (per capita)	US\$350
Households below poverty line (percent)	29
Cost of stay (per day)	US\$58.8
FINANCE	
Share of taxes to total revenue (percent)	18.9
Wages of employees in budget (percent)	44
SOCIAL SERVICES	
Child mortality (percent)	3
Persons per hospital bed	443.2
Life expectancy (years)	65.5
Adult literacy rate (percent)	98.1
Median years of education	12
Tertiary graduates (for every '000 pop)	69
COMMUNICATIONS	
Households connected to phone (percent)	41
Local calls (per person per year)	60
International calls (per person per year)	2.1
Mobile calls (per person per year)	7
Internet hosts (for every '000 pop)	10





Medan is a key gateway to West Indonesia

Dutch used as offices. These old buildings are potential tourist attractions, but some are poorly managed or only partly rebuilt. The city government has insufficient budget to rehabilitate them and the central Government offers no assistance.

Medan's key location advantages are boosted by its international airport and port. Taking advantage of the location, the Government of Indonesia identified Medan

as one of the key gateways to West Indonesia and a center for economic activities. To promote such economic growth, the city built an integrated industrial area called "Kawasan Industri Medan". However, its role as a catalyst for economic growth in West Indonesia has begun slowly, because supporting infrastructure and services are not yet in place, especially those related to regulations and complicated bureaucratic requirements.

During the 1990s Medan's economy grew at a healthy 6.5 percent per year. But in 1997, when Indonesia was hit by the Asian financial crisis and the economy contracted drastically, Medan registered a negative growth rate of 20.11 percent. Worst hit were the services sectors of banking, transportation, and construction, which support the local economy.

The city's economic structure means that some sectors such as trade, hotels, and other service industries have a bigger role than other sectors. In 1998, these sectors contributed over 26 percent of the city's GDP. Trade is the main sector because Medan is the trade center for the whole North Sumatra Province.

As in other Indonesian cities, transport and communications are important in the local economy, since the growth areas such as financial services rely on rapid movement of people and economic activities. As

a result, transport and communications were the second most important share of city GDP at 17 percent. Banking and other financial services were in third place at 16 percent.

DEMOGRAPHY, LABOR FORCE, AND INCOME

The resident population of Medan is just over two million, with a further 8 percent commuting in daily. Medan's growth rate of 1.8 percent per year is slightly below the national average. The city's population is composed of Bataks, Javanese, Malays, Minangkabaus, Chinese, etc., with each maintaining its own cultural patterns and social structure. Consequently, Medan is the only city without a dominant culture as in other Indonesian cities.

The distribution of population in each subdistrict is uneven. There are small subdistricts with a large number of residents and relatively large subdistricts with few residents. The largest concentrations of people live near the industrial area and city center.

The city government's labor development policy is to create work opportunities, generate household income, reduce unemployment (currently some 14 percent), and create a supply of trained labor and a productive work base. Employment is dominated by the consumer services sector at 40 percent, followed by producer services at 37 percent.

Medan City's labor force is still growing rapidly due to continuing migration and urbanization. Unemployment depends on the fortunes of the Indonesian economy; the situation is likely to remain critical for several years.

Per capita incomes of city residents vary between \$36 and \$90 with about 29 percent of residents earning between \$60 and \$80. Another sign of the economic crisis is households spending 55 percent of their incomes on food. Child labor is almost nonexistent (according to the Medan labor ordinance it is illegal to employ anyone under 15).

About 29 percent of households are living below the poverty line in Medan. Women-headed households comprise 7 percent of the households below the poverty threshold.



The city's labor force grows as migration continues

POLITICAL STRUCTURE

The City of Medan is a second level region among the 19 regions in North Sumatra Province. It is led by the mayor of the second level region who acts as executive leader, assisted by a vice-mayor and regional secretary and some heads of departments. The city consists of 21 subdistricts, with each one comprising a varying number of administrative districts, amounting to 151 in Medan as a whole.

The Medan second level region was formed when economic, social, and military policy making in Indonesia was still centralized. After 1998, all second level regions in Indonesia, including Medan Municipality, were allowed to manage their own regions, under Regional Government Regulation No. 22, 1999. Under this regulation, Medan can decide on policy in all sectors except foreign affairs, security and defense, the assurance of law, monetary and finance matters, and religion, which remain under the central Government.

Medan's legislature, the Regional People's Assembly, elects an executive leader. The Assembly's members, who represent the political parties elected in general elections, also watch over the establishment of regional government.

URBAN GOVERNANCE

For administering issues concerning economic, social, political, and security matters the mayor is assisted by 21 subdistrict and administrative subdistrict leaders. For more technical issues such as acquiring and maintaining public facilities, the mayor is assisted by heads of departments. For example, city park issues are managed by the City Parks Department.

In policy making and implementation for the city's development, the private sector is involved in almost all development activities financed by the Government. One donation given by private sector companies was "dana partisipasi" (participation fund) focused on developing public facilities, such as offices for subdistrict and administrative subdistrict leaders in the city, and financing poor children to continue their study.

Community groups work with officers from subdistrict and administrative subdistricts to keep the city environment clean

and safe. In Medan, effective coordination between the public sector, community groups, and private companies is important in the drive to improve working, living, and recreation conditions.

URBAN INFRASTRUCTURE

Medan will soon be the first designated metropolitan city outside Java. Consequently, developing a clean water supply, efficient telecommunications, electricity, and road facilities will be priorities.

The Titanadi Water Supply Company supplies about 71 percent of residents with clean water supply for domestic and commercial use. Year by year the company is increasing product capacity, especially after receiving financial support from the Second Medan Urban Development Project (MUDP-II) funded by the Asian Development Bank. As a result, the installation capacity in the Deli Tua region on the border of Medan City will be increased from 30,000 to 120,000 cubic meters per day.

With increased population and commercial development demand for electricity rising, connections have been made to 91 percent of households. The National Electric Corporation supplies the whole of Sumatra including the Asahan Aluminium Industry.

Priorities for developing the telecommunications sector include installing automatic telephone centers, international direct dialing, direct-distant connection, and public telephone installations. Improved service not only relates to technology but also to the quality of services, especially the services for prospective consumers, by making applications simple and charging the cheapest installment fee. As a result telephone installations have been increasing by over 30 percent per year. Medan also has a high level of Internet connections in the city.

TRANSPORT

Roads are divided into state roads financed by the Government; provincial roads financed by the North Sumatra government; and city roads financed by the Medan City government. Road length in the city is about 1,609 kilometers (km), in relatively good condition, including the 26-km Medan-Belawan highway. The city government is trying to develop new roads and related structures but is unable to keep up with vehicle demands.

Medan City's government is involved in transport in several ways. For inland transportation, local government is responsible for maintaining road facilities, moti-



The city is the third biggest city in Indonesia

vating private sector operators to maintain their cars and buses for customers, managing public transport routes and managing parking lots, and investing in new bus stations.

The main means of transportation in the city are the many small public buses or “sudaco” carrying 12–14 passengers with routes to all parts of the city. In working hours these minibuses dominate traffic; bus or minibus travel accounts for 86 percent of all work trips. Public transportation is operated by private companies, except for a few coaches or “damri” which serve only main roads. Passenger train services only serve customers outside the city and freight services are limited to the Belawan Port to city center route.

HOUSING ACCESS AND AFFORDABILITY

Virtually all housing stock in Medan is privately owned or rented. The typical land developer multiplier is 2.45 and the developer contribution is 18 percent. Only 2 percent of houses are mortgaged.

The private sector is variously involved in land and housing development. For low-income groups, private companies work with the Medan government to build “rumah sangat sederhana” or very simple houses, and “rumah sederhana” or simple houses. These are built in Labuhan, Belawan, Simalingkar, Marindal, and Helvetia districts. They are government-owned for rent. The policy of building low-income units in suburban areas may have drawbacks such as distance to work, but there are benefits. Housing layouts can take advantage of rural conditions and suitable housing can be constructed at affordable prices.

Private developers and owner-builders need authorization from the City Government Housing and Urban Management Department for construction, but it appears that only a small proportion of housing conforms to regulations. It is likely that most illegal structures of permanent or nonpermanent construction are those built along riverbanks, and railways, etc. In many cases they will be occupied under grants with no residential permits.

ENVIRONMENTAL MANAGEMENT

In 1998, 1,216 tons per day of solid waste were generated in Medan. The city government employed many streetsweepers or “Pasukan Melati” (Jasmine Troops) and groups of drainage cleaners or “Pasukan Kumbang” (Bees Troops). All waste collected from streets and roads was dumped at two 10-hectare (ha) locations in the suburbs. In addition there are 18 garbage depots and 12 transfer stations. To increase the beauty of the city, the government created some parks and boulevards, and planted trees along main streets.

Household liquid waste is disposed of via septic tanks (69 percent), underground pits (20 percent), and underground communal pits (10 percent). Some 22 percent of liquid waste is treated.

Through the MUDP II, a sewage treatment plant was developed on a 10-ha site. The plant can serve about 15,375 households in 540 ha of the populous city center. Medan City received a government award for its environmental program.

CULTURAL HERITAGE

Medan City, existing since Dutch colonialization, was incorporated during the Deli Malay Kingdom in 1888. There are various historic buildings, some of which have been modified for new uses.

Maimoon Palace is a building of great historic value as a reminder of the success of the Deli Kingdom. It is in good condition having been renovated by the city government. The Palace is in the city center while other notable buildings like the Grand Mosque, Post Office, and Bank Indonesia are spread through the city.

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AUSTRALIA

Melbourne



GENERAL DESCRIPTION OF THE CITY

The City of Melbourne is the capital of the state of Victoria. Located on the River Yarra near the head of Port Phillip Bay on Australia's southern coastline, Melbourne is the country's second largest city after Sydney.

Established in the early 19th century, Melbourne is renowned for its collection of Victorian-era buildings (the best in the country), its parks and gardens, and sporting and cultural events.

The city is at the center of a large metropolis, the fringe of which is between 20

and 30 kilometers from the central business district (CBD). It is also at the hub of a radial metropolitan transport system that connects the city with its metropolis and the rest of the state. Melbourne is the state's international and national gateway and the focus for business, international trade, arts, entertainment, and sporting activities.

DEMOGRAPHY, LABOR FORCE, AND INCOME

The city has attractive residential neighborhoods and is currently home to 47,500 people. During term time, there are an estimated 10,000 tertiary students living in the city, many from overseas. It has a daytime

business and working population of approximately 400,000.

The City Council has put much effort into reversing population loss and the number of residents has increased significantly over the past few years. Some of these new residents are living in converted office buildings in the CBD or new purpose-

Statistical Snapshot ... 1998

DEMOGRAPHY

Resident population (in million)	0.04
Density (persons/ha)	93
Annual rate of increase (percent)	5.8

ECONOMY

City product (per capita)	US\$28,456
Cost of stay (per day)	US\$142

FINANCE

Share of taxes to total revenue (percent)	54
Wages of employees in budget (percent)	28

SOCIAL SERVICES

Child mortality (percent)	0.60
Persons per hospital bed	12.8
Life expectancy (years)	78.4
Adult literacy rate (percent)	100
Median years of education	9
Tertiary graduates (for every '000 pop)	268

COMMUNICATIONS

Households connected to phone (percent)	99
Local calls (per person per year)	594
International calls (per person per year)	11
Mobile calls (per person per year)	80
Internet hosts (for every '000 pop)	131.9





Melbourne is the center of business in the state of Victoria

built apartment towers. The city's average rate of population increase between 1991 and 1999 was 4.6 percent. In some of these years, the annual population growth rate has put it in the top 20 fastest-growing local government areas in Australia. New residential development opportunities in Melbourne's docklands and areas to the north, west, and south of the CBD will ensure that population growth continues.

A little over half of the city's working residents are employed in the five areas of property and business services, retail trade, education, hospitality, and health and community services. This reflects Melbourne's role—it has a large retail area, it is the center of business in the state, and has many of the state's premier educational and medical institutions.

The city's residents are highly educated with approximately one quarter of the adult population holding tertiary qualifications in a bachelor's degree, a higher degree, or a

postgraduate diploma. The level of education is reflected in high incomes for some city households. In 1996, 12 percent of households had a gross annual income of \$127,130 or more, compared to 5.9 percent of metropolitan households in that same income category. However, there is some polarity on this measure, as at the other end of the scale 21 percent of city households earned \$19,798 per year or less. This is higher than for the wider metropolitan area which had 17 percent of households in this income bracket.

POLITICAL STRUCTURE

Australia has three-tiered government including federal, state, and local. Local government is a creature of state government, formed under the Constitution Act. In Victoria, the Local Government Act covers aspects such as the structure of local councils, the number of councilors, financial powers, etc. However, other acts also regulate the roles and activities of local government. For example, the Planning and Environment Act spells out the role of local government in planning matters.

URBAN GOVERNANCE

The City Council carries out a wide range of functions on behalf of its ratepayers, residents, and visitors. These include garbage collection; maintenance of city infrastructure such as roads and footpaths, parks and community facilities; management of a large

number of capital works projects from conception to implementation; aged and disability services; family and children's services; youth services; environmental health services (including health inspections); animal management services; libraries; visitor services; waste management, city cleaning, parks and recreation management; traffic management; statutory and strategic planning; strategic research; engineering services; parking management and enforcement; and civic and ceremonial roles.

The council periodically surveys customer satisfaction by collecting businesses' and residents' views about the City of Melbourne and council services. Other council departments also regularly survey internal and external customers as part of a "Best Value" program. This program ensures all services and activities within the council are relevant and delivered effectively and that this can be clearly demonstrated to the community.

The state government also conducts, on behalf of all councils in Victoria, an annual survey that measures customer satisfaction regarding overall general performance of councils, key service areas and responsibilities, local roads and footpaths, health and human services, recreational facilities, waste management services, enforcement of local laws, economic development, town planning policy and approvals, the council's interaction and responsiveness, and its advocacy and community representation on key local issues.

Generally there is a high level of public access to council documents and reports. Council meetings are open to the public and minutes of meetings are made public. The council is required to advertise its annual budget prior to adoption and publish an annual report. Its vision and strategies for the city's economic, environmental, and social development are set out in public documents.

The council recognizes that good marketing and communication is a success factor for modern organizations and aims to improve communication with stakeholders and the community. A hotline service has been established for telephone inquiries by internal and external customers and neighborhood officers provide on-the-street service to the community.



Boats and excursion vessels ply the Yarra River

URBAN INFRASTRUCTURE

The city's infrastructure has been progressively developed over 150 years. There is universal or near-universal connection of residential properties to sewage and water supply services, electricity, and telephones. Natural gas is also available as an alternative energy source for cooking and heating.

Water and sewerage services are provided by City West Water, one of three state-owned companies licensed to provide these services and dispose of trade waste in the Melbourne metropolitan area. City West is the custodian of some of the metropolitan area's oldest water and sewer infrastructure, and the company has embarked on a program of renewal and refurbishment of old lines for environmental reasons and for maintaining satisfactory levels of customer service.

The Victorian electricity industry was disaggregated in 1994 into generation companies, transmission companies, and distribution and retail companies. The city is served by CitiPower which is one of four metropolitan distributors.

Australia's telecommunications market was opened to full competition in 1997 and although new entrants have entered, Telstra Corporation remains the largest provider of telecommunications services.

The nation's telephone network is progressively being upgraded and extended with new services and features. Australian households are showing a strong interest using the network for new services such as the Internet. In 1999 it was estimated that nearly 30 percent of households in capital cities within Australia had home Internet access, an increase of 8 percent on the previous year.

Transport

The city is at the hub of a large transport network that includes roads and freeways and train and tram routes. The network provides good access for those travelling to the city from the metropolitan area and rural Victoria. The city's international connections are made via the Port of Melbourne and Melbourne Airport.

As well as moving people, the transport network is vital for freight movement with about 230 million tons of freight moved to,



The Yarra River is the city's main landscape feature

from, or within metropolitan Melbourne within a year, or about 70 tons per head of population. Melbourne's port and airport are increasingly important for southeastern Australia's export trade.

Most trips in Melbourne are made by car and state transport strategies aim to moderate growth in car travel. This is important not only for improving the city's air quality but also for minimizing congestion on roads. Travel intensity, or the number of car trips passing through an area, is greatest in and immediately to the east and south of the CBD. It has been estimated that 22 percent of the total cost of congestion in the metropolitan area occurs in the city and two adjoining municipalities.

City residents are well-served by public transport (trains, buses, and trams) and this may partly explain lower than average levels of car ownership. Nearly one third (28.2 percent) of the city's households do not own a car, compared to 11.2 percent of metropolitan households without a car. The proportion of city households with two or three cars is at least half that of the metropolitan average. City residents are also more likely to walk or use public transport to get to work than their counterparts in metropolitan Melbourne.

HOUSING ACCESS AND AFFORDABILITY

The city's housing stock largely consists of semi-detached or row housing (30 percent of housing stock) and apartments (58 percent of stock). Separate detached housing is uncommon (8 percent of stock). This pattern is most unlike the rest of the metropolitan area, in which separate houses are the dominant housing form (82 percent of stock).



Trams makes travelling in the city convenient

Half of the city's households are renting and a further one third either own their property outright, or are purchasing it (using a mortgage).

There is concern that some housing needs are not adequately met in the city. The housing market is not providing for households with low to moderate incomes and there is a significant need for low-cost accommodation, including social housing. Median prices of houses and apartments in the city remained relatively flat for most of the 1990s, but increased sharply in the last three years, outstripping the consumer price index.

ENVIRONMENTAL MANAGEMENT

Melbourne's network of parks and gardens provides opportunities to maintain natural systems and to preserve biodiversity. Additions to the parks system and increased tree planting throughout the city extends habitat for native species as well as enhances the amenity of the city.

Like other municipalities in Victoria, the city must comply with waste reduction targets established by the state government to reduce the amount of waste going to landfill. While households can be encouraged to reduce waste and recycle products, reducing the amount of commercial and industrial waste such as that generated by city businesses and construction sites has proved less easy.

Air quality has improved over the last two decades and there are now fewer breaches of standards for ozone concentrations and visibility-reducing particles. Levels of lead, nitrogen dioxide, carbon monoxide, and sulfur dioxide have all remained below acceptable standards throughout the 1990s. There is concern though that improvements in air quality could be offset by increased vehicle ownership, vehicle kilometers traveled, and the size of the light commercial fleet (diesel engines).

CULTURAL HERITAGE

Melbourne has a reputation as a culturally vibrant city. Each year it hosts numerous arts, sporting, and cultural events. It has major facilities such as the State Theatre

and Concert Hall and world-class sporting facilities such as the Melbourne Cricket Ground and Melbourne Park which can be used for a multitude of events.

The city is greatly enriched by the contributions of people from diverse cultures and nationalities, starting with its indigenous people. More than 130 countries are represented among its residents' birthplaces. Annual festivals allow for the contribution of many of these groups to be recognized and celebrated. The diversity of nationalities is also reflected in the wide variety of restaurants and cuisines available. Melbourne has gained a reputation as one of the restaurant capitals of the world.

The city's cultural infrastructure includes not only its facilities and people, but extends to its built environment with a mixture of historic and contemporary in its landscape and art. The River Yarra which flows through the city is its main landscape feature. The river is lined in part by parkland, but recently once-derelict riverside areas have been developed, providing new focal points for activity. The most impressive of these has been the development of Southbank, the south bank of the river opposite the CBD. This development has provided new housing, commercial, entertainment, and retail facilities as well as a new launching point for river-based exploration of the city. Southbank's contribution to city life will be added to soon with the development nearby of Federation Square which will provide another major civic and cultural space right in the city's heart.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

Melbourne's development is guided by the council's new City Plan (completed in 1999) and the Capital City Policy, developed jointly by the council and state government. The City Plan sets out what the council believes must happen between 1999 and 2001 to ensure the city's vitality and prosperity, and to develop its role as Victoria's capital. City Plan is an integral part of the city's planning scheme but it extends beyond this, describing many aspects of council's contribution including promotion, funding, service provision, and partnerships. Capital City Policy

was prepared in 1994 and promotes the prosperity of Victoria and metropolitan Melbourne by enriching the city's national and international profiles, role, and competitiveness.

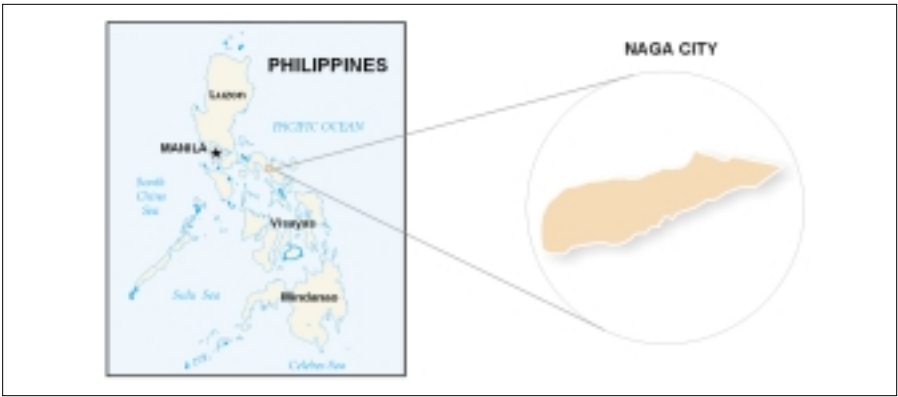
A number of large development projects in and around the city have been completed, and others are nearing completion. The total value of these is estimated at more than \$4 billion. The city is already enjoying the benefits of completed projects such as the Docklands Stadium and Crown Entertainment Precinct on the banks of the Yarra River. Under construction or nearing completion are projects such as the Federation Square and City Link Tollway.

Photographs on railway and tramway were obtained from Raymond J. Marsh, and the aerial view of the city from Edgar Gordon, Strategic Research, City of Melbourne.

Vivienne L. Gray is a consultant in strategic planning and project management. She worked in the private sector and in local government city council as corporate/strategy planner. Ms. Gray is a geographer.

PHILIPPINES

Naga



GENERAL DESCRIPTION OF THE CITY

Naga is centrally located in Bicol, a region at the southernmost portion of Luzon Island in the Philippines. It is about 300 kilometers south of Manila, the country’s capital. Naga has grown to be the religious, educational, and business center of Bicol, one of the country’s 15 administrative regions—with a bustling economy that has been growing at 6.5 per-

cent annually. Today, it has a reputation for being a center for innovation in local governance. In 1998, Naga received the Dubai International Award for having one of the top ten best practices worldwide for participatory planning. In December 1999, *Asiaweek* cited Naga as one of four most improved cities in Asia.

Naga is one of the oldest cities in the Philippines. Originally called Ciudad de Nueva Caceres, it was one of the five original cities created by royal Spanish decree in the late 16th century. It is the seat of the 400-year old Archdiocese of Nueva Caceres that oversees the predominantly Catholic region famous for the beautifully shaped, but fiery Mayon volcano. Naga is home to two of

the country’s oldest colleges—the Holy Rosary Minor Seminary founded in 1793 and Colegio de Santa Isabel, the first normal school for women in the Orient, founded in 1868.

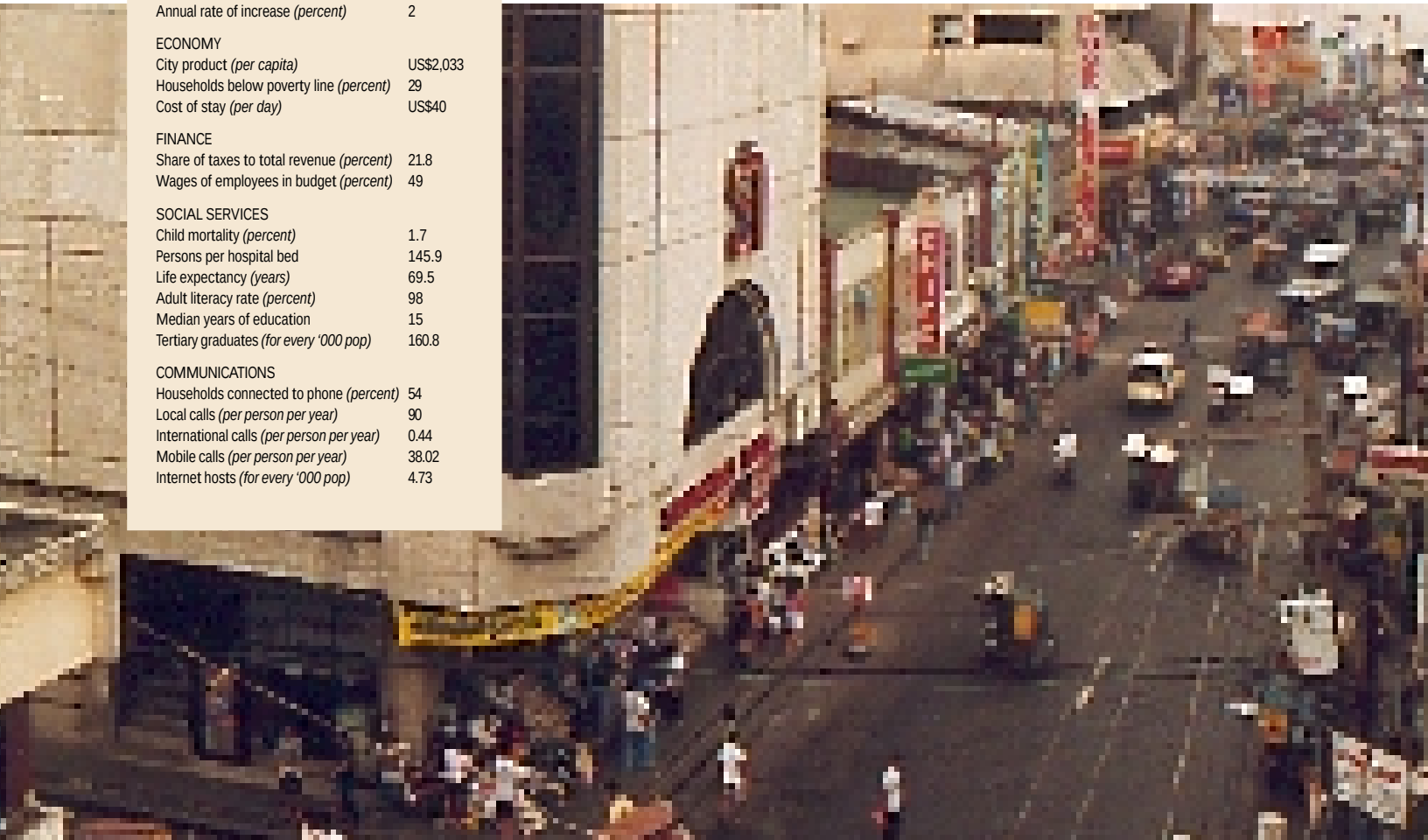
Every September, close to a million faithful trek to Naga for the annual feast of the miraculous Virgin of Peñafrancia, the region’s patroness. The ten-day celebration is highlighted by a fluvial procession over Naga River.

DEMOGRAPHY, LABOR FORCE, AND INCOME

Naga might be an old city but its population is young. Half of its 140,000 residents are below 20, as well as a 70 percent age dependency ratio.

Statistical Snapshot ... 1998

DEMOGRAPHY	
Resident population (in million)	0.137
Density (persons/ha)	115.6
Annual rate of increase (percent)	2
ECONOMY	
City product (per capita)	US\$2,033
Households below poverty line (percent)	29
Cost of stay (per day)	US\$40
FINANCE	
Share of taxes to total revenue (percent)	21.8
Wages of employees in budget (percent)	49
SOCIAL SERVICES	
Child mortality (percent)	1.7
Persons per hospital bed	145.9
Life expectancy (years)	69.5
Adult literacy rate (percent)	98
Median years of education	15
Tertiary graduates (for every '000 pop)	160.8
COMMUNICATIONS	
Households connected to phone (percent)	54
Local calls (per person per year)	90
International calls (per person per year)	0.44
Mobile calls (per person per year)	38.02
Internet hosts (for every '000 pop)	4.73





Naga residents are generally religious

The old central business district (CBD), comprising a contiguous area of around 300,000 square meters near the mouth of the Naga River, has been the focal point of city life. Over the last 50 years, particularly during the 1960s when population grew at 3.7 percent annually, housing settlements radiated from around this urban core. In the 1980s and 1990s, development drifted eastward, influenced largely by the national highway, leading to the establishment of two major suburban settlements in the Concepcion Grande-Del Rosario area. Today, 88 percent of the population lives in built-up areas in the western part of the city that account for only around 18 percent of its total land area. This translates to a population net density of 129.25 persons per hectare.

As a consequence of the city's spatial development, pockets of informal settlements also ring the CBD. Together, they make up 11 percent of the total population. The city government's aggressive normalization program, however, enabled most informal settlers to acquire tenure over their homelots.

Naga's population growth has been on a rollercoaster, reaching a high of 10.7 percent in 1948 before plummeting to a negative level

in 1960; picking up again to 3.7 percent in 1970 before dipping back to 1.7 percent in the next decade. After rising yet again to 2.4 percent in 1990, growth tapered to 2 percent in 1995.

Of the total population, 37 percent are not natives of the city. More than one fifth of the migrant population moved into the city during the last five years, which translates to a net migration rate of 1.7 percent. This indicates that migration has become the main driver of the city's population growth, accounting for about 80 percent of the annual increment.

Six of every ten migrants came from other towns within the province of Camarines Sur, while the rest came from other Philippine provinces. Only 0.3 percent of them came from foreign countries. As a result, Naga has a largely homogeneous population, Bikolano by tongue and ethnicity and Roman Catholic by faith.

While some other ethnic groups exist—particularly Tagalog, Ilokano, Waray, Muslim, and Chinese—their influence, particularly the latter's on the city's economic life, has been significant. This also indicates the city's liberal attitude toward minorities.

Unemployment in the city stands at 5.8 percent, well below the national unemployment rate of 10.1 percent. Quality jobs, however, remain a concern. The services sector employs the bulk of the city's labor force,

accounting for 71 percent of the total. The secondary and infrastructure sector (manufacturing, utilities, and construction at 14 percent) and others (agriculture and government at 15 percent) account for the rest.

Compared to the rest of the country, city residents' incomes compare favorably. In 1998, average household income stood at \$4,620 per annum, 42 percent higher than the Philippine average and 126 percent higher than the average Bicol household.

Between 1993 and 1998, the city's economy grew 6.5 percent annually, significantly higher than the rate of growth posted by the national economy. In 1998, the gross city product (GCP) stood at \$263.3 million, which translates to a per capita GCP of \$1,953. This figure is 115 percent higher than the Philippine per capita GNP.

Nevertheless, increasing inequality was noted among the city's income groups. This is indicated by a 2.9 percentage point increase in the income inequality ratio (the ratio of the top 20 percent to bottom 20 percent income group) during the same period. In 1998, the top 20 percent earned 11 times more than the bottom 20 percent of the population.

POLITICAL STRUCTURE

In 1991, a revolutionary Local Government Code was enacted to implement the constitutional mandate for greater autonomy of Philippine local government units (LGUs). Although the President continues to exercise supervisory powers over local governments, the Code gives the country's 78 provinces, 84 cities, 1,500 municipalities, and 42,000 barangays expanded powers and resources under a system of decentralization.

This resulted in LGUs, including Naga City and its 27 component barangays, enjoying a generally high degree of independence from the Government. For instance, a national system of allotments provided under the code enables the city and each barangay to receive their respective predictable share of state revenues without lien or holdback from the Government.

Through local legislation, the city government sets its own tax rates and user fees within the limits provided under the Local Government Code. This is embodied in Naga's own revenue code. To promote economic growth, a local investment code pro-



The Ateneo de Naga University is one of the city's leading academic institutions

vides tax breaks and other nonfiscal incentives to qualified investors.

The city can also contract loans, credits, and other forms of indebtedness from national or international lending institutions, enter into deferred payment and other financial schemes, issue bonds and other long-term securities, and extend loans to other LGUs. In 1997, it tapped a World Bank-funded facility to finance the construction of a \$1 million central bus terminal. Through a locally mandated body, it also awards contracts for locally funded projects to qualified contractors.

Without the consent of affected communities, the Government cannot unilaterally close down local governments or remove elected officials. On the other hand, under a system of recall, registered voters can remove any elected official for loss of confidence. Officials can also be removed from office on other grounds defined by the Code but only by order of proper courts. And while the President can suspend elected officials in a province, such suspension cannot go beyond 90 days every year.

URBAN GOVERNANCE

Consistent with the Code's thrust to promote participative governance, the city government has distinguished itself with continuing efforts to involve the local community in urban planning, development, and service delivery through partnerships.

Bottom-up planning from the village level has been institutionalized in partnership with an organized nongovernment sector under the auspices of the Naga City People's Council, an umbrella organization of local nongovernment organizations and people's organizations. At the city level, these are being integrated and coordinated by the local planning office that also acts as technical secretariat of the City Development Council (CDC). The CDC is a multisectoral body mandated by the Code to formulate the city's short- and long-term development plans.

Annually, the city government adopts a budget that seeks to implement its development plans. The budget allocates money to support government operations, including five economic enterprises, implementation of priority infrastructure projects (roads, bridges, drainage, flood control, and other government facilities), and provision of key

services (garbage collection, health care, public housing, livelihood and manpower development, information and investment support, environmental management, social welfare, and integrated area development).

Where government agencies continue to function as service providers, the city assists financially. This covers protective services (police, fire, and jail management), public education, and the prosecution aspect of the local justice system. For municipal services where private utilities and quasi-government service providers have the lead role (water, power, telecommunications), the city government's role is mostly advisory. This is particularly to ensure services are consistent with local development plans, and collaborative, particularly in subsidizing the extension of water and power services to low-income settlements.

In addition to emphasizing partnerships, the city government also opened avenues for greater citizen participation in making decisions affecting urban development. In 1996, it successfully pilot-tested the workability of the referendum provision of the Local Government Code, submitting three issues for ratification by city voters. These issues include developing a new CBD, floating bonds to finance the project, and color-coding trimobiles operating in the city.

URBAN INFRASTRUCTURE

During the last decade, the percentage of households with access to water piped by the Metro Naga Water District has been largely unchanged at 74 percent. Around a quarter continue to rely on individual and community wells, half of them within the city's urban district. Providing access to this segment of the population is a key step in attaining universality of connection. A stumbling block needing attention is the 57 percent loss due to pilferage and leaky decades-old pipes and mains.

Total electrification is a relatively more attainable objective, as 94 percent of Naga's households have been energized by the Camarines Sur II Electric Cooperative. This is a marked improvement from a decade ago when only around three quarters of the household population had access to the service. A high 20 percent system loss and increasing frequency of intermittent service



Produce from the farm are sold in the markets

interruptions (averaging one hour per month) remain key concerns.

The 1990s liberalization of the Philippine telecommunications industry greatly benefited Naga. This led to the entry of two fixed-line and three mobile phone operators offering state-of-the-art communications. From 29 percent in 1995, the percentage of households enjoying fixed-line telephone services jumped to 54 percent in 1999. The penetration rate for mobile phone services is higher (56 percent), propelled mainly by affordable prepaid subscriptions.

Digitel, a fixed-line operator, has recently added Internet service, in the process competing with two commercial, two-school based Internet service providers, and a handful of Internet cafes. Fourteen percent of the population is estimated to have gained Internet access in 1999, propelling an industry that has been growing at the rate of around 90 percent annually over the last three years.

TRANSPORT

Access to the city is possible by air, land, and rail. Air travel to and from Manila goes through Naga Airport located in a neighbor-



The new central bus terminal will serve as a sub region's transport hub

ing town, where two commercial airlines combine for an average of 19 flights per week. Land transport passes through the Manila South Road, via the recently completed Quirino Highway diversion. The rail service is provided by the state-owned Philippine National Railways, with trains running daily to Manila.

Within the city, the dominant mode of transportation is the colorful jeepney, a 15-17 seater stretched version of the American jeep. It accounts for 39 percent of work trips made in the city and suits Naga's mostly two-lane roads, particularly within the old CBD. The three-seater trimobles, passenger cars, and buses contribute 18 percent each to work trips. Three-wheeled pedicabs, located mostly in subdivisions, account for the remaining 4 percent. In one street, a handful of horse-driven calesas remain in service.

In 1999, a new central bus terminal became the transport exchange, particularly between jeepneys and tricycles serving the urban district and buses that connect Naga to various destinations within and outside the Bicol region. Traffic flow was also eased by lanes added to portion of the Manila South Road within the city limits, as well as Panganiban, Magsaysay, Peñafrancia, and Bagumbayan avenues, the main arteries radiating from the old CBD. Concreting of the Queborac-Abella Road will also complete the

city's first circumferential road to ring the old and new CBDs.

HOUSING ACCESS AND AFFORDABILITY

As already pointed out, the city government has aggressively pursued a normalization thrust under its 10-year-old Kaantabay sa Kauswagan Program. By 1999, the program covered 81 percent of the 7,400 low-income squatter households which live below the poverty line (accounting for 29 percent of the total), enabling them to acquire tenure over their homelots. In some instances, households also obtained affordable core housing units.

On the whole, per capita government spending on housing reached \$67.24, of which the city government contributed 30 percent, mostly for its Kaantabay program. By itself, the program is a successful approach to focused poverty alleviation targeting the city's urban poor people.

The situation is more compelling for the city's median income earners, including the 18 percent of renters who do not qualify under the program. City data show that in 1995, the city's housing backlog stood at 6,400 and will increase to 7,400 by 2000 without strong government intervention. The backlog is mainly a function of nonaccess to formal financing. Mortgage financing is largely

untapped, covering only 8 percent of total dwellings in the city; it is also underdeveloped, indicated by a low 8 percent mortgage-to-credit ratio. This is a little improvement over 1990 figures, where 94 percent of households built their dwellings using their own resources or through informal borrowing.

A contributory factor appears to be the relatively high cost of developed land as indicated by the city's land developer multiplier of five against the typical three. Therefore developed homelots in Naga are priced at five times the cost of raw land and there are few low-cost housing initiatives. The city could address this by leveraging around 44 hectares of vacant government land within the built-up area for development and by streamlining the planning approval process, which took an average of 2.2 months over the last two years. A more efficient process can reduce developers' costs that would ultimately benefit project beneficiaries.

An aggressive push for low-cost housing can also help improve compliance with national and local building regulations. At present, only 64 percent of the city's housing stock complies with building code standards.

City data show that 77 percent of the city's housing stock has durable or semidurable walling and 54 percent has durable roofing materials. Almost nine in ev-

ery ten residences are single detached structures; the rest are either apartments or row houses. On the average, the typical housing unit in Naga is 48 square meters.

ENVIRONMENTAL MANAGEMENT

Of the major municipal services, only solid waste collection is provided by the city government through its newly created Environment and Natural Resources Office (ENRO). The office is mandated to perform environmental management functions in partnership with the community.

In cooperation with the regional unit of the Environmental Management Bureau, ENRO has been conducting regular air quality monitoring (solely for suspended particulates due to equipment limitations) for more than a year. In 1999, air quality in the city exceeded WHO standards in three days of the year, with the bulk of the rating generally fair.

At the same time, operational improvements in garbage collection enabled the office to serve 86 percent of the city's household population, collecting 66 percent of the 20,800 tons of solid waste being generated by the city annually. The balance, mostly generated in far-flung areas, is disposed of by households informally. On the whole, this enables Naga to achieve a degree of cleanliness comparable with most other Philippine cities. The service however continues to be subsidized, with the city able to recover only a third of its costs.

Part of ENRO's function is to rehabilitate and protect the Naga River and its watershed at Mt. Isarog under a ten-year management plan crafted with strong stakeholder participation. Efforts are being made to restore life to the urban stretch of the river, where its waters are only fit for agricultural use. It is being assisted in this endeavor by the Ladies in Green, a local NGO of women volunteers for the environment.

DISASTER RELATED RISKS

Located in the typhoon belt, Naga regularly grapples with tropical storms and the floods they bring. Over the last ten years, three major typhoons hit the city, each spaced three years apart, with the last one in October 1998. On average, they affect 8,600



Naga strives to protect its watershed at Mt. Isarog

dwelling and cause a loss of nine lives. Local capability to mitigate disaster has been enhanced with the USAID-funded Asian Disaster Preparedness Project, which selected Naga as one of its demonstration cities in the Philippines.

CULTURAL HERITAGE

Naga's hispanic heritage invariably centers on the centuries-old Marian devotion to the Virgin of Peñafrancia. In 1998, the Catholic Church in Bicol, which is as old as the city

itself, marked its quadricentennial that added significance to the annual Peñafrancia festivities. The church's influence on the population is pervasive; in the urban district, six churches stand within a kilometer of each other, three of them at the fringes of the old CBD.

Steps have been taken to learn more about Naga in the pre-Spanish era. A book on the city's history has been commissioned by the city government in time for its own 50th charter anniversary as a modern Philippine city.

Given existing resources that include two orphan functioning museums, historico-cultural tourism is one area that holds potential. Developed and promoted properly as a blend of the old and the new, it can boost the city's attractions currently limited to the Peñafrancia fiesta and the Bicol Science and Technology Centrum.

The Museo Conciliar Seminario at the Holy Rosary Minor Seminary, for instance, is reputed to have one of the most extensive archeological collections in the country, showcasing ancient Bicol relics and artifacts like burial jars, chinaware, rare stones, and ritual objects. It also features local church history through displays of old Catholic vestments and sacred objects. Completion of the city's own museum at City Hall and an ecology park in San Felipe will further enrich its profile as a tourism destination.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

Guided by its vision for Naga as “Maogmang Lugar” (or “happy place”), the city government is sustaining growth by focusing on

- infrastructure development aimed at opening new growth areas outside the urban district and redrawing Naga's spatial layout;
- quality job creation anchored on promoting the development of eight priority investment areas defined under the city investment code; and
- environmental protection anchored on sustainable development that does not compromise the city's future.

Participative governance and the commitment to excellence are core values of the city government and its leadership. These are being operationalized through partnerships with the community and other stakeholders in Naga's sustained growth and a continuing capacity building for the bureaucracy. The latter includes significant investments in maximizing information technology, making Naga one of the most wired among Philippine city governments (its computer-to-bureaucrat ratio of one to five is higher than all ten leading Philippine cities covered by a 1999 Asian Institute of Management study on city competitiveness).

Building on these, technical assistance under the USAID-assisted Governance and Local Democracy Project has been playing a key role in improving local capacity to attain the city's objectives.

Wilfredo B. Prilles Jr. is a freelance consultant who was involved in Governance and Local Democracy, a USAID project, and in supporting capability building programs for the League of Cities of the Philippines. Mr. Prilles is a mathematics graduate and holds a master degree in Management.

CAMBODIA

Phnom Penh



GENERAL DESCRIPTION OF THE CITY

Phnom Penh, the capital of Cambodia, was founded in 1434, succeeding Angkor Thom as the capital of the Khmer nation and was abandoned several times before being reestablished in 1865. It is in the south central part of the country covering 12 square kilometers at the confluence of the Mekong, Bassac, and Tonle Sap rivers where it serves as a major port in the Mekong River Valley. It has many historical buildings as a legacy of the

French and Khmer kings and was once considered the loveliest of the French-built cities of Indochina.

The city, divided into seven districts or khan and 76 communes, is the political center of the country with several financial offices.

DEMOGRAPHY, LABOR FORCE, AND INCOME

The 998,804 city dwellers are 60 percent Khmer, 30 percent Chinese and Vietnamese, and 10 percent belong to other nationalities. The city's 481,991 male and 517,893 female

residents account for 8.7 percent of Cambodia's population. About 33 percent of the population is under 15 years of age, 62.7 percent is 15–59 years old, and 4.2 percent is over 60. At 3,448 persons per square meter Phnom Penh's population density is the highest of all Cambodia's provinces. The city's 167,758 households (excluding informal households) hold an average of 5.7 people each. Since 1979, many migrants have ar-

Statistical Snapshot ... 1998

DEMOGRAPHY

Resident population (in million)	0.999
Density (persons/ha)	203
Annual rate of increase (percent)	5.4

ECONOMY

City product (per capita)	US\$246
Households below poverty line (percent)	24
Cost of stay (per day)	US\$105

FINANCE

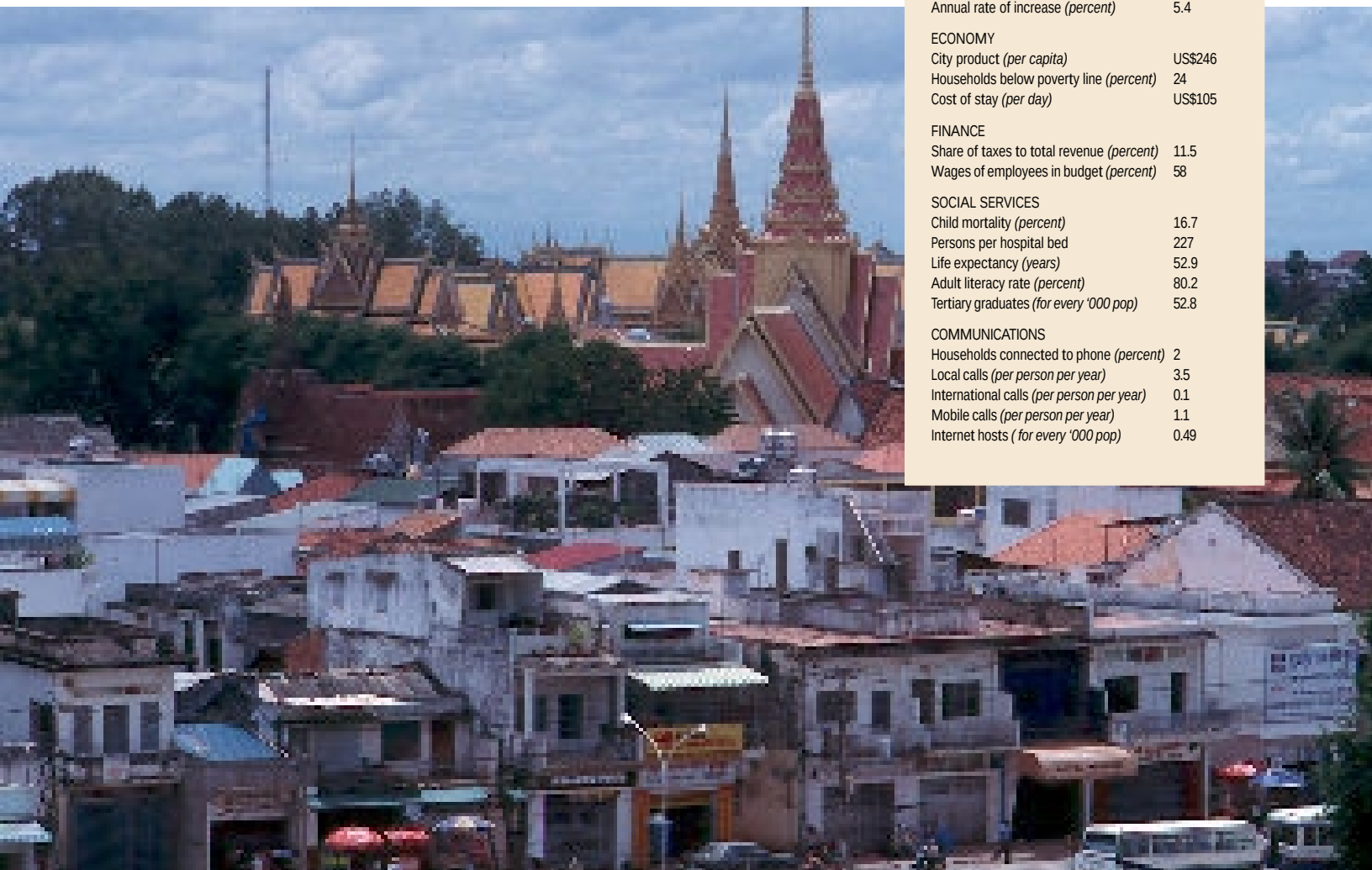
Share of taxes to total revenue (percent)	11.5
Wages of employees in budget (percent)	58

SOCIAL SERVICES

Child mortality (percent)	16.7
Persons per hospital bed	227
Life expectancy (years)	52.9
Adult literacy rate (percent)	80.2
Tertiary graduates (for every '000 pop)	52.8

COMMUNICATIONS

Households connected to phone (percent)	2
Local calls (per person per year)	3.5
International calls (per person per year)	0.1
Mobile calls (per person per year)	1.1
Internet hosts (for every '000 pop)	0.49





Historical buildings show the legacy of French and Khmer rules

rived, especially from neighboring countries.

In general the employment rate in Cambodia is higher in rural than in urban areas. In 1997 a socioeconomic survey revealed that the employment rate in Phnom Penh, which is defined as the percentage of employed persons to the total number of persons in the labor force, was lowest in the city at 96.7 percent. The definition used in the survey was based on the international definition where persons who work for even one hour during the reference week are accepted as employed.

For age groups 15–19 years and 25–29 years the recorded unemployment rates were nearly 20 percent and 3.3 percent, respectively. Of the employed about a third were employees and only one percent were employers. About 40 percent of the em-

ployed, mostly female workers, were self-employed in wholesale and retail trade.

Wages for all types of labor were higher in Phnom Penh than in other parts of the country. Unskilled construction workers, like tile setters or floor layers, earn a daily wage of \$1.87 while wages in the rural sector for paddy planting, caring for crops, and harvesting are about \$1.10–\$1.20 for men and women.

POLITICAL STRUCTURE

Since gaining independence in 1953, the country has had different political regimes and corresponding names including The Kingdom of Cambodia (Le Royaume du Cambodge), The Khmer Republic (under Lon Nol, who ruled from 1970 to 1975), Demo-

cratic Kampuchea (under the Khmer Rouge, the communist party which controlled the country from 1975 to 1979), The People's Republic of Kampuchea (under the Vietnamese backed Phnom Penh government from 1979 to 1989), The State of Cambodia (in French L'Etat du Cambodge, in Khmer, Reot Kampuchea from mid-1989), and The Kingdom of Cambodia (Le Royaume du Cambodge since 1993).

After the Government's second election in 1998, Cambodia joined ASEAN and began reforming the economy into a market economy with new laws, privatization, and strict controls on budget expenditures.

Cambodia is an independent democratic sovereign state with different political parties and a two-chamber legislature led by a prime minister.

The Government is rather strong and retains many powers under the constitution, including the right to close down local government. The Government determines external and internal policy, economic policy, land regulation, and foreign investment. It is removing all restrictions on exports and imports and is determined to improve credit, finance, and taxation policies. At the same time it is focusing on tourism and an open investment policy.

Local government is autonomous and responsible for the city's social and economic development and prepares strategies that target sustainable human resources and economic development.

URBAN GOVERNANCE

Phnom Penh is an average-sized Cambodian city and is divided into seven administrative districts: January, Don Penh, Toul Kork, Dang Kor, Rusey Keo, Mean Chey, and Dang Kor. Phnom Penh's mayor nominates the districts' local government which reports all social and economic activities to the mayor. Government funds are allocated to local government bodies for their operations which include supplying electricity and potable water.

Local government also plans urban, social, and cultural development submitted by the seven districts. After coordinating the preparation of the urban planning document it is submitted to the Ministry of Planning and then to the Government. The



Not all the tourist attractions inside the Royal Palace are open to visitors

document includes preparing land management, regularizing informal settlements, preparing land planning permission, developing new settlements, developing export-oriented industries, and upgrading and accelerating the privatization process of large industrial enterprises and services (with technical and financial support from the Asian Development Bank and World Bank).

The Government approves the city's budget, plans, and programs for social and economic development. It coordinates the progress of projects and conducts audit checks to monitor the city's funds.

URBAN INFRASTRUCTURE

The Phnom Penh mayor is concerned with alleviating poverty by focusing on electricity supply, potable water supply, road maintenance, traffic congestion, squatter resettlement, city flooding, etc. Even with fast growth in urban population, the Government has been trying to resolve these problems, especially electricity, power supply, clean water supply, drainage systems, telephone connections, and solid waste collection.

TRANSPORT

The city has an international airport, a rail-road system with two terminals, and eight suburban bus terminals. Pochin-Tong international airport, ten kilometers southwest of the city, is being repaired. The number of private cars and taxis is growing and in 1998



The Royal Palace was built by HM King Norodom in 1866

there were 12,737 cars, 162 minibuses, 263 big buses, 777 vans, 191 trucks, and 76,225 motorcycles. Major urban roads are in disrepair and require large amounts of money to rehabilitate them.

HOUSING ACCESS AND AFFORDABILITY

Between 1993 and 1995 housing construction increased dramatically with owners or investors building to sell or rent, possibly to refugees or the large numbers from the United Nations Transitional Authority in Cambodia soldiers in the city. Between 1995 and 1997 housing construction decreased because of an oversupply. Construction has centered on 48–80 square meter apartments in two- to three-storey buildings, but some villas have been built in the southern part of the city for the lucrative foreign rental

market. Some investors could borrow from local banks or close relatives, but there is no government housing scheme and poor, low-income, and unemployed people are ineligible for mortgages.

ENVIRONMENTAL MANAGEMENT

After the civil war Phnom Penh experienced a significant increase in the volume of solid waste. From 464 tons per day in 1996 the volume of solid waste is estimated to triple by 2010. Although much of the waste generated by households, commercial establishments, and small and big industries is characterized as biodegradable, the lack of disposal sites is a major environmental problem for the city. Currently, waste is indiscriminately thrown in vacant lots, swamps, and waterways and poses major health risks to the community.

The disposal of wastewater also constitutes a problem. Water used by households and industries is drained through storm water pipes and discharged untreated into rivers and other water bodies. Phnom Penh, like other cities situated near a river, is faced with cleaning and reviving the rivers contaminated by dirty water and other toxic waste.

CULTURAL HERITAGE

Cambodia has many temples, the most famous being the magnificent Angkor. From Angkor the king of the Khmer Empire ruled over vast territories extending from the tip of what is now south Viet Nam westward to



Monocycle is still widely used in the city



Many hotel buildings bear Indo Chinese influence

the Bay of Bengal. Angkor's 100 or so temples constitute the sacred skeleton of an administrative and religious center whose houses, public buildings, and palace were constructed of wood, which are now long decayed. Only gods were to dwell in brick or stone structures. Over 5,000 statues, lingas, and inscribed steles found at Angkor are stored at Angkor Conservation's headquarters.

Phnom Penh's Royal Palace stands on the site of the former citadel, Bantaey Keo, on Lenin Boulevard. Since Sihanouk's return to Cambodia, visitors are only allowed to visit the palace's silver pagoda and its surrounding compound. This pagoda also known as Wat Preash Keo is open on Thursdays and Sundays and is so named because its floor is covered in over 5,000 silver tiles weighing one kilogram each.

Classical Cambodian dances were once staged in the Chan Chaya pavilion, through which guests enter the palace grounds.

The throne hall, topped by a 559-meter (m) tower inspired by the Bayon temple at Angkor, was inaugurated in 1919 by King Sisowath. The present cement building replaced a vast wooden structure built on this site in 1869. The throne hall, which is 100 m long and 30 m wide, was used for coronations and ceremonies such as diplomats presenting their credentials. Some 80 percent of items once displayed here were destroyed by the Khmer Rouge. On the walls and ceiling of the throne hall are murals depicting the Ramayana epic.

The National Museum of Khmer Art and Archaeology, built between 1917 and 1920, is an impressive red structure of traditional design just north of the palace. It contains many masterpieces of Khmer artisanship and sculpture dating from the pre-Angkor period

of Funan and Chenla (4th–9th centuries AD). Victory Monument, at the intersection of Tou Samouth and Sivantha boulevards, was built in 1958 as an independence monument and is now a memorial to Cambodia's war dead (or at least those the Government considers worthy of remembering).

Wat Phnom, in the center of Phnom Penh, was constructed by the Khmer kings for people to pray for their needs, in landscaped surroundings with big trees and parks.

The Government and local government, as well as various NGOs, are always supporting the preservation of cultural traditions, especially by preserving and reconstructing temples.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

Based on national and city plans (Phnom Penh City Development Plan 1996–2000 and Phnom Penh Public Investment Program), the Government is preparing to maintain economic growth and the quality of life, especially by poverty alleviation. It is already preparing the Phnom Penh Development Investment Plan 2001–2005 which will increase production, develop small-and medium-scale businesses, promote trade, exports, and services, and expand infrastructure.

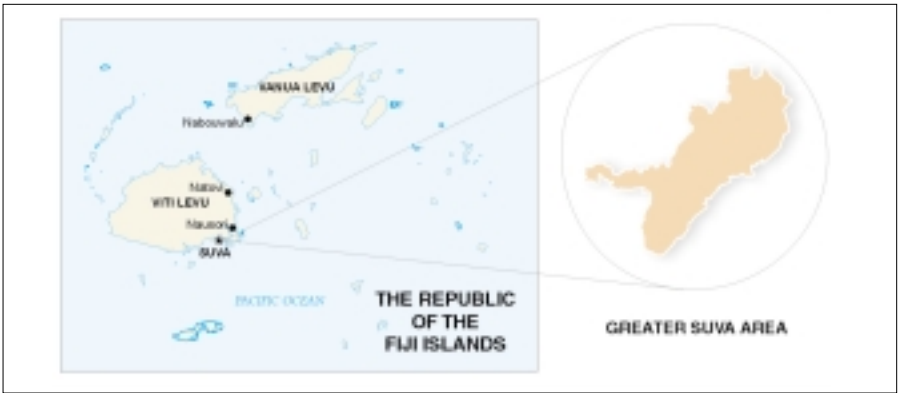
Major projects for developing the city, upgrading the quality of life, and alleviating poverty include reconstructing urban highways, improving street lighting, regularizing squatters, improving land management, engaging foreign investment in production and trade under joint venture arrangements, improving and extending the structure of the city's water and electricity networks, and repairing roads.

Photographs were obtained with permission from Chhoeurn, Chief Cabinet of Phnom Penh Municipality

Somonn Sek is a coordinator in the Office of Bureau Chief of Planning and Prices Evaluation of the Municipality of Phnom Penh. Mr. Sek holds a bachelor's degree in National Economics.

THE REPUBLIC OF
THE FIJI ISLANDS

Suva



GENERAL DESCRIPTION OF
THE CITY

Suva is located on the southeastern corner of Viti Levu, the largest island in the Republic of the Fiji Islands and is the capital and main commercial and administrative center of the country. It is also an important center for the South Pacific, being the location for several international agencies, head offices of several region-wide businesses and regional organizations such as the Secretariat of the Pacific Community and the Pacific Forum

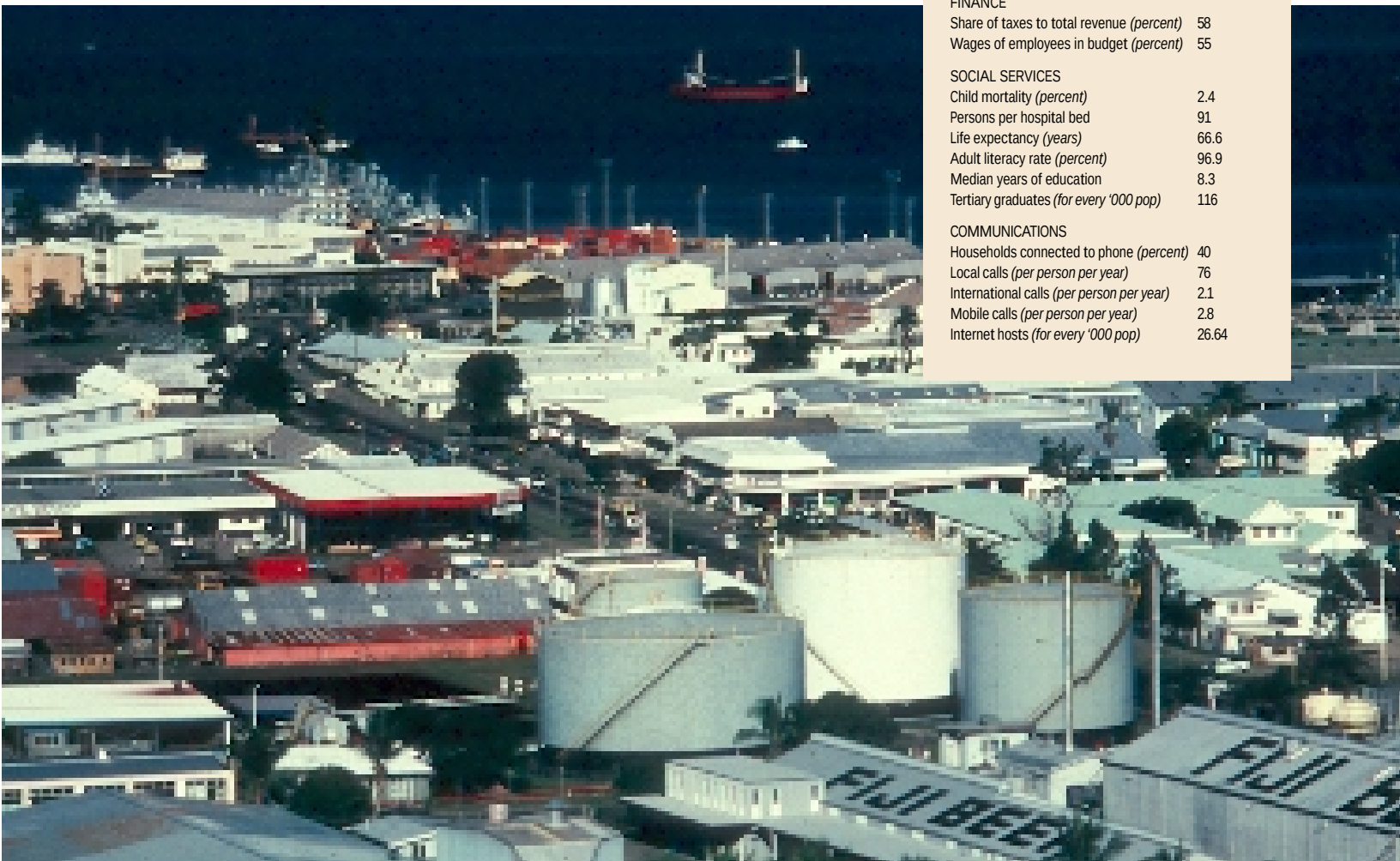
Secretariat, and other institutions that serve the region, such as the Fiji School of Medicine and the University of the South Pacific.

The area defined as Suva City covers 2,600 hectares and is administered by the Suva City Council (SCC). Most of Suva is located on a short peninsula that is bounded to the east by Laucala Bay and to the west by Suva Harbor, the Fiji Islands' busiest port. The peninsula is heavily developed. The city's central business district (CBD) lies along the western shore, with smaller commercial areas at Samabula, Nabua, Raiwaqa, and Toorak; the main industrial district and local shipping port are in Walu Bay,

and a smaller industrial area is at Vatuwaqa. There are also several well-established residential suburbs, and some of the Fiji Islands' major recreational and sporting facilities, such as the National Stadium, are at Suva Point.

Statistical Snapshot ... 1998

DEMOGRAPHY	
Resident population (in million)	0.077
Density (persons/ha)	74.7
Annual rate of increase (percent)	1.7
ECONOMY	
City product (per capita)	US\$3,205
Households below poverty line (percent)	17.5
Cost of stay (per day)	US\$84
FINANCE	
Share of taxes to total revenue (percent)	58
Wages of employees in budget (percent)	55
SOCIAL SERVICES	
Child mortality (percent)	2.4
Persons per hospital bed	91
Life expectancy (years)	66.6
Adult literacy rate (percent)	96.9
Median years of education	8.3
Tertiary graduates (for every '000 pop)	116
COMMUNICATIONS	
Households connected to phone (percent)	40
Local calls (per person per year)	76
International calls (per person per year)	2.1
Mobile calls (per person per year)	2.8
Internet hosts (for every '000 pop)	26.64



Greater Suva extends inland to the northeast and west of the city and incorporates a large periurban area, excluding the areas administered by two smaller but almost contiguous towns, Lami and Nausori. The Government plans to soon establish a third town within the periurban area, at Nasinu. The 1996 Census recorded the city's population at 77,366, with another 90,609 living in the periurban area, giving a total urban population of 167,975, or 22 percent of the Fiji Islands' total population. If Nausori and Lami towns are included, the total urban area covers approximately 6,500 hectares and accommodates just over 30 percent of the Fiji Islands' total population.

DEMOGRAPHY, LABOR FORCE, AND INCOME

While the population of the total Suva urban area has doubled since the mid-1960s, the population of the city has grown only 43 percent. This growth is constrained by the extent of development already there; only in-fill development is now possible. Furthermore, relatively high land values force people to move away to cheaper areas and the formalization of land tenure in Suva's squatter settlements has considerably slowed their growth. Over the past decade, almost all population growth in this region has occurred in Greater Suva.



Fishing around Suva is popular

Most of this growth has been contributed by migrants from rural parts of the Fiji Islands, predominantly ethnic Fijians. Over the past few decades, therefore, many of the city's characteristics have changed. Prior to the 1950s, migration into the city by ethnic Fijians was discouraged by the colonial Government. In the 1960s, Suva's population still reflected this policy, with little development outside the official city boundaries, other than a few recognized native settlements or squatter settlements, and with the population predominantly Indo-Fijian, European, Chinese, and people of mixed race. In the 1990s, other than being bigger in area and population, the Suva urban area also has a much larger proportion of ethnic Fijian residents. Lami has the highest proportion of Fijian residents in any main town in the country (the only one higher being Nabouwalu, a tiny administrative center in southern Vanua Levu).

A stark contrast in living standards is apparent throughout Suva City. As well as evident differences in housing quality and living standards between the low-rental areas of Raiwaqa, Toorak, and Nabua and generally up-market suburbs of Tamavua, Namadi Heights, and Muanikau, throughout the city there are squatter dwellings which are substandard, overcrowded, and without basic amenities. The 1997 Fiji Poverty Report estimated that almost one in four urban households in the Fiji Islands lived in substandard, squatter-type housing.

This contrast in living standards reflects the extent of poverty in the Fiji Islands which is fairly evenly distributed between rural and urban areas and the quite unequal distribution of income. The 1997 Fiji Poverty Report found that national income was heavily concentrated in the upper brackets, while 25 percent of households did not have sufficient income to provide themselves with minimally acceptable living conditions, by Fiji Islands standards. A 1999 survey of households in the Suva-Nausori corridor estimated that 15–20 percent of households in Greater Suva live in poverty and around 6 percent (or 15,000 people) live in absolute poverty. Although there are squatter areas in Suva City, land and housing values are generally higher than in Greater Suva, reflecting the more developed residential areas and overall higher income levels in the city.

The main sectors of formal employment in Suva are administration, services, and manufacturing. Over the past decade, there has been an upsurge in factory employment, particularly in the garment industry, in response to government policies to increase exports. As the main administrative center, many Suva residents are employed by the national and local governments. Many people work in the informal sector, although this sector is not as visible in Suva as it is in some Asian cities. A United Nations Development Programme study of the informal sector in the Fiji Islands and other Pacific island countries found that the nonformal sector was large and growing, employing people mainly in the marketing of local food, casual laboring, and cottage manufacturing.

POLITICAL STRUCTURE

The city is governed by the elected SCC which is a semigovernment body established under the Local Government Act of Fiji. The SCC comes under the purview of the Ministry of Housing, Urban Development and the Environment, but has the authority to adopt by-laws through which to govern. Although it has more responsibilities delegated to it than do other municipal councils, it retains only limited autonomy in its actions, especially over its revenue base.

The SCC is elected by residents and owners of property within the city's four wards of Samabula, Tamavua, Muanikau, and Central. It consists of 20 councilors, five for each ward, and is headed by the lord mayor who is elected annually from among the councilors. Although Suva is multiethnic, there is no particular mechanism to ensure representation for minority groups, other than through the normal democratic process. Councilors are elected for three years. Day-to-day administration of the SCC is carried out by the town clerk, or chief executive officer, assisted by the director of administration and operations, the director of engineering services, and the director of health services.

URBAN GOVERNANCE

The SCC provides and maintains public utility services and public works, either alone or jointly with other authorities. It is the only local government body in the Fiji Islands to



The Government supports conservation of historical buildings albeit on a limited scale

have its own town planning capability. The Local Government Act limits commercial activity by local authorities, thereby constraining SCC's capacity to expand its revenue base beyond rate collection. When the Government took over the Suva Electricity Power Station in the 1970s in the national interest, the SCC lost its ownership of the Station and could not acquire an alternative source of revenue. Another long-standing difficulty is that the SCC improves city infrastructure through its capital works program, but because of limited revenue only raises the necessary finance by taking loans from commercial banks. These difficulties, compounded by the lack of a long-term financial strategic plan, culminated in a financial crisis for the SCC in 1997. As a result of this crisis, capital expenditure halted, council workers had to take wage cuts of up to 37 percent, and many unestablished workers were made redundant. This in turn reduced the services delivered to ratepayers. In 1999, the SCC reviewed its organization management system to overcome these fundamental problems, and in February 2000, completed a Draft Strategic Plan. This will be finalized through consultation with the community, government, and business sector.

Businesses in the CBD regularly lodge complaints about poor drainage and the threat of flooding, and problems of downtown traffic congestion. In March 2000, central city

businesses were hit by a flash flood that damaged property and goods. Like other urban residents, business-owners are periodically affected by water cuts or shortages and power outages.

In recent years, violent crime, including daytime armed holdups, has increasingly become a concern for business-owners, who must fully secure their premises, particularly at night. In May 2000, a politically-motivated riot in the CBD led to looting and burning of shops, causing almost \$14 million in damage. Some shops have since reopened, but the damage to business confidence will last long.

By comparison with other Pacific island urban centers, Suva remains an attractive place to live in because of the range of services and recreational facilities, relatively good quality educational institutions, and the social life in this multiethnic community. Recreational facilities include well-equipped modern cinemas, restaurants and night-clubs, cultural organizations such as art and drama associations, and a variety of sporting facilities, including rugby, soccer, basketball, athletics, golf, tennis, yachting, outrigger canoe racing, and fitness centers. Its coastal location provides many opportunities for water sports, but unfortunately there are no good beach parks in the Suva area. House break-ins are common in the wealthier suburbs and add to a perception

of compromised security. For this reason, some international organizations consider Suva to be a hardship post. Other concerns are increasing with poorly maintained roads and traffic congestion, occasional water and electricity cuts, and littering and pollution.

URBAN INFRASTRUCTURE

The services available in Suva for health and education are among the best in the country. Suva's central hospital, the Colonial War Memorial Hospital, is the Fiji Islands' principal hospital providing a wide range of general and specialist services. As well, there are many private practitioners and clinics, with the construction of a large private hospital planned to begin soon.

Suva is also the center for education services in the country. There are 20 secondary schools, 35 primary schools, nine tertiary institutions, and several private colleges for vocational skills like secretarial or computer studies. Most primary and secondary schools are relatively crowded. Tertiary institutions include the Fiji Institute of Technology and its specialized schools, such as the School of Catering and Hospitality and the Marine School; the University of the South Pacific; the Fiji School of Medicine; the Pacific Theological College, and the Fiji campus of the University of Southern Queensland.

In other respects, however, Suva faces the problem of upgrading or maintaining its urban infrastructure as the growing urban population increases the burden on its already inadequate housing, water, and sewerage. All formal households as well as most informal ones are connected to piped water supplied by the Public Works Department, and to electricity supplied by the Fiji Electricity Authority. Less than 45 percent of residences in the Suva urban area are connected to sewers; many have septic tanks, or informal houses, pit toilets.

Interruptions to the electricity and water supplies are becoming increasingly common in various parts of the urban area. A 1995 World Bank study found development outpacing the capacity of water supply and sanitation systems. By the mid-1990s, Suva's planned maintenance and upgrading was seriously behind schedule. A recent survey found that 44 percent of households surveyed experienced water shortages or



The city retains an old building at downtown area

low pressure over the past 12 months, both because of dry conditions and operational problems. There is a high level of suppressed demand, even while half of the water supply is unaccounted for because of leaking pipes and faulty equipment. The survey also found a large backlog of around 10,700 domestic sewerage connections with access to trunk sewers but no reticulation, plus another backlog of 1,200 commercial or government connections.

TRANSPORT

Because of the growing congestion of buildings and traffic in the city, some government offices, businesses, and manufacturing have decentralized over the past decade into the Greater Suva area. Even so, the SCC estimates that approximately 60,000 people commute daily into the city. Road congestion and maintenance are becoming urgent problems. The high rainfall, large number of heavy vehicles with excessive axle loads, and poor road design and drainage have resulted in numerous potholes in city streets. The SCC lacks the resources to keep up with road maintenance and has identified this as an area of their operations to urgently review.

The main means of transport now are by private car or Suva's large fleets of privately owned taxis and buses. Taxi proprietorship is the most common business type in Suva. Over 1,100 licensed city taxis account for almost 25 percent of all business licenses issued. The number of taxis oper-

ating is larger than this, however, as many proprietors have more than one taxi, and many of the taxis operating in Greater Suva are based outside the city limits and therefore do not require SCC business licenses. Suva also has an efficient privately operated bus transport system. As well as 34 licensed bus operators, there are numerous legal and illegal minibuses. The number of taxis and buses, together with government price regulations, has kept fares relatively low.

This low price structure, while benefiting the travelling public, has resulted in low returns. There has also been little enforcement of public transport regulations. As a result, most taxis and buses are old and maintenance levels are low. Most use diesel fuel, which although cheap, pollutes when used in the many poorly maintained engines. Smoky vehicle exhaust is the most common and offensive form of pollution in Suva. The 1994 *State of the Environment Report* noted that pollution from the transport industry had become a public health concern. City planners face the difficulty of either meeting the high cost of increasing the traffic capacity of roads and providing more parking space, or finding innovative new modes of transport that are efficient and affordable for commuters.

HOUSING ACCESS AND AFFORDABILITY

Most housing in Suva is privately owned or rented. Building costs have risen in recent

years, particularly after the Fiji dollar devalued in 1997, as many building materials are imported. The Housing Corporation is a quasi-government body responsible for providing affordable housing for low-income workers. An associated body, the Public Rental Board, manages low-cost apartments throughout Suva, but particularly in Raiwaqa. Despite their work, the supply of low-cost housing for workers has not kept pace with demand. Most low-cost accommodation is in the private market.

Approximately 40,000 people, 16 percent of the population of the Suva urban area, live in informal settlements, according to a recent estimate (Gutteridge et al. 1999). Informal urban settlements include native settlements, urban villages, and squatter settlements. Native settlements and urban villages, which include traditional Fijian settlements, are largely exempt from the provisions of the Local Government Act, but have their own special legal status. Squatter settlements, by contrast, have no recognized tenure and have grown up on pockets of unused land or where landowners have tolerated them. There are several squatter settlements in the city, but informal housing is scattered throughout Suva's residential areas. Since 1990, the number of informal settlements within Suva City Boundary has decreased, while the number of informal houses and settlements in the



Many people are employed in the informal sector such as this snack vendor at a bus station

periurban area has increased. Most of this decrease in Suva City has come about through formal development of the land, rather than official programs of squatter resettlement. The National Resettlement Committee is the coordinating body for planning and implementing the upgrading of squatter settlements.

There are, however, relatively few permanently homeless people in Suva. The reason for this is the opportunity for people to erect squatter houses, or move in with relatives, and the efforts of organizations such as the Housing Assistance and Relief Trust (HART) and Habitat for Humanity to provide housing for people in desperate need.

ENVIRONMENTAL MANAGEMENT

Suva faces looming environmental problems because of poor waste management. Despite the scenic quality of Suva Harbor, it is badly polluted and is also silting quickly, because of poorly managed land development. Most solid waste is dumped at the Lami Dump which once was on the city's periphery, but now is in a heavily populated urban area. There have been several plans to move the dump, but no action has yet been taken. There is no facility at the dump for waste management or recycling, and heavy metals and other serious pollutants leach directly into the harbor. Many septic tanks are ineffective because most of the city is located on marl, or soapstone, and a large volume of effluent seeps into Suva's numerous creeks and the harbor. SCC (2000) reports that their trucks break down regularly and this has created a backlog of house-

holds with full and overflowing septic tanks, which poses a grave health risk to residents. Furthermore, most informal houses have no regular garbage collection and instead deposit their garbage in nearby streams or on waste land.

DISASTER RELATED RISKS

The most common natural disasters are tropical cyclones and associated flooding and the effects that these have on Suva City are minimal compared with the surrounding Greater Suva. The last cyclone experienced in Suva was Cyclone Kina in 1992 which caused extensive flooding of the Nausori area.

Suva is also susceptible to earthquakes and associated tsunami, but these are relatively rare, at least in living memory. The last major earthquake was in 1953 and the city is now ill-prepared to deal with such an event. A large tsunami could shut down Suva's prime commercial and industrial areas.

CULTURAL HERITAGE

There are attempts to conserve some built heritage although these efforts are generally limited to residential properties and historical government buildings. Because there is no strong push to conserve built heritage, conservation is ad hoc.

For a capital city, Suva has relatively few venues for cultural activities and fewer cultural shows for the public. Most cultural events are organized by religious groups and include events like the annual national church choir competitions, which are gen-



Suva's coastal location provides opportunities for water sports

erally held in Suva. The annual Hibiscus Festival is a week-long open-air fair, with parades and public competitions. It began in the 1960s, initially to provide Suva with an annual tourist attraction. Cultural attractions include the Fiji National Museum, and smaller privately run culture centers for tourists, such as Orchid Island, located 20 minutes out of Suva.

Most Fijians enjoy sports, and there are opportunities to participate in a wide variety. There is no statistical data on participation in sports but it is generally high and a lot of Suva's cultural events are sport oriented. Suva hosts the annual Fiji International Rugby 7s, the Fiji Finals high school athletic meet, as well as sporting events, some international, throughout the year. Suva has adequate recreational facilities but also areas that need improvement.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

According to the SCC, land in the city is currently saturated with development. Except for reclamation on the seashore, there

Suva's Harbor is Fiji Island's busiest port



is no direction to move without clashing with other boundaries. Yet there are still opportunities within the current boundaries to improve the quality of current structures. The physical means of controlling development in Suva is through a zoning system. This is securing future use of land to help achieve social and environmental objectives.

Some major development projects have been proposed for Suva, such as a large foreshore development project and a world trade center complex, but they have not succeeded in securing committed investors. The Fiji Islands, and in particular Suva, will be hosting the 2003 South Pacific Games and several new sporting facilities and complexes are planned. The majority of these are located where current complexes exist and will result in centralizing Suva's sports facilities.

The Fiji Islands' national political crisis that began in May 2000 clouded Suva's development. The razing of the business district may be a temporary setback, as several businesses have reopened, and the demand for space may encourage new businesses to set up where others do not recover. This event may, however, encourage a relocation of businesses to other parts of the urban area, or to other towns. Whether or not the call to separate western Viti Levu into a separate state gains political momentum, it will surely encourage the growing concentration of business activity in the Nadi-Lautoka area, possibly leaving Suva to serve only as the Fiji Islands' administrative center. The risk of continuing civil disturbances has already caused some international agencies to consider moving office to Nadi or Lautoka, or to even relocate out of the country. Regional institutions, such as the University of the South Pacific, may find that maintaining their central campus in Suva is untenable, given the possibility of disruptions and threats to the safety of students.

Margaret Chung served as adviser to the United Nations Regional Coordinator. She also managed a United Nations Population Fund project which dealt with population issues in environmental management in Pacific island countries. Ms. Chung holds a Ph D degree in Human Geography.

MONGOLIA

Ulaanbaatar



GENERAL DESCRIPTION OF THE CITY

Ulaanbaatar, capital of Mongolia, lies along the Tuul River in a valley, with mountains and the Bogdkhan National Park, claimed as the world's first such park, limiting growth to the north and south. It is the world's coldest capital with an annual temperature range of $-44^{\circ}\text{Celsius}$ to $+37^{\circ}\text{Celsius}$. The capital's airport is the main entry point for visitors, while train travel enthusiasts can enjoy travelling from Beijing or Moscow on the Trans-Siberian

Railway. Ulaanbaatar has various tourist attractions, including several restored monasteries and excellent museums. Mongolia is known for its nomadic traditions and a third of its population remains nomadic. Although the city has been on the same site since 1639, it was a tented city for most of the time. Urbanization is recent and, with a more than tenfold increase in population during the 70 years of communism to 1990, the city retains many signs of the Soviet Union's influence.

Mongolia suffered a threefold setback in 1990, with the withdrawal of Soviet financial aid, the loss of export markets, and an

end to technical assistance. This resulted in a 30 percent loss to its economy. The 1990s saw a transformation of the economy, political institutions, social conditions, and lifestyles, especially in Ulaanbaatar. While

Statistical Snapshot ...1998

DEMOGRAPHY

Resident population (in million)	0.72
Density (persons/ha)	133
Annual rate of increase (percent)	4.5

ECONOMY

City product (per capita)	US\$525
Households below poverty line (percent)	34.1
Cost of stay (per day)	US\$98

FINANCE

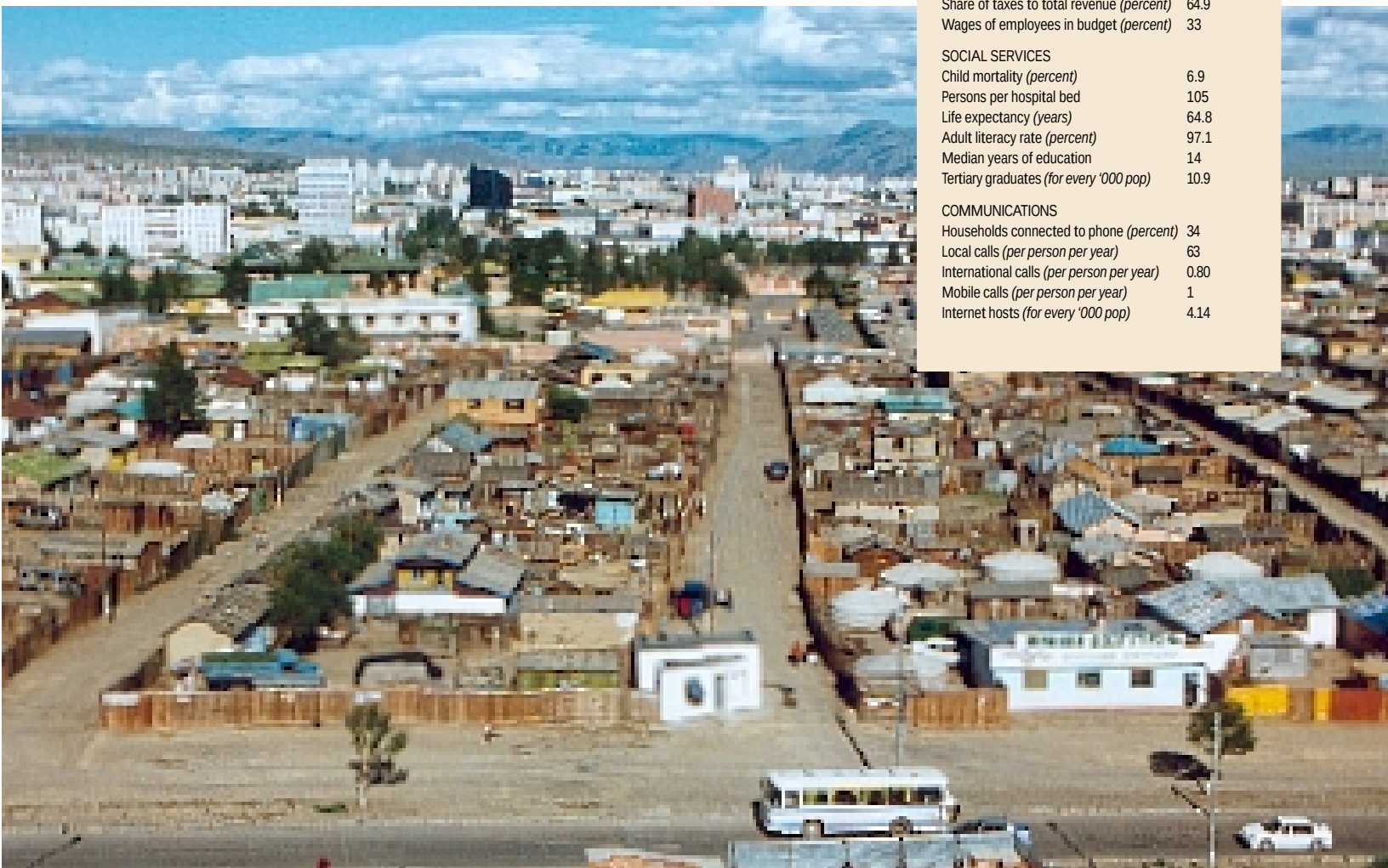
Share of taxes to total revenue (percent)	64.9
Wages of employees in budget (percent)	33

SOCIAL SERVICES

Child mortality (percent)	6.9
Persons per hospital bed	105
Life expectancy (years)	64.8
Adult literacy rate (percent)	97.1
Median years of education	14
Tertiary graduates (for every '000 pop)	10.9

COMMUNICATIONS

Households connected to phone (percent)	34
Local calls (per person per year)	63
International calls (per person per year)	0.80
Mobile calls (per person per year)	1
Internet hosts (for every '000 pop)	4.14



GDP is one of the lowest in Asia there has been slow growth since the mid-1990s. The Government has developed the market economy and privatization, critical to these changes, has been particularly successful in the housing sector where over 90 percent of apartments have been privatized in the last three years.

Ulaanbaatar presents two types of development. The first involves a central planned area of prefabricated or brick apartment buildings up to 12 storeys, surrounded by vaguely defined open spaces. The second involves ger areas characterized by long plots, mainly 300–500 square meters (m²), served with electricity, on-site sanitation, and water supply available from kiosks. Such informal development now dominates urban growth and accounts for some 60 percent of the city's population. At the same time the populations of other smaller urban centers are "ruralizing" as their economic bases weaken or disappear and some ger households move back to the countryside.

Elders selling drinks, cigarettes, and candies near the public bus station

Half of the 22 aimag or provincial capitals' populations have declined since 1990. Rapid growth in commercial activities in Ulaanbaatar, particularly in the informal sector, contrasts with the stagnant economies of most other Mongolian towns.

DEMOGRAPHY, LABOR FORCE, AND INCOME

Ulaanbaatar's population continues to grow rapidly at around 4.5 percent per year, with an average household size of 4.8. Net inward migration from other parts of the country is estimated to account for some 45 percent of growth. Much of the growth is taking place in unplanned, fast-expanding ger areas, especially to the north of the city. Ulaanbaatar has a young age structure with dependency rates of 36 percent for men and 35 percent for women.

The city's economically active population of 216,000 included 210,000 employees in 1999. Of those, 38 percent were employed in secondary and infrastructure jobs, 34 percent in consumer services, and 18 percent in social services. The private sector is now the



The Golomt Bank of Mongolia is the largest private commercial bank in Mongolia

economy's engine of growth and that growth was so fast in the late 1990s that it compensated greatly for the faltering public sector. Between 1995 and 1999 the private sector's share of officially recorded GDP rose from 55 percent to 73 percent, while the city's GDP per capita has doubled since 1996 to \$525.

The 1990 transition resulted in structural changes which prompted private sector growth. This growth accelerated in the past five years as traditional trading patterns changed, with large volumes of new imports entering Mongolian markets. Industries that developed under the former command





Large private businesses grew as state-owned enterprises declined

economy have declined or disappeared. The transfer of assets from state ownership to private ownership has been accompanied by the rise of new large private businesses in mining, textiles, trade, banking, information technology, and other sectors. Distribution of goods and services, formerly controlled by a rigid state planning apparatus, is now almost entirely market-driven and retail prices are almost entirely decontrolled. Growth in the market economy has contributed to a dynamic informal sector, particularly in Ulaanbaatar. The sector is estimated to account for 57 percent of retail trading, 34 percent of transport (particularly taxis), and 8 percent of services.

Reacting to the economic stresses of the early 1990s, the Government introduced a poverty alleviation program in 1995, but by 1999 27 percent of the population was still below the poverty line of \$17 per month. There were 28.7 percent of women-headed households below the poverty line in 1998 and 51 percent of household expenditure was on food; a high proportion which indicates widespread poverty. Nationally, single mothers, children to 16 years, and the elderly account for half the urban poor. In Ulaanbaatar, some two thirds of the unemployed are the very poor.

POLITICAL STRUCTURE

Mongolia is divided into the administrative areas of the capital city and 21 aimags (provinces). Ulaanbaatar has nine districts, in-

cluding six urban and three remote districts (Nalaikh, Baganuur, and Bagakhangai) located 45–110 kilometers from the main built-up area of Ulaanbaatar. Districts are divided into khorooos (subdistricts). The City Assembly, consisting of 40 councillors, does not have the authority to introduce local taxes, but can set certain fees.

The mayor is nominated by the City Assembly and is appointed by the prime minister who signs the contract for the mayor's tenure. The mayor appoints a deputy, with the prime minister's approval, and submits his performance report to the prime minister twice yearly. The prime minister can cancel the mayor's decision if it does not comply with legal acts.

Since the city's budget is subject to approval by the City Assembly, it might appear that the city government is legally independent, but the city is financially dependent on the central Government. While the city is self-supportive and does not get any subsidiary grant from the Government, the latter decides which economic entities should report to which tax office (national, municipal, and district), based on the size of tax revenue involved. In some cases the Government's decision causes many problems for the city. For example, the Petrovis and Skytel companies pay almost \$1 million annually to the municipal government. Recently, the Government removed these two companies' tax payments from the city budget, while allocating another 10 tax paying companies to the city. However, the total tax payable from these companies was only one-fifth of previous business tax collections from Petrovis and Skytel.

The Government decides salary level increases for public sector employees, after approving the city's annual budget and this puts great pressure on the city budget.

URBAN GOVERNANCE

Since the country's democratization process began, the Government has pursued decentralizing state powers to lower levels of government. The rationale for this is to reflect the change to a market economy, to create greater accountability and transparency in government, and to promote better use of resources. So far some powers have transferred to local government, but in many



The Drama Theater is one of Ulaanbaatar's symbols of strong cultural heritage

cases the transfer has been one of deconcentration or transfer of administrative discretion, but with few decisions allowed without reference to the center.

There is much to do for citizen participation, access to information, transparency, responsiveness, and accountability. Assistance with meeting these objectives in Ulaanbaatar is part of the city governance component of the City Development Strategy Project funded by the World Bank. Progress in meeting the objectives needs to be set against Mongolia's authoritative past which discouraged the formation of groups that were not part of state administration.

The Constitution declares that, except for listed classified documents, all requisite



Traffic congestion is rare

information should be available to the people. Fortunately, local media has become the leading provider of information and a supporting pillar of the country's democracy. The proliferation of newspapers since transition is testimony both to Mongolia's high levels of literacy and the people's appetite for information.

URBAN INFRASTRUCTURE

The formal areas of Ulaanbaatar are serviced by water, heating, hot water, and sanitation piped systems, as well as electricity, while the informal ger areas have electricity connections, on-site sanitation, and water from kiosks. Many of the utility networks need maintenance and renovation.

There is a dramatic difference in the water consumption of those living in apartment blocks, with a consumption of 200 liters or more per day, and those in the majority of the city, with a consumption of some eight liters per day. Delivery of water to kiosks by tanker is being replaced by underground pipes; however, no provision is made for individual connections to the water reticulation system. Water supply by individual connection remains at some 51 percent and water unaccounted for amounts to 38 percent.



Big building in a commercial street show signs of Soviet Union's influence



First floor apartments have been converted to commercial spaces

The city's formal areas are connected to a sewerage system which is connected to a city treatment plant. Service is available to some 51 percent of the city's population; it is estimated that 50–60 percent of city wastewater is treated. In the informal or ger areas, residents rely on underground pipes for sanitation.

There are three forms of heating system in the city. First, a district heating system in the formal city distributes heat from thermal power plants. Second, coal-fired stoves are used in ger areas for both heating and cooking. Third, boiler houses heat single or groups of buildings. None of these systems use thermostatic controls and are targets for energy conservation, as well as maintenance and renovation. A start has been made on conservation by metering some apartment buildings.

Electricity connections are available to virtually all households in the city, but result in power plant failure supply interruptions.

There are now many new communication systems, including two mobile phone providers, three cable TV stations, and three Internet service providers. Resident demand for new technology is growing fast, however, only 34 percent of households have telephones. There are telephones in informal or ger areas and some areas have wireless phones.

TRANSPORT

The most common mode of transport in Ulaanbaatar is bus or minibus (60 percent of trips), followed by walking (30 percent), train (5 percent), car (3 percent), and motorcycle (2 percent). Traffic congestion is rare or non-existent and the median travel time for journeys across the city is 25 minutes. Road networks in formal areas are overdesigned, while there are few, if any, satisfactory roads in informal or ger areas. Only a few surfaced roads connect the city to other towns. The rail system is connected to Beijing and Moscow via the Trans-Siberian Railway, while international flights connect with Russia, People's Republic of China, Republic of Korea, and Japan.

HOUSING ACCESS AND AFFORDABILITY

The housing typology for Ulaanbaatar consists of ger tents within large individual plots (some plots are legally recognized); government-built apartment blocks (90 percent or more privatized and being managed by condominium associations); developer built apartments; owner built private houses, and formal contractor built private houses. Average floor area per person is 5.66 m². The major growth area is in the informal settlements with gers. It is likely that such con-



Private minibuses queued in the market

struction will be the main supply of new housing over the next decade or more (even though such housing does not comply with regulations). Such construction will be carried out incrementally, beginning with a traditional ger and ending with an all-weather house of one or two storeys. In parallel, existing housing and neighborhoods will be upgraded. This forecast however depends on the Government acknowledging that such housing is the logical outcome of agreed policies which recognize the private sector as being the main provider of affordable housing, based on market-oriented principles. It needs to be recognized however that there remains a strong viewpoint that ger areas are only temporary, to make way later for formal apartment construction.

Housing and land markets are developing, particularly in Ulaanbaatar. The emerging housing market is reflected in the construction of and trade in apartments (the latter providing a major source of equity when the time comes to buy another property), and the start of trading in ger plots. At present the market is restricted by a lack of housing finance, however, a study is currently developing a workable system. Progress in developing land markets is slow. While leases of up to 60 years are available, the land market is not geared to a demand driven approach. Once land has been privatized the market should expand rapidly.

ENVIRONMENTAL MANAGEMENT

Ulaanbaatar is increasingly suffering from air pollution. The concentration of pollutants, especially during the long winter, is mainly generated by households. Nearly half the households are heated by coal or wood fires. As a result, levels of carbon dioxide in outer areas can be up to seven times higher than in the city center. Added to this pollution are

increasing quantities of industrial pollutants from the city's three thermal power plants which consume more than three million tons of coal per year. Ulaanbaatar's 30,000 or more vehicles also add to the noxious atmosphere.

Household sewage in the formal zones flows eventually to the treatment works in southwest Ulaanbaatar where it is well treated with 90 percent biochemical oxygen demand removal. Sewage treatment in



Archery competition for women is featured during the national festival in July



Mongolian national wrestling is an interesting event during sports festival

the city's informal areas depends on the condition of the underground pit used. Given the low density of these areas it can be assumed that there is little contamination of land around pits (though this might change as settlement densities increase).

Ulaanbaatar residents each generate some 0.6 tons of solid waste per year and an estimated 60 percent of households are regularly serviced with a public company responsible for the dump site.

CULTURAL HERITAGE

Ulaanbaatar has various buildings and temples which are of great interest to visitors such as the Winter Palace of Bogd Khaan and Gandantegchinlen Khiid. There are many interesting museums and art galleries, in particular the Museum of Natural History, the Museum of Fine Arts, and the National Museum of Mongolian History. In addition there are numerous performances of classical and Mongolian opera, ballet dance, and concerts. The national festival, Naadam, takes place in July and features the three Mongolian pursuits of wrestling, archery, and horse racing.

MAJOR URBAN DEVELOPMENT PROJECTS, STRATEGIES, AND POLICIES

Until now there has been no overall strategy for Ulaanbaatar since the 1990 economic transition. Currently, work is continuing on the City Development Strategy, funded by the World Bank. In 1999, im-

portant building blocks for a coordinated urban strategy were legislated, which include the Mongolian State Policy on Housing, the Housing Law, the Condominium Law, the Law on Registration of Immovable Property, and the Cadastral Survey and Land Registration Law. Various infrastructure-led urban development projects were carried out in the past few years, including urban improvements for various aimag centers in the west of the country. These will soon be repeated in other provinces. Technical assistance has been provided to develop a land cadastral and titling project, beginning in Ulaanbaatar. Rehabilitating the water supply and other infrastructure is being carried out under the Ulaanbaatar Urban Services Improvement Project (World Bank) and the Rehabilitation of Water Supply Facilities in Ulaanbaatar City (Japan International Cooperation Agency). Other major projects in Ulaanbaatar include the Mongolia Energy Conservation Project and the Strengthening of Commercial Banks Project (both under Asian Development Bank).

Major projects in the infrastructure sector and private development in the past few years include the Modernization of Power Plant No.3, City Road Improvement Project, Extension of Ard-Ayush Avenue, New Central Market Development, Chingges Khaan Hotel, and Continental Hotel.

Nyamjuu Zaanhuu is the President and Chief Executive Officer of Yom Yom Co Ltd.. He is involved in various projects as senior civil engineer.

CHAPTER 7:

NOTES AND SOURCES

Bangalore

Indicators

1 POPULATION

1.1 Urbanization

Census of India (COI) 1991

- Urbanization figures for 1991 are from the 1991 census while 1998 figures are based on estimates.

	1951	1961	1971	1981	1991	1998
India	17.3	18.0	19.9	23.3	25.7	28.3
Karnataka	23.0	22.3	24.3	28.9	30.9	33.0

- The 1998 urbanization figure accounts for the growth rate between 1981 and 1991.
- Urban areas are defined specifically for the census.
- Population figures for the city at 10-year intervals are given below.

1.2 City population

Growth over Previous

Year	Population	Decade (%)
1951	778,977	91.50
1961	1,141,107	46.49
1971	1,540,741	35.02
1981	2,620,593	70.61
1991	3,302,296	25.63
1998	4,328,649	44.40

- 1998 population figures are based on the average growth rate between 1950 and 1990. The city grows as it annexes its boundaries over time.
- The daytime population was estimated and the results matched the floating-population figures released by the local government and other agencies.

1.3 Migration

Not available

1.4 Net population density

Comprehensive Development Plan for Bangalore (CDPB) 1995

- According to the land-use survey made by the Bangalore Development Authority in 1990 for the CDBP study, the residential area was 9,877 ha—close to the March 1991 census estimates. The net density was obtained by dividing the population of 1991 (3,302,276) by the residential area (10,000 ha).
- Consultant's estimates, based on population trends between 1981 and 1991
- Consultant's estimates, arrived at by dividing the city population by the number of households (from the 1991 national census)

1.5 Age pyramid

1.6 Average household size

1.7 Household formation rate

United Nations Commission on Human Settlements (UNCHS) 1993

- Actual figures for the number of households in 1981 and 1991, derived from the census for those years, are:

1981: 454,512 households

1991: 511,125 households

- The growth rate of households from 1981 to 1991 was estimated by applying the CDB formula. The annual growth rate was highest, at 4.27%, from 1971 to 1981.

1.8 Women-headed households

COI 1991; National Health and Family Welfare Survey (NHFWS) 1992–1993

- The figure 9.5% is from the 1991 census. According to the NHFWS, women-headed households were 12.5% of all households in Karnataka State. District-level figures are not available.

1.9 Minority groups

COI 1991

- The Karnataka population includes the following minority groups: Muslims (12%), Christians (2.4%), Jains (1.11%), Buddhists (0.7%), Sikhs (NAV), Parsi (NAV), Muslims (13%), and Christians (3%).

1.10 Household types

CDB team's calculations, based on figures provided by the consultant

- The COI collects data on the number of persons in a household.
- The last household survey was in 1973/74. The data on household types were therefore based on the 1991 census, as follows:

Family Composition	% of All Families
1 adult	12.44
1 adult + children	0.43
2 adults	5.63
2 adults + 1 child	6.15
2 adults + 2 children	6.64
2 adults + more than 2 children	10.52
3 adults	3.89
3 adults + children	16.77
Other families	37.53

Bangalore

1.11 Informal settlements

Karnataka Slum Clearance Board (KSCB) 1991

- There are 362 large and small slums in the 15 assembly constituencies. These are as follows:

Assembly	No. of Pockets	Area (ha)	No. of Huts	Population
Malleshwaram	25.0	18.69	4,548.0	26,995.0
Binnipe	19.0	6.79	8,324.0	59,589.0
Varthur	34.0	14.86	8,176.0	46,426.0
Gandhinagar	17.0	9.34	3,505.0	18,631.0
Chickpet	8.0	2.51	1,626.0	8,797.0
Bharathinagar	24.0	9.83	3,108.0	17,683.0
Shivajinagar	7.0	2.69	548.0	3,676.0
Shanthinagar	17.0	11.01	8,169.0	31,563.0
Basavanagudi	11.0	9.62	1,753.0	8,634.0
Yelahanka	21.0	18.39	6,143.0	37,770.0
Jayamahal	21.0	10.25	4,114.0	24,173.0
Rajajinagar	19.0	23.08	5,034.0	34,108.0
Uttarahalli	64.0	101.41	27,537.0	169,161.0
Chamarajpet	29.0	11.74	6,875.0	34,225.0
Jayanagar	46.0	36.48	12,501.0	64,259.0
Total	362.0	286.36	101,962.0	585,650.0

2 EQUITY

2.1 Income distribution

The Structure of an Indian Metropolis: A Study of Bangalore (Bangalore: Allied Publications, 1979)

- Household income data for 1998/99 were estimated by inflating 1973/74 household income data from the foregoing study. In 1973/74 an average family of five persons had to have a monthly household income of at least \$38.75 to meet its daily needs.

2.2 Households below poverty line

- Except for the lowest income group, the distribution of households by quintiles has not changed since 1973.

Information on households below the poverty line is not available for Bangalore City. Instead, data for Bangalore District contained in the foregoing report were used. The poverty line for urban households, according to the Planning Commission, is a yearly income of \$430.

2.3 Women-headed households in poverty

COI 1991

- Households often fall into poverty when the male head wage earner dies and the surviving female becomes the head.

2.4 Child labor

COI 1991; based on CDB team's calculations

2.5 Informal employment

Economic Census 1998; Bangalore District at a Glance, 1998

2.6 Unemployment

- National Sample Survey Organization (NSSO) did not estimate unemployment figures for city and district areas.

2.7 Expenditure on poverty

- Main organizations involved in poverty reduction are the KSCB and the reduction (per poor person) Social Welfare Department.

- Figures on the poverty reduction expenditures of these organizations were not available.

3 HEALTH AND EDUCATION

3.1 Persons per hospital bed

District Statistical Office, Bangalore District (DSO-BD); Department of Economics and Statistics, Government of Karnataka (DES-GK)

3.2 Child mortality

- Usually expressed as a proportion of 1,000 births. The Registrar General of India estimated the infant mortality rate for districts in 1991, on the basis of census data for the number of all children born and the number of surviving children of all married women, using the Brass method.

3.3 Life expectancy at birth

Consultant's estimates

- Derived from child mortality (q2), estimated by interpolating corresponding q and eo values from the Life Table for South Asia Model.

3.4 Mortality from infectious diseases

DES-GK, "Medical Certificates and Causes of Death," 1998

3.5 Family planning

Directorate of Health and Family Planning Welfare Services, Government Karnataka (DHFPWS-GK) 1999

- Percentage of married couples with females in the 15–49 age group who practise family planning. COI 1991

3.6 Adult literacy rate

Department of Public Instruction, Government of Karnataka (DPI-GK) 1997/98

3.7 School enrollment rates (primary, secondary)

Bangalore

3.8	Tertiary graduates	Consultant's estimates
3.9	Median years of education	NAV
3.10	Schoolchildren per classroom (primary,secondary)	DPI-GK 1997/98

4 URBAN PRODUCTIVITY

4.1	City product per capita	Directorate of Economics and Statistics, Government of Karnataka (DES-GK) The method used by the Central Statistical Organization, Government of India, in calculating the national GDP was followed.																						
4.2	Employment by industry	CDB team's estimates, based on data from the consultant Employment by industry for Bangalore City (Municipal Corporation)<table><tr><td>Total main workers</td><td>1,087,681.0</td></tr><tr><td>Cultivators</td><td>5,437.0</td></tr><tr><td>Agriculture laborers</td><td>4,876.0</td></tr><tr><td>Livestock, fishing, hunting</td><td>7,056.0</td></tr><tr><td>Mining and quarrying</td><td>2,031.0</td></tr><tr><td>Manufacturing, processing, servicing and repairs in household enterprises</td><td>15,419.0</td></tr><tr><td>Manufacturing, processing, servicing and repairs in other than household enterprises</td><td>338,656.0</td></tr><tr><td>Construction</td><td>91,048.0</td></tr><tr><td>Trade and commerce</td><td>264,180.0</td></tr><tr><td>Transport, storage, and communication</td><td>95,479.0</td></tr><tr><td>Other services</td><td>263,497.0</td></tr></table>	Total main workers	1,087,681.0	Cultivators	5,437.0	Agriculture laborers	4,876.0	Livestock, fishing, hunting	7,056.0	Mining and quarrying	2,031.0	Manufacturing, processing, servicing and repairs in household enterprises	15,419.0	Manufacturing, processing, servicing and repairs in other than household enterprises	338,656.0	Construction	91,048.0	Trade and commerce	264,180.0	Transport, storage, and communication	95,479.0	Other services	263,497.0
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4.3	Household expenditure	- This is based on the family budget survey carried out for the working class in Bangalore City by the Ministry of Labor, Government of India, in 1981/82. No such survey has been carried out since 1982. - It is from published figures in the report on the 1981/82 survey of the income and expenditure of working-class families in Bangalore City. - The same figures were used in computing the consumer price index for the city every month.																						
4.4	Investment by sector	- According to experts in economics, planning, and statistics who were consulted by the consultant, data for this indicator can be generated only through extensive surveys. - Private and corporate entities investing in social services (especially in education and health), industry, and other services outnumber union, state government, local government, and statutory authorities.																						
4.5	Tourism	Government of India Tourist Office (GI-TO), Bangalore																						
4.6	Major projects	Karnataka Chamber of Commerce (KCC)																						
4.7	Cost of stay	CDB team's estimates																						
4.8	Corporate headquarters	KCC																						

5 NEW TECHNOLOGY

5.1	R&D expenditure	NAV
5.2	Telephone traffic (million calls per year)	Bangalore Telephones, Department of Communications (BT-DOC)
5.3	Internet hosts per thousand population	CDB team's estimates, based on the figure obtained by the consultant from Videsh Sanchar Nigam population Limited (VSNL) • In 1998 VSNL was the only Internet service provider (ISP). In 1999 there were seven ISPs: VSNL Sathyam ETH Bharathi BT Munro Manipal Control Data Zigma Input Output Systems

6 URBAN LAND

6.1	Urban land	Bangalore Development Authority (BDA) report on the revised comprehensive development plan for Bangalore (1994) and the land-use survey carried out in 1990

Bangalore

- The land-use classifications in the plan differ from the CDB categories.

Land Use	Area (ha)	% of Total
Residential	9,877.0	34.78
Commercial	675.0	2.38
Industrial	2,038.0	7.18
Public and semi-public	2,615.0	9.12
Parks	2,131.0	7.51
Unclassified (defense)	2,114.0	7.45
Transport	8,946.0	31.49
Total	28,400.0	100.00

6.2	Land developer multiplier	BDA and inquiries with private developers
6.3	Developer contributions	Ibid.
6.4	Median time for planning permission	Ibid.
6.5	Vacant land with planning permission	Ibid.
6.6	Public open space	BDA report on the revised comprehensive development plan for Bangalore (1994) and the land-use survey carried out in 1990 BDA requires land developers to set aside 15% of the planned area for parks.
6.7	Vacant government land	Ibid.
6.8	Price of prime commercial land	Based on the estimates of several real estate agents, March 2000 Real estate values have dropped since 1996.
6.9	Prime rental and occupancy costs	Based on inquiries with several real estate agents, March 2000 Demand for commercial space rentals has been declining.
6.10	Expenditure on development	NAV

7 HOUSING

7.1	Dwelling type	Family Budget Survey for Bangalore City, 1981/82, Bangalore Mahanagara Palike (BMP), BDA-Bangalore
7.2	Tenure type	COI 1991 The ownership pattern in 1998 was the same as in 1991.
7.3	Ratio of house price to income	The ratio is obtained by dividing the average cost of a house (\$14,542.28) by the average annual income of a wage earner (\$1,454.228). Therefore, the ratio of house price to income is 14,542.28/1,454.228 = 10.
7.4	Ratio of house rent to income	
7.5	Floor area per person	Based on plans adopted for different income groups
7.6	Housing in compliance	Consultant's estimates; BDA
7.7	Mortgage to credit ratio	NAV
7.8	Houses with mortgages	NAV
7.9	Mortgage loans for women	NAV
7.10	Housing production	Consultant's estimates, 10 July 2000 No government department (state or union) or organization keeps statistics on the number of new houses built each year.
7.11	Squatter resettlement or normalization	- According to the Karnataka Slum Clearance Board (KSCB), there were 102,218 households in slum areas in 1999, and 5,768 households in all had been resettled up to that year. Annual figures are not available. - Major resettlement areas include slums behind Vijaya College (400 households), rehabilitated at Alahalli Church of South India slum (300 households); rehabilitated at Leggeri, which has about 16 slums with about 3,000 households; and multistoried building (government office complex) near Vidhana Soudha. - Slum resettlement and normalization in Bangalore is insignificant.
7.12	Net housing outlays by government (per person)	- The Karnataka Housing Board (KHB) and KSCB were the main government housing departments during 1999/2000. The housing outlays of these departments were - KHB — \$0.998 million, including \$0.023 million for establishment - KSCB — \$0.242 million, including slum services - Total — \$1.240 million - Per person: \$51,217,000/\$4,328,000 = \$11.83 per person

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8 MUNICIPAL SERVICES

8.1	Water	Bangalore Water Supply and Sewerage Board (BWSSB); Handbook on Statistics, BWSSB (HS-BWSSB) BWSSB 1998/99
8.1.1	Household connections	Prepared for the National Institute of Urban Affairs, New Delhi. BWSSB counts as one connection a building that houses one or more households (as defined in census document). HS-BWSSB 1995/96 and 1996/97
8.1.2	Investment per capita	Ibid.
8.1.3	Operations and maintenance expenditure	Ibid.
8.1.4	Cost recovery	Ibid.
8.1.5	Output per staff: Water supplied per employee	Ibid.
8.1.6	List of providers	BWSSB 1996
8.1.7	Nonrevenue water	HS-BWSSB 1995/96 and 1996/97
	a. Percentage of unaccounted for water	Ibid.
	b. Interruptions in water service	BWSSB document of February 2000 prepared for the National Institute of Urban Affairs, New Delhi
8.1.8	Consumption of water per capita	Ibid.
8.1.9	Median price of water, scarce season	Ibid. Water supplied to different categories of consumers is priced differently. The higher the consumption, the higher the price charged per liter of water. Tariff rates are the same all year even during the scarce season, unless revised by the government.
8.2	Electricity	Bangalore Metropolitan Area Zone of the Karnataka Power Transmission Corporation Limited (BMAZ-KPTCL) BMAZ-KPTCL 2000
8.2.1	Household connections	Ibid.
8.2.2	Investment per capita	Ibid.
8.2.3	Operations and maintenance expenditure	For the BMAZ-KPTCL areas, the costs cover not only residential supply but also the maintenance of feeder lines, substations, and distribution systems for other uses that consume more energy.
8.2.4	Cost recovery (%)	NAV
8.2.5	Output per staff: megawatt hours of electricity supplied per employee	BMAZ-KPTCL, January 2000
8.2.6	List of providers	KPTCL
8.2.7	Nonrevenue electricity	BMAZ-KPTCL
	a. Line loss for electricity	- Transmission loss in high voltage-tension connections (11 kV and higher) is 3%. - Distribution system loss in low voltage-tension connections (below 11 kV) is 15.44%. BMAZ's estimates
	b. Interruptions in power supply	
8.3	Sewage/Wastewater	BWSSB 1998/99
8.3.1	Household connections	Ibid. A dwelling unit may contain one or more households (as defined in census document).
8.3.2	Investment per capita	Ibid.
8.3.3	Operations and maintenance expenditure	Ibid.
8.3.4	Cost recovery	NAV
8.3.5	Output per staff: Wastewater discharged treated per employee	Ibid.
8.3.6	List of providers	Ibid.
8.4	Telephone	BT-DOC
8.4.1	Household connections	As of 31 March 1991, from BWSSB 1998/99
8.4.2	Investment per capita	Ibid.

Bangalore

8.4.3	Operations and maintenance expenditure	Ibid.
8.4.4	Cost recovery	BT-DOC
8.4.5	Output per staff: Thousands of calls per employee	Consultant's estimates, based on 31 March 1991 data provided by BT-DOC
8.4.6	List of providers	- The sole provider of basic telephone systems is the Department of Telecommunications. - Mobile phone systems are provided by two private companies: JTM and Spice. - Internet services are provided by VSNL and six private operators.
8.5	Solid waste collection	Health Department of Bangalore Mahanagara Palike (HD-BMP)
8.5.1	Households with regular service	Consultant's estimates, based on information from HD-BMP
8.5.2	Investment per capita	HD-BMP
8.5.3	Operations and maintenance expenditure	Ibid.
8.5.4	Cost recovery	Ibid.
8.5.5	Output per staff: Collected per employee	Ibid.
8.5.6	List of providers	Health departments of City Municipal Councils on the fringe, 10%.
9 URBAN ENVIRONMENT		
9.1	Solid waste generated	Health Department of Bangalore Mahanagara Palike (HD-BMP) 1999/2000
9.2	Household sewage disposal (% of households)	Bangalore Water Supply and Sewerage Board (BWSSB) 1999/2000
9.3	Wastewater treated	Ibid.
9.4	Percent BOD removed from wastewater	Ibid.
9.5	Air pollution concentrations	Karnataka Pollution Control Board (KPCB) 1999/2000
9.6	Energy use per person	Consultant's estimates Based on data from oil companies for aviation fuel, petrol, diesel, kerosene, light diesel oil, and furnace oil; Railways for coal; Karnataka Power Transmission Corporation Limited for electrical energy; and firewood dealers for wood (estimates). Data on LPG are not readily available.
9.7	Noise complaints	Police Department (PD) Complaints on noise from vehicles are not officially recorded.
9.8	Disasters in last 10 years	PD; BMP
9.9	Methods of solid waste disposal	HD-BMP, March 2000
10 URBAN TRANSPORT		
10.1	Mode of travel	Consultant's computations, based on statistics from Transport Department (TD) 1998
10.2	Median travel time	Consultant's rough estimates
10.3	Expenditure on road infrastructure	BMP's revised budget estimates for 1998/99 and BDA budget for major road projects
10.4	Road congestion	Expert's opinion, based on a traffic survey made in 1999 by the Central Road Research Institute, New Delhi, for the Karnataka Urban Infrastructure Development Finance Corporation
10.5	Automobile ownership	Consultant's estimates
10.6	Cost recovery from fares	Computed from statistics obtained from TD (1998) and population estimates for 1998
10.7	Port/air activity	- Bangalore Mahanagara Transport Corporation (BMT) is the only public transport provider. - Hindustan Aeronautics Limited, Government of India, runs the airport. It is the only airport in Bangalore with domestic and international operations. - Outgoing flights per month: 690 domestic, 52 international destinations including New York - A new airport at Devanahalli, about 30 km outside the city, is being planned. It should be ready for domestic and international operations by 2003. - Bangalore is an inland city and has no seaport.
10.8	Goods carried	National Highway Department Government of Karnataka (NHD-GOK) 1996/97
10.8.1	Road	Survey carried out on all national highways around the city
10.8.2	Rail	Railways 1999/2000
10.8.3	Air	Air cargo of Indian Airlines for domestic, and Customs for international
10.8.4	Sea	

Bangalore

10.9 Transport fatalities PD (Traffic)

11 CULTURAL

11.1 Attendance at public events Consultant, 9 July 2000

11.2 Attendance at galleries and museums Ibid.

11.3 Participation in sports Ibid.

12 LOCAL GOVERNMENT FINANCE

12.1 Sources of revenue Budget Document of the Bangalore Mahangara Palike (BD-BMP) 1999/2000

12.2 Capital and recurrent expenditure per person Ibid.

12.3 Collection efficiency, property taxes Annual Administration Report (AAR), BMP 1997/98

12.4 Debt service charge BD-BMP 1999/2000

12.5 Employees BMP 1999/2000

12.6 Wages in budget BD-BMP 1999/2000

12.7 Contracted recurrent expenditure ratio NAV

12.8 Business permits AAR-BMP 1997/98

12.9 Enterprise revenues • Revenue from major markets and shopping complexes in 1997/98:

	(\$)
Shri Krishnarajendra Market	55,445.0
Russel Market	6,985.0
Shri. Jayachamarajendra Wholesale Vegetable Market	55,921.0
Jayanagara Shopping Complex	128,083.0
Public Utility Building	166,557.0
Subhashnagar Shopping Complex	53,715.0
Yeshwanthpura Shopping Complex	32,207.0
J. C. Road Shopping Complex	2,014.0
Rajajinagar Shopping Complex	25,988.0
Miscellaneous markets	102,531.0
Gate collection at SKRM	10,912.0
Revenue from other marketplaces	4,377.0
Subtotal	117,820.0
Grand total	644,735.0

12.10 Computerization of functions BMP

- Staff training has begun. Some functions, especially related to taxation and revenue, are expected to be computerized by 2000/01.

13 URBAN GOVERNANCE

13.1 Functions of local government • The local government conducts elections for the Council, the State Assembly, and the National Parliament every five years or as often as necessary.

13.2 Delivery of annual plan NAV

13.3 Voter participation rates, by sex Election Commission, Bangalore (ECB)

- The last elections for the Council were held in November 1996.

13.4 Independence from higher government

- The elected Council can be dismissed (superseded) by the government if it receives a report from the Council or commissioner, a senior officer of the government, that the Council has misused its powers or is not governing effectively. Before issuing orders to dismiss the Council, the government must notify the mayor of the charges. If the government is not satisfied with the response made to the charges, it can issue orders removing the Council and post a senior officer of the government as administrator.

- BMP is not mandated to set the tax level for local taxes. All proposals for new taxes must be approved by the state government.

Bangalore

13.4.3	Setting user charges for services	The levels of user charges are stipulated in the Karnataka Municipal Corporations Act. BMP cannot increase taxes without state government approval.
13.4.4	Borrowing funds	- BMP cannot borrow funds (enter into loans) or issue bonds without the approval of the state government. The state government provides guarantees for all the monies borrowed by the local government. - BMP is empowered to choose contractors for works costing up to \$0.069 million. The state government must approve contractors for works costing more than \$0.069 million
13.4.5	Choosing contractors for projects	
13.5	Elected and nominated councilors	
13.6	Representation of minorities	BMP The Indian Constitution does not explicitly provide for reserving for minorities or representation of minorities in the Council. However, the political parties choose candidates representing minorities for council elections.
13.7	Planning applications refused (%)	- Planning is not a function of BMP, which is not empowered to approve or reject planning applications. Planning is done by BDA, a special organization created for planning and development of the 1,279 km² Bangalore Metropolitan Area (which includes the 225 km² BMP area). - BMP is empowered to issue licenses for building construction. But the number of approved and rejected applications for licenses is not readily available at the central office because this licensing power is not centralized and has been delegated to lower levels.
13.8	Business satisfaction	Bangalore is one of the fastest -growing cities in India. The services sector has grown significantly. Commercial taxes levied in the state are a major contributor to state revenues. It is estimated that nearly 80 percent of commercial taxes in the state are generated in Bangalore. Although the business community feels that tax rates are high, the rapid growth of business establishments in Bangalore attests to the favorable business environment in the city.
13.9	Consumer satisfaction	Consumer satisfaction is low because of poor-quality services from the local government. For example, as already shown in 8.2.7b, consumers get only 690 hours of power supply per month, as against the required 720 hours. Water supply is only 90 liters per capita (an average of three hours supply) per day, far below the UNICEF norm of 140 liters per day.
13.10	Perception as place to live	While the business atmosphere is generally good for small to large businesses, poor urban services have diminished the quality of city life. Living conditions have deteriorated as a result of industrial and automobile pollution and high noise levels, as well as congestion in the core areas and the presence of slums in the core and periphery.
13.11	Reported crimes	PD; CDB team's calculations
13.12	Access to information	- Only annual administration reports are available for a price, with council approval. - There is no regular and systematic recording of the city's overall strategy/vision, economic strategies, and social strategies. Obtaining information on any subject from the local government is difficult. - There is no record of the number of meetings held by the mayor or CEO with the business sector.
13.13	Contact with the public	The public can meet with the mayor, the chairmen of four standing committees, and the CEO at appointed times. The standing committees are: - Taxation, Finance, and Appeals - Public Health, Education, and Social Justice - Town Planning and Improvement - Accounts
13.14	Decentralized district units	- The following functions have been decentralized to BMP: - Revenue – property assessment and property tax payment - Engineering – road maintenance, issuance of building licenses - Health – sanitation, issuance of trade licenses, and public health - Law enforcement (police) is not a BMP function.

Bishkek

Indicators

1 POPULATION

1.1 Urbanization

National Statistical Committee of the Kyrgyz Republic; Social and Economic Development of the Kyrgyz Republic Bishkek Statistics Yearbook 1993–1997

Population, in thousands persons:

	1993	1994	1995	1996	1997
Urban population	1,572,056	1,558,171	1,562,395	1,568,341	1,578,622
Total population	4,429,905	4,450,661	4,512,350	4,574,121	4,634,897

Urbanization – 34%

1.2 City population

Urban Statistical Committee, Bishkek Statistics Yearbook 1998

City Population

(data at the beginning of each year)

1994	1995	1996	1997	1998	1999
601,000	593,600	595,700	599,300	602,500	614,000

1.3 Migration

Ibid.

- The city's population grew by 53,790 when its boundary was extended.
- Migration from other parts of the country (net): 9,798 persons arrived, 6,524 persons left, gain of 3,274
- Other countries migration (net): 1,711 persons arrived, 3,759 persons left, outflow = (-2,048) persons
- Total net migration: $53,790 + 3,274 - 2,048 = 55,016$ persons

1.4 Population net density

Ibid.

Net residential land, ha = $14,736 - 87 + 229.5 = 14,778.5$

City population = 614,000

Population net density = $614,000/14,778.5$

= 41.55 persons/ha

	1994	1995	1996	1997
Residential land	15,970	15,970	15,970	14,736
Population	601,000	593,600	595,700	599,300
Population net density	37.3	37.1	37.30	40.67

1.5 Age pyramid

Ibid.

Age	Total No. (%)	Males (%)	Females (%)
Persons 0–14	136,600	10	12
Persons 50–59	404,100	31	35
Persons over 60	73,300	5	7

1.6 Average household size

Official Inquiry, Urban Bureau of Technical Inventory, 24 January 1999

- Where all dwellings, houses, and apartments of the city are registered

Data at the end of 1998

Number of houses – 49,117

Number of apartments – 204,590

Total number – 253,707

Average Household Size – $614,000/253,707 = 2.4$

1.7 Household formation rate

Urban Statistical Committee; Bishkek Statistics Yearbook 1998

Year	Marriages	Divorces	Household Formation Rate
1994	3,777	1,956	1,821 or 0.3%
1995	3,579	2,043	1,536 or 0.26%
1996	3,442	2,199	1,243 or 0.2%
1997	3,387	2,145	1,242 or 0.2%
1998	3,432	1,986	1,446 or 0.23%

Average household formation rate = 0.238%

1.8 Women-headed households

National Statistical Committee of the Kyrgyz Republic; Scientific and Research Institute of the North Carolina Analysis of the statistical survey data, Autumn 1996 “Living Standard of the Population”

- 1.9 Minority groups Urban Statistical Committee; Bishkek Statistics Yearbook 1998
- All nationalities include: Kyrgyz – 227.9 (37.1%); Russian – 278.3 (45.1%); Uzbek – 11.0 (1.8%); Ukrainian – 24.9 (4.1%); Tatar – 15.0 (2.4%); German – 0.7 (0.1%); Kazash – 10.4 (1.7%); Uyгур – 12.7 (2.1%); Korean – 10.3 (1.7%); Azerbaijan – 2.9 (0.5%); Belorussian – 3.3 (0.5%); Dungan – 12.9 (2.3%)
- Ibid.
- 1.10 Household types Social and Economic Development of the Kyrgyz Republic: Statistics Yearbook 1993–1997, operative data 1995–1998.
- In Indicator 1.10.4 the Adults and Children figure includes households with adult children.
- Urban State inspection for construction and operation of individual apartment houses
- From 1992 to 1995, informal settlements were already legalized. At present, all inhabitants have planning permission to the sites. There are 17,730 sites, 2,443 houses, 3,935 temporary apartment houses, and 2,785 bases. All sites and houses are registered with the State for inspection and supervision of construction and operation for individual houses. The Board of Capital Construction of urban municipality, the headquarters of local and national government representatives responsible for settlements, decide problems of settlements together with the local government.
- The approximate population of all settlements is 53,790 persons.
- Main settlements: Bakay-Ata, Kok-Zhar, Ak-Orgo, Archa-Beshik
- 1.11 Informal settlement

2 EQUITY

- 2.1 Income distribution National Statistical Committee of the Kyrgyz Republic; Scientific and Research Institute of North Carolina – Analysis of the Statistical Survey Data, Autumn 1996, “Living Standard of the Population”; Social and Economic Development of the Kyrgyz Republic: Statistics Yearbook 1993–1999, operative data 1995–1998
- In 1998, 60% of the population were poor with incomes below \$42.26 a month per capita, and 20% of the population were extremely poor with only \$10.60 a month per capita. The minimum wage was \$4.8 a month per capita, average pensions were \$23 a month per capita, and average wages \$60 a month per capita. Salaries and pension were not indexed. Many people are becoming impoverished while officers of financial and credit orbs, high ranked state officers, and a small group of prosperous businessmen earn high incomes.
 - In 1998 the minimum consumer budget in Bishkek was \$42.3 per capita per month.
- Ibid.
- 2.2 Households below poverty line
- The extreme poverty rate of \$20.838 = \$10.6 per capita a month or \$127.2 per year.
- Ibid.
- 2.3 Women-headed households in poverty
- 2.4 Child labor Urban Statistical Committee; Bishkek Statistical Yearbook 1998
- The number of employed or economically active persons under 15 years of age is 59,000 or 9.6% of the total population of 614,000.
- Ibid.
- | | |
|-------------------|---------|
| Total workforce | 318,400 |
| Unemployed | 15,000 |
| Total labor force | 176,200 |
| Child labor | 59,000 |
- Informal sector = $381,400 - 15,000 - 176,200 - 59,000 = 131,200$ or 34.9%
- Informal activities include street trade, production of bread, production of soft drinks, production of sewing and knitted items, production of articles of food, various repair services, construction, transportation services, and hairdresser's services.
- 2.6 Unemployment
- | | |
|---|-----------------|
| Total labor force | 176,200 persons |
| Unemployment officially registered | 10,594 persons |
| Percentage of unemployed from total labor force | 5.98% |
- 2.7 Expenditure on poverty Urban Department of Social Defense, “The Report on the Totals of Work of Department of Social Defence 1998–1999”
- Government Organizations:
- Ministry of Labor and Social; Republican Social Fund
- Fund and nongovernment organizations:
- Beneficial Fund MEERIM; Fund of Charity; Social Innovations and Overcoming of Poverty; Fund Many Children Family; Fund of Charity and Health; Soviet Federation of Trade Unions; International Beneficial Organization ADRA

- Recurrent expenditures on poverty reduction are as follows:

These State allowances from the Republic's budget	\$285,224.10
Material help	\$526,163.73
Request for heating from the local budget	\$109,828.09
Housing subsidies	\$ 82,959.01
Municipal shops	\$117,405.70
Municipal drugstores	\$ 38,391.40
Municipal hairdressing salons	\$ 7,198.38
Dairy kitchens	\$ 30,439.58
Scholarships of the mayor	\$ 34,878.58
Allowances for burials	\$ 12,731.54
Rest in boarding house	\$ 45,349.84
Installation of gas counters charged to the Republic's budget	\$ 3,895.76

3 HEALTH AND EDUCATION

3.1 Persons per hospital bed

Urban Statistical Committee; Bishkek Statistics Yearbook 1998
Urban Department of Public Health

	1994	1995	1996	1997	1998
City population	601.1	593.6	599.3	614.0	614,000
No. of hospital beds	9,217	10,172	10,241	11,527	11,535
Persons per hospital bed	65.21	58.36	58.17	51.99	53.22

3.2 Child mortality

CDB estimates

3.3 Life expectancy at birth

UNDP Human Development Report, national figure of 67.9

3.4 Infectious diseases mortality

Urban Statistical Committee; Personal communications, City Office, February 2000
Number of deaths from infectious diseases in 1998: 204 persons x 1,000 = 0.33
614,000

3.5 Family planning

National Statistical Committee of the Kyrgyz Republic, Scientific and Research Institute of North Carolina
"Living Standard of Population," analysis of statistical survey data, Autumn 1996

3.6 Adult literacy rate

Urban Statistical Committee; Bishkek Statistics Yearbook 1998

3.7 School enrollment rates

Urban Educational Department, Official Communications 1998

Ibid.

Urban Statistical Committee; Bishkek Statistics Yearbook 1998

Personal communications, City Office, February 2000

3.8 Tertiary graduates

Urban Statistical Committee, Bishkek Statistics Yearbook 1998

3.9 Medium years of education

Urban Educational Department, Official communications, 1998

3.10 School children per classroom

Ibid.

Primary School = 1–4 classes, 7–10 years, 32 children per classroom

Secondary School = 5–9 classes, 11–15 years, 32 children per classroom

Elder group of Secondary School = 10–11 classes, 16–17 years, 28 children per classroom

- In the city there are specialized schools, private, lyceums, grammar schools, and usual schools. In private schools there are 10–12 children per classroom; in lyceums, grammar schools, 25–28 children in a classroom; at usual schools 38–43 children per classroom; and at schools in densely populated regions there are 43–46 children in classrooms.

Tourists spent (international and national) \$2,440,000 visiting the city in 1998.

4 URBAN PRODUCTIVITY

4.1 City product per capita

CDB estimates based on urban population

4.2 Employment by industry

Urban Statistical Committee, Bishkek Statistical Yearbook, 1998, Official communications, 1998

Employment by Industry ('000)

	1994	1995	1996	1997	1998
Total Labor Force	223.5	198.4	188.1	176.8	176.2
Secondary and infrastructure	95.9	78.0	68.1	61.2	58.9
Consumer services	43.5	39.9	39.6	33.4	38.2
Product services	2.7	2.4	3.0	3.1	4.1
Social services	68.9	67.0	67.6	65.3	65.8
Other s	12.5	11.1	9.8	13.8	9.2

Growth is observed in Product services.

4.3 Household expenditure

Ibid.

- CDB has adjusted figures equivalent to 100%.

4.4 Investment by sector

Ibid.

Funds Invested per Person by Economic Sector

(\$ per annum, in 1998)

Physical infrastructure	= 17.80
Housing	= 7.94
Services	= 132.48
Others	= NAV

4.5 Tourism

State Agency of Tourism and Sport of the Kyrgyz Republic

Tourists spent (international and national) \$2,440,000 visiting the city in 1998.

Personal communications, City Office, January 2000

4.6 Major projects

Official communications, Urban Department of Economic and Investment Activities 1998

List of Projects	\$ million
1. Reconstruction of urban roads with WB	13.5
2. Improving urban public transport with WB	0.95
3. Reconstruction of the urban street lighting system with Malaysia	2.5
4. Construction of a processing garbage factory with Italian firm "Ati-Wid,"	90,000,000
5. Creation of the public urban transportation enterprise to improve passenger carriage by minibuses,	8,535,172
6. Introduction of helio-installations (solar energy converters) for deriving hot water in residential regions of the city	1,371,440
7. Introduction of energy saving technologies in lighting Bishkek's streets using low power lamps and increased light	50,000
8. Creation of commercial network for products of the first necessity and goods of daily demand in a wholesale warehouse	6,000,000
9. Creation of the enterprise on assembly, installation, and service counters of cold water in apartment houses	119,496
10. Creation of autonomous systems of heating using energy-saving Transonic for city establishments, financed from the local budget	3,000,000

4.7 Cost of stay

Personal communications, City Offices, February 2000

Cost per day, including normal hotel and living expenses in 1998:

Hotel	(\$)
"Bishkek-Pinara"	194
"Dostuk"	98
"Issyk-Kul"	45

- CDB has also provided figures for this indicator.

4.8 Corporate headquarters

NAV

- There are corporate headquarters with annual turnovers of \$100 million or more in Bishkek.

5 NEW TECHNOLOGY

New technology data are mostly from the Urban Statistical Committee; Bishkek Statistics Yearbook 1998, Official communications, 1998.

5.1 R&D expenditure

Urban Statistical Committee, Bishkek Statistics Yearbook 1998, Official communication, 1998

Annual expenditure per person on R&D = \$0.07

- There are no research facilities in Bishkek. Many research institutes in the city were disbanded
- Private concerns prefer to borrow technologies.

Bishkek

5.2	Telephone traffic (million calls per year)	Ibid.
5.3	Internet hosts per thousand population	Personal communications, City Office, January 2000 Only private firms are engaged in Internet connections. There is no official counting yet.
6 URBAN LAND		
6.1	Urban land	Urban Statistical Committee; Bishkek Statistics Yearbook 1998
6.2	Land developer multiplier	Official communications, Main Architectural Board, City of Bishkek, 1998 Publication of commercial prices of land in the special newspaper <i>Absolut Express</i> 1998
6.3	Developer contributions	Official communications, Main Architectural Board, City of Bishkek, 1998
6.4	Median time for planning permission	Center for design and consultation services at the Main Architectural Board, City of Bishkek, Official communications, 1998 To obtain planning permission, it is necessary to apply to the regional urban administration or municipality of the city. After the mayor signs the application the following decree is issued: "In the Urban department of construction and architecture (preparation and coordination of the technical project), Urban sanitation and epidemiological station (permission), Urban department of fire protection (permission), the urban enterprises for supply by water, electric power, heat (permission), and many others."
6.6	Public open space	Urban Statistical Committee; Bishkek Statistics Yearbook 1998; Official communication, 1998 - Built-up area – 14,736 ha or 100% - Public open space ("green space") in the built-up area – 1,086 hectares or 7.4%
6.8	Prime commercial land price	Main Architectural Board, City of Bishkek Personal communications, City Office of the agencies Absolut, Alfa Universal, and Elita, 2000 The publication of commercial prices of land in the special newspaper <i>Absolut Express</i> in 1998
6.9	Prime rental and occupancy costs	Personal communications, City Office of the agencies Absolut, Alfa Universal, and Elita, 2000 - Rental and occupancy costs published in <i>Absolut Express</i>, <i>Piramida</i>, <i>Panorama</i>, and <i>Vecherniy Bishkek</i> 1998. - In the city there are several agencies that attend to sale, leasing, and exchange of housing accommodation.
7 HOUSING		
7.1	Dwelling type	Urban Statistical Committee; Bishkek Statistics Yearbook 1998
7.2	Tenure type	Ibid. - The high proportion of owned houses is due to restitution. The privatization of housing accommodation was made according to the law on privatization of urban residential fund. - The average cost refers to the average revenue of the city dwellers.
7.3	House price to income ratio	Urban Statistical Committee, Bishkek Statistics Yearbook 1998
7.4	House rent to income ratio	Publication of rental costs in special newspaper <i>Absolut Express</i> in 1998 - The previous accounts of the rent were made without the lease of uncomfortable housing accommodation (private houses without convenience), which rent for \$5–\$30 a month. - Lease of apartments with convenience: (\$) 1-room – 50 2-room – 100 3-room – 150 - Lease of housing accommodation without convenience: a room – \$5; small house – \$30 Average rent: $5 + 30 = 35/2 = \\$17.5$. - The average rent for housing accommodation is 86.5% of annual income.
7.5	Floor area per person	Urban Statistical Committee; Bishkek Statistics Yearbook 1998
7.6	Housing in compliance	Main Architectural Board City of Bishkek, Official communications, 1998
7.7	Mortgage to credit ratio	The collection "The Finance of Kyrgyz Republic" 1998 NAV The National Bank of the Kyrgyz Republic cannot divulge such information.
7.8	Houses with mortgages	Ibid.
7.9	Mortgage loans for women	Ibid.
7.10	Housing production	Urban Statistical Committee; Bishkek Statistics Yearbook 1998 Official communications, 1998
7.11	Squatter resettlement or normalization	- The city practically has no deserted houses or squatters. - Some years back this phenomenon (construction of houses on land without permission) was common, but now strict monitoring is carried out.

- 7.12 Net housing outlays by government (per person)
Urban Statistical Committee; Bishkek Statistics Yearbook 1998; Official communication, 1998
- Total net housing outlays by all levels of government on dwelling construction (per person) = \$15.75
- Construction of municipal housing accommodation is in very limited sizes because of lack of funds in the local and Republic budget.
- 7.13 Homeless people
Personal communications, City Office, 10 February 2000
- The city has only one asylum for the homeless called "Colomto." In 1998, 172 persons were sheltered in this asylum.

8 MUNICIPAL SERVICES

- 8.1 Water
- 8.1.1 Household connections
Urban Statistics Committee; Bishkek Statistics Yearbook 1998; Official communication, 1998
- 8.1.2 Investment per capita
Urban Water Supply Enterprise "Bishkekvodokanal," Annual Report 1998
- 8.1.3 Operations and maintenance expenditures
Official communications, 1998
- 8.1.4 Cost recovery
 - Capital expenditure per person = \$0.7
Ibid.
- 8.1.5 Output per staff: water supplied per employee
 - Total O&M expenditure per person = \$5.56
Ibid.
- 8.1.6 List of providers
 - Cost recovery = 0.045%
Urban Statistical Committee; Bishkek Statistics Yearbook 1998
- 8.1.7 Nonrevenue water
Urban Water Supply Enterprise "Bishkekvodokanal," a 100% state government enterprise
- Urban Statistical Committee; Bishkek Statistics Yearbook 1998
- The Government of the Kyrgyz Republic, municipality of Bishkek asks international donor financial organizations to grant long-term credits of government guarantee for improving infrastructure. The urban municipal structures develop the investment projects.
- Ibid.; Official Communications 1998
- In 1998, 91.9 million m³ of water was released to all consumers by the Urban Water Supply Enterprise. Unaccounted for water = 42.5 million m³ or 45%
 - Bishkek has 1,123 km of water pipes. Failures and damage rate is 0.7 failures on 1 km per year. From 276 artesian slits, it is necessarily to liquidate 160 slits and instead bore new ones. About 539.6 drainage systems or 362 km are due for replacement. Failures and interruption occur.
- Ibid.; Official communications, 1998
- Consumption of water per person = 0.31 m³ or 310 liters
- Department of Water Economy Urban Water Supply Enterprise, Official Communications, 1998
- Median price of water = \$0.023 m³
 - There is actually no user charge for water. The urban municipal services, which supply city water, often seek a price increase for water, but no decision has been made. There are also water vendors selling water.
- 8.2 Electricity
- 8.2.1 Household connections
Urban Statistical Committee; Bishkek Statistics Yearbook 1998; Official communications, 1998
- 8.2.2 Investment per capita
Urban Enterprise of Electrical Networks, Annual Report 1998
- 8.2.3 Operations and maintenance expenditure
 - Capital Expenditure = \$1.19
Ibid.; Official Communications, 1998
- 8.2.4 Cost recovery
 - Total O&M Expenditure = \$1.08
Ibid.
- 8.2.5 Output per staff: megawatt hours of electricity supplied per employee
 - Cost Recovery = 0.024%
Urban Statistical Committee; Bishkek Statistics Yearbook 1998
- 8.2.6 List of providers
Urban Enterprise of Electrical Networks, a 100% state government enterprise
- 8.2.7 Nonrevenue electricity
Urban Enterprise of Electrical Networks, Annual Report 1998
- a. Line loss for electricity
- b. Interruptions in power supply
- 8.3 Sewerage/wastewater
- 8.3.1 Household connections
Urban Statistical Committee; Bishkek Statistics Yearbook 1998; Official communications 1998
- 8.3.2 Investment per capita
Urban Water Supply Enterprise "Bishkekvodokanal," Annual Report 1998
- Capital expenditure per person = \$0.69

Bishkek

8.3.3	Operations and maintenance expenditure	Ibid.
8.3.4	Cost recovery	Total O&M expenditure per person = \$5.56
8.3.5	Output per staff: wastewater discharged or treated per employee	Ibid.
8.3.6	List of providers	- Cost recovery = 0.0045% - The supply is largely paid for by the State.
8.4	Telephone	Urban Statistical Committee; Bishkek Statistics Yearbook 1998
8.4.1	Household connections	Official communications, Bishkek Urban Telephone Station, Annual Report 1998
8.4.2	Investment per capita	Capital Expenditure per person = \$19.047
8.4.3	Operations and maintenance expenditure	Official communications, Bishkek Urban Telephone Station, Annual Report 1998
8.4.4	Cost recovery	- Total O&M expenditure per person = \$52.522 - Cost recovery = 0.582% - The urban telephone exchange is old; large expenditures to repair and modernize it required. - It would be impossible to increase the payment because majority of the city population have low incomes.
8.4.5	Output per staff: thousands of calls per employee	Official communications, Bishkek Urban Telephone Station, Annual Report 1998
8.4.6	List of providers	Urban Statistical Committee; Bishkek Statistics Yearbook 1998
8.5	Solid waste collection	Bishkek Urban Telephone Station, a 98% state government enterprise; cellular companies, 2%: Katel, Bite, private sector
8.5.1	Households with regular service	Official communications, Urban Statistical Committee; Bishkek Statistics Yearbook 1998
8.5.2	Investment per capita	Households with regular service – 98%
8.5.3	Operations and maintenance expenditure	Official communications, Urban Solid Waste Collection Enterprise, 1998 Annual Report
8.5.4	Cost recovery	Capital expenditure per capita – 0
8.5.5	Output per staff: collected per employee	Official communications, Urban Solid Waste Collection Enterprise, 1998 Annual Report
8.5.6	List of providers	- Total O&M expenditure per person = \$ 0.056 - Cost recovery = 2.31%
9	URBAN ENVIRONMENT	Ibid.
9.1	Solid waste generated	Solid waste collected per employee per annum = 498,300 m³/176,200 employees = 2.83 m³
9.2	Household sewage disposal	Urban Solid Waste Collection Enterprise, a 100% public sector enterprise
9.3	Wastewater treated	Official communications, Urban Statistical Committee; Bishkek Statistics Yearbook 1998
9.4	Percent BOD removed from wastewater	Urban Solid Waste Collection Enterprise, 1998 Annual Report
9.5	Air pollution concentrations	Cost recovery = 2.31%
9.6	Energy usage per person	Ibid.
		- Solid waste generated – 550,000 m³ per year - Population – 614,000 550,000 m³/614,000 = 0.896 m³ per person
		Official communications 1998, Urban Water Supply Enterprise “Bishkekvodokanal”
		Ibid.
		Personal communications, Urban Sanitation and Epidemiological Station, City Office
		Ibid.
		Urban Statistical Committee; Bishkek Statistics Yearbook 1998
		Personal communications, City Office, March 2000
		- Among the city's ecological problems the most serious is air contamination from exhausts of automobiles. Growth in the number of automobiles and population increase aggravated the problem. Bad road conditions also increased propellant consumption and pollution. The city of Bishkek is in the valley of the river Chu, which traps the polluted air and promotes formation of smoke above the city. - Atmospheric air of the city is as follows: NO_x – 1.7–3.0 times exceeding the maximum allowable concentration; rigid particles (SPM) – 1.3–3.8 times; and carbon monoxide (CO) 3.2–4.8 times (1998 data)
		Urban Statistical Committee; Bishkek Statistics Yearbook 1998

9.7 Noise complaints

Personal communications, Urban Sanitation and Epidemiological Station, City Office, February 2000

- In 1998, 26 noise complaints were received from city dwellers. All complaints were registered, checked and appropriate measures to remove sources the noise were taken. Some establishments (restaurants, bars, and dancing halls) near dwellings were fined for creating noise.

9.8 Disasters in the last 10 years

List of Large Fires in Bishkek, 1988–1998

Date	Fire
23 May 1991	Factory of "Aynur," an industrial building
5 Mar 1992	Residential area "Kok-Jar," the trade hall, and two structures of building materials
15 Jul 1993	"Chempharmindustry," a factory that manufactures medicines preparations, was destroyed.
01 Jan 1995	Warehouses 1 and 2 of the leather factory Bulgaary were destroyed.
09 Dec 1997	The Lada building housing the automobile showroom was destroyed.
28 Jan 1998	Hotel Eldorado was destroyed.

9.9 Methods of solid waste disposal

Personal communications, Urban Solid Waste Collection Enterprise, May 2000

- In Bishkek, 550,000–650,000 m³ of household garbage are generated annually. They are delivered to a place behind the city, poured into a trench, and condensed. Each 2-meter stratum is covered by an isolating stratum (river-sand). The trench was designed for 10 years, but is now 18 years old. Presently about 16 million m³ of scraps are stored in the trench.
- The local government has also concluded an agreement with an Italian firm for the installation of a factory plant for processing household scraps.

10 URBAN TRANSPORT

10.1 Mode of travel

Urban Statistical Committee; Bishkek Statistics Yearbook 1998

Department of Coordination of Urban Transport

Personal communications, City Office, February 2000

Trips to Work by:	(%)
Trolley bus	60
Private automobile	20
Bus or mini bus	10
Walking	7
Motorcycle	2
Bicycle	1

- Trolley buses are the main urban transport and work on 18 routes. over practically the entire city. In 1998 it transported 64 million passengers. It is an ecologically sound transport that the Government wants to develop. New trolley busses are needed.

10.2 Median travel time

- About 16 million passengers (10%) were transported by bus, but of 373 buses only 180 function.

Personal communications, Department of Coordination of Urban Transport, City Office, February 2000

- More than 80% of all urban roads do not correspond to technical norms and are in bad or worst condition. Transport units (buses, trolley buses, minibuses) are worn out. New communities on the outskirts have extended the routes of buses and minibuses.

10.3 Expenditure on road infrastructure

Urban Budget

	1996	1997	1998
City population (thousands)	595.70	599.30	614.00
Expenditure on roads per capita (US\$)	1.30	0.86	0.94

- Repair and reconstruction of urban roads are necessary.
- Provisional data indicate that about \$82.7 million will be needed to repair roads. The national Government and city administration are seeking World Bank financing for this purpose.

10.4 Road Congestion

10.5 Automobile ownership

Urban state automobile inspection

Official communications, 1998

10.6 Cost recovery from fares

Department of Coordinations of Urban Transport, Annual Report 1998

Personal communications, City Office, March 2000

10.7 Port/air activity

Urban Statistical Committee, Bishkek Statistics Yearbook 1998

- Name of airport – MANAS
- In 1998 307,700 people travelled by air.
- Freight Mail – 264.3 tons

- 10.8 Goods carried
- 10.9 Transport fatalities

- Data of commercial flights per month is from the flight schedule of Kyrgyzstan Airlines, As of 29 March 1998 and 24 October 1998
- Ibid.
- Official communications, Urban Statistical Committee, 1998

11 CULTURAL

- 11.1 Attendance at public events

Urban Board Culture, Official communications, 1998

Major Events

Independence Day
Day of City
People's Holiday Nooruz (Muslim New Year Day, Day of Vernal Equinox)
Urban Olympic Games of the students
Festival of national creativity
Kurban Ait Day (Day of Remembrance)

- 11.2 Attendance at galleries and museums

Urban Statistical Committee; Bishkek Statistics Yearbook 1998
Museum of Fine Art
Galleries
Museum of National Art
Historical Museum
Ethnographical Museum
Total attendance – 291,000 persons

- 11.3 Participation in sports

- Football, light athletics, wrestling, boxing, horse sports, lawn tennis, tourism, mountain climbing, mountain ski sports

12 LOCAL GOVERNMENT FINANCE

- 12.1 Sources of revenue

Local Government Finance data are mostly from Urban Statistical Committee, Bishkek Statistical Yearbook 1998; Urban Finance Board, Urban Budget, 1995–1998

Urban Statistical Committee; Bishkek Statistics Yearbook 1998

Personal communications, City Office, March 2000

- Main taxes are surtax from the population; excise tax; profit tax; tax from rendering of paid services to the population and retail sales; tax from a casino; tax on incomes of the shares (dividends, commissions); tax from the tourists; hotel tax; tax on advertising; tax from the holders of means of transport; land tax from the citizens.
- Tax receipts make 65.3% of the local budget. Official transfer accounts for 12.7% of the Republic's budget. The local government is to survey new sources of income and development (1998 data).
- The local government prepares the offers to the global search NATIONAL Government about granting transfer deeds.
- The World Bank offers credits to the Kyrgyz Republic, which are guaranteed by the Government. The Government reinvests the obtained credits in the economy or infrastructure of the city. The local government is able to borrow money from any bank.

- 12.2 Capital and recurrent expenditure per person
- 12.2.1 Capital expenditure

Urban Finance Board, Urban Budget, 1995–1998
Personal communications, City Office, March 2000

Total Capital Expenditure (\$)

1995	1,361,790,958.52
1996	39,461.56
1997	NAV
1998	1,223,725.88

City Population No.

1995	593,600
1996	599,700
1997	599,300
1998	614,000

Capital Expenditure per Person (\$)

1995	0.44
1996	0.0001
1997	NAV
1998	1.99

12.2.2 Recurrent expenditure

Total Recurrent Expenditure (\$)

1995	17,124.31
1996	18,477.81
1997	20,654.84
1998	19,721.08

Recurrent Expenditure per Person (%)

1995	55.55
1996	50.46
1997	41.37
1998	32.12

12.3 Collection efficiency, property taxes

Urban Finance Board, Urban Budget, 1998

12.4 Debt service charge

Ibid.

12.5 Employees

Structure of management of local government, 1997 & 1998

12.6 Wages in budget

Urban Finance Board, Urban Budget, 1998

- The rest of the money goes to state services of general purpose, fund contingencies, defense, public order and safety, education, public health services, social maintenance, social, physical culture and sports, culture, public organizations, housing and municipal services, transport, capital investments.

12.7 Contracted recurrent expenditure ratio

Ibid.

12.8 Business permits

Urban Statistical Committee; Bishkek Statistics Yearbook 1998

13 URBAN GOVERNANCE

13.1 Functions of local government

Protection of the environment and preservation and development of the best historical and cultural traditions of the population Charter of the City of Bishkek

- The municipal government of Bishkek provides all services.

13.2 Delivery of annual plan

Urban Statistical Committee; Bishkek Statistics Yearbook 1998

Urban Finance Board, Urban Budget 1998

- The item expenses on fulfillment of the annual plan are not stipulated in the local budget. In 1998 the local budget had a deficit of \$668,360, its debt to the national Government.

13.3 Voter participation rates, by sex

Official communications, City Council board 1999

- A total of 360,457 voters voted in the last municipal elections.

Adult males – 42%; Adult females – 58%

13.4 Independence from higher government

Bishkek City Profile

13.5 Elected and nominated councilors

Official communications, City Council Board 1999

Elected councilors	36
Male	30
Female	6
Nominated Councilors	176
Male	135
Female	41

- In the city there are 36 constituencies. 176 deputies of the Urban Council candidates took part in the election. From them 36 were elected as deputies. From these 36 deputies the Urban Council (Kenesh) was formed.

13.6 Representation of minorities

Official communications, City Council Board, 1999

- In the City Council there are 36 councilors. Minorities are represented as follows:

Russian	6
Ukrainian	5
Armenian	1
Uzbek	1
Ingush	1

13.7 Planning applications refused

Personal communications, Application Division of the Local Government, 1999

- Main reasons for refusals are

- The Urban Budget stipulates a small amount of financial assets for solving unforeseen problems.
- Urban residential funds are mainly private, and municipal construction is conducted in limited sizes.

13.8 Business satisfaction

Program of Development of Small and Average Business in City of Bishkek, 1998

Department of Economic and Investment Activities

Personal communications, City Office, March 2000

- Urban government work is directed toward the creation of the most favorable conditions for developing business. Each city dweller who wishes to engage in any enterprise will immediately be given permission to begin operations. From 1994 to 1998, 27,284 sanctions were given. A mechanism for simplified taxation of businessmen was developed. The local government undertook some measures to assist private business in the use of credits from the World Bank, European Bank for Reconstruction and Development, and other international financial organizations. The registration and permit system were greatly simplified and the tariffs and quotations imposed by the local government on businessmen were also reduced. The development of small and average businesses is a priority in developing the city's economy. The following statistics indicate the local government's efforts.

- In 1998 17,710 enterprises of small and average business were registered in the city of Bishkek. The number of employees, 107,000 in 1998, increased by 7% in 1997. About 867 small and average business enterprises operated in the city. In 1998, these enterprises produced 33.7% of the total volume of production in the city. In the Free Economic Zone there were 45 small and average businesses. In 1998 these enterprises produced 18.6% of the total commodity output made by enterprises of small and average businesses in Bishkek. For 1998 the volume of retail turnover of small and average businesses in Bishkek increased by 11.3% over 1997.

- Som – National currency. Official exchange rate per \$ in 1998: \$1 = 20.838 soms.

- The indicated figures above show that business is developing successfully, which indicates that the urban government's efforts in the development of business are quite satisfactory.

- According to Kyrgyz Republic legislation all foreign companies are allowed to invest in the Kyrgyz Republic in any form such as joint ventures. Foreign investors may purchase property from juridical persons and citizens of the Kyrgyz Republic without any limitations. If foreign investments are made in a convertible currency, equipment or raw materials and exceed 30% of the enterprise's capital fund or the total sum earmarked for cooperative activities, or if the foreign investor owns no less than 51% of the stock, profits from foreign investor enterprises or cooperative activities shall be tax free. Imported material goods, earmarked for capital investment during the period of formation, are free from customs tax. Raw materials and components, imported for use in production by enterprises with foreign investors, are free from customs tax. Foreign investors may independently determine the volume, direction, and efficiency of their investments. According to the Constitution and laws, the Government of the Kyrgyz Republic and local government of Bishkek guarantees the stability of foreign investors rights, and provide other forms of legal protection.

13.9 Consumer satisfaction

Urban Statistical Committee; Bishkek Statistic Yearbook 1998

Urban Department of Trade and Services

Urban Inspection on guarding the rights of consumers

Personal communications, City Office, March 2000

- The Government of Bishkek constantly works to perfect a structure of paid services and realization of these services for the population of the city. The urban department of trade and services develops the plan of measures on perfecting the different of services.

- In the Kyrgyz Republic there is a law that defends the rights of the consumers. Inspections to protect the rights of consumers and to ensure the quality of goods are carried out regularly.

13.10 Perception as place to live

- The majority of the population lives in apartments and houses with central heating, cold and hot water-supply, gas, water drainage, and electricity. There are plenty of food shops and markets, where it is possible to purchase all kinds of products. Many specialized shops offer footwear, furniture, utensils, and building materials. Schools and higher educational establishments are available. There are museums, galleries, concert halls, philharmonic society, theaters, and cinemas. Entertainment establishments like restaurants, bars, dance halls, and bowling establishments are many. There are sports structures like stadiums, tennis courts, pools. In the city, there are a lot of plants and trees and the streets are kept clean.

13.11 Reported crimes

Urban Statistical Committee; Bishkek Statistics Yearbook 1998

13.12 Access to information

Press conferences are held regularly to answer problems. Thematic speeches are also presented on TV. The Mayor joins in festivals, competitions, presentations, and conventions of pensioners, doctors, teachers, and students.

13.13 Contact with the public

13.14 Decentralized district units

Urban Department of employment of the population

Personal communications, City Office, March 2000

- The urban service of employment of the population includes four district boards of employment and the urban department of employment. The district boards of employment

1. Trains and tutors the unemployed;
2. Renders practical help to the unemployed who wishes to attend an enterprise activity;
3. Places the unemployed in a job;
4. Assigns a status to the unemployed to enable him to claim an unemployment benefit.

Bishkek

- The district boards of employment have a difficult task, as the enterprises and organizations declare few vacancies because of production cutbacks. There is always a problem in finding a job for the youth, graduates of schools, higher educational establishments, and women with little children.
- Bishkek is divided into four administrative districts, each headed by an akim (mayor). Each district is similar to the urban structure of management: economic departments, social guard, employment, trade and services, and financial departments. Each district has its own budget. The district administration manages the social and economic development of the district, decides problems of housing construction, selects sites for construction, reports to the mayor of the city and the Urban Council on the district's activities, and manages the district budget.

Indicators

1 POPULATION

1.1	Urbanization	National Statistics Office (NSO) - Population of urban area (urban area as declared by the Cebu City Council) over total city population: 1970 – 92%; 1975 – 91%; 1980 – 90%; 1995 – 89% - The Cebu City Council has segregated the entire city into urban and rural barangays (villages) depending on the dominant land use of each barangay. Generally, the urban barangays are on the coastal flatlands and their land use includes residential, commercial, institutional, industrial, etc. Rural barangays are those on the hilly lands and in the watershed area. - The urban population is not decreasing, but its growth rate is falling. As the metropolis developed more residential areas, there was a general movement of population from Cebu City to the neighboring cities of Mandaue and Lapu-Lapu, which posted high urban population growth within the same period.						
1.2	City population	NSO						
1.2.1	Resident population of municipality	1970 – 347,116; 1975 – 413,025; 1980 – 490,281; 1990 – 610,417; 1995 – 662,299 - Growth rates (1990–1995) were calculated from NSO population data for 1990 and 1995 and calculations were also made for urban and rural barangays: city –1.61%; urban –1.30%; rural–4.26%. - There has been a net out-migration of population from Cebu City even during 1980–1990 with Mandaue and Lapu-Lapu's population growth reaching 4–5% within the last 15 years.						
1.2.2	Population during daytime working hours	NSO						
1.2.3	Annual rate of population increase	NSO						
1.3	Migration	NSO						
1.3.1	Other parts of the city	Data are from the 1990 Census of Population.						
1.3.2	Other parts of the country, net	Ibid.						
1.3.3	International migration, net	Ibid.						
1.4	Population net density	No emigration data are available.						
1.5	Age pyramid	NSO						
1.6	Average household size	NSO						
1.7	Household formation rate	Basic data, NSO						
		<table> <tr> <th>Population, 1995</th><th>No. of Households, 1990</th><th>No. of Households, 1995</th></tr> <tr> <td>654,839</td><td>112,172</td><td>135,089</td></tr> </table>	Population, 1995	No. of Households, 1990	No. of Households, 1995	654,839	112,172	135,089
Population, 1995	No. of Households, 1990	No. of Households, 1995						
654,839	112,172	135,089						
1.8	Women-headed households							
1.9	Minority groups							
1.10	Household types							
1.11	Informal settlements							

2 EQUITY

2.1	Income distribution	NSO
2.2	Households below poverty line	Basic data, NSO National Statistical Coordination Board
2.3	Women-headed households in poverty	Not available (NAV)
2.4	Child labor	Department of Labor and Employment
2.5	Informal employment	Interview with experts
2.6	Unemployment	NSO
2.7	Expenditure on poverty reduction (per poor person)	1997 expenditures on city budget These included \$76,978,804 on housing development and \$31,622,899 on social welfare.

3 HEALTH AND EDUCATION

3.1	Persons per hospital bed	Basic data, Department of Health; NSO, Philippine Statistical Yearbook 1999
3.2	Child mortality	CDB estimates
3.3	Life expectancy at birth	DOH
3.4	Infectious diseases mortality	Basic data, City Health Office The main cause is pneumonia.
3.5	Family planning	Ibid.
3.6	Adult literacy rate	NSO
3.7	School enrollment rates	Department of Education, Culture and Sports (DECS) – Cebu City Division
3.8	Tertiary graduates	Commission on Higher Education
3.9	Median years of education	Basic data, NSO
3.10	School children per classroom	DECS – Cebu City Division

4 URBAN PRODUCTIVITY

4.1	City product per capita	CDB estimates
4.2	Employment by industry	Not applicable (NAP)
4.3	Household expenditure	NSO - In 1997 the major expenditures in Cebu City were on food – 44.5%; alcohol & beverages 1.1%; tobacco – 0.7%; fuel, light & water – 5.5%; transportation & communication – 6.9%; household operation – 2.7%; personal care – 3.2%; clothing, footwear – 2.2%; education – 2.6%; recreation – 0.3%; medical care – 2.9%; non-durable furnishing – 0.3%; rent of dwelling units – 18.1%; house maintenance/repairs – 2.1%; and taxes – 1.4%. - The shelter figure (20.2%) is taken from Rent and House Maintenance.
4.4	Investment by sector	NAV
4.5	Tourism	Department of Tourism
4.7	Cost of stay	CDB estimates \$40/day as per interview with experts
4.8	Corporate headquarters	None

5 NEW TECHNOLOGY

5.1	R&D expenditure	NAV Cebu has six universities and 39 colleges. It is the center for education in the southern part of the Philippines.
5.2	Telephone traffic (million calls per year)	Telephone services – 14; paging stations – 3; telegraph stations – 222; telex service – 5; AM radio stations – 13; FM radio stations – 20; post offices – 74
5.3	Internet hosts per thousand population	Telephone survey - Figures are per user, not per connection. - Annual growth figures are for 1998.

6 URBAN LAND

6.1	Urban land	Management Information and Computer System (MICS)
6.2	Land developer multiplier	Interview with experts The figure was provided by the president of the local real estate board.
6.3	Developer contributions	Ibid. For development there is no government contribution apart from regulations and the provision of basic infrastructure for accessibility. Almost all land development in Cebu is undertaken by the private sector.
6.4	Median time for planning permission	Ibid.
6.5	Vacant land with planning permission	NAV
6.6	Public open space	Interview with experts There is almost no green or open space. There is one golf course. All the other golf courses are located outside of the city, but they primarily serve the city.
6.7	Vacant government land	NAV
6.8	Prime commercial land price	Interview with experts
6.9	Prime rental and occupancy costs	Ibid.

7 HOUSING

7.1	Dwelling type	NSO
7.2	Tenure type	Ibid.
7.3	House price to income ratio	Interview with experts Average per capita income is \$849; average household income (4.9 persons) per household is house price (including lot) is pegged; house price to income ratio is 2.2.
7.4	House rent to income ratio	NSO Average rent is \$61.13 per month; house to income ratio is \$733.62 to \$4,157.19 or 17.64%.
7.5	Floor area per person	Interview with experts
7.6	Housing in compliance	Ibid. This 30% noncompliance includes those constructed without building permits and those without clear land titles with only tax declarations provided.
7.7	Mortgage to credit ratio	NAP
7.8	Houses with mortgages	NSO
7.9	Mortgage loans for women	NAV
7.10	Housing production	5,606 new units produced divided by 133,000 households is 4.2 per 1,000 households.
7.11	Squatter resettlement or normalization	Cebu City Division for the Welfare of the Urban Poor (DWUP) - The city government has prioritized preparing resettlement areas on-site or off-site. - The city government's annual budget for the housing sector is \$2.87 per person.
7.12	Net housing outlays by government (per person)	
7.13	Homeless people	DWUP The city government has prioritized preparing resettlement sites as well as constructing high-rise (condominium-style) living facilities for the urban poor.

8 MUNICIPAL SERVICES

8.1	Water	
8.1.1	Household connections	NSO
8.1.2	Investment per capita	Official communications by CDB with Lasaro P. Salvacion, Metro Cebu Water District (MCWD), 6 October 2000 The figure was converted from the local currency based on 1998 exchange rates provided by CDB.
8.1.3	Operations and maintenance expenditures	MCWD
8.1.4	Cost recovery	Ibid.
8.1.5	Output per staff: water supplied per employee	Ibid.
8.1.6	List of providers	MCWD, a quasi-public organization, supplying only 68% of Cebu City total households
8.1.7	Nonrevenue water	
a.	Percentage unaccounted for water	Asian Development Bank 1998, Second Water Utilities Data Book
b.	Interruptions in water service	Official communications by CDB with MCWD, 6 October 2000
8.1.8	Consumption of water per capita	Ibid.
8.1.9	Median price of water, scarce season	Ibid.
8.2	Electricity	
8.2.1	Household connections	Visayan Electric Corporation
8.2.2	Investment per capita	Ibid.
8.2.3	Operations and maintenance expenditures	Ibid.
8.2.4	Cost recovery	Ibid. Cost recovery, set by the national Government, is followed by the local provider.
8.2.5	Output per staff: megawatt hours of electricity supplied per employee	Ibid.
8.2.6	List of providers	National Power Corporation – 50%; Cebu Private Power Corporation – 39%; East Asia Utilities Corporation – 11%
8.2.7	Nonrevenue electricity	Ibid.

Cebu

8.3	Sewerage/wastewater																															
8.3.1	Household connection	The city does not have a sewerage system for household connections.. Residences have septic tanks, the effluents of which go directly to the drainage system, or they have unsanitary pits. People throw sewage in the drainage system or other disposal points.																														
8.3.2	Investment per capita	NAV																														
8.3.3	Operations and maintenance expenditure	NAV																														
8.3.4	Cost recovery	NAV																														
8.3.5	Output per staff: wastewater discharged or treated per employee	NAV																														
8.3.6	List of provider	NAV																														
8.4	Telephone																															
8.4.1	Household connections	NSO No data were obtained from telephone operators in Cebu.																														
8.4.2	Investment per capita	NAV																														
8.4.3	Operations and maintenance expenditure	NAV																														
8.4.4	Cost recovery	NAV																														
8.4.5	Output per staff: thousands of calls per employee	NAV																														
8.4.6	List of providers	Philippine Long Distance Telephone Company; Island Telecommunications, Inc.																														
8.5	Solid waste collection																															
8.5.1	Households with regular service	Cebu City Department of Public Service (DPS) - Citizens burn or dispose of the their trash in areas not sanctioned by the city government. - Many households have no garbage collection and they individually dump their trash elsewhere.																														
8.5.2	Investment per capita	Ibid.																														
8.5.3	Operations and maintenance expenditure	Ibid.																														
8.5.4	Cost recovery	Ibid.																														
8.5.5	Output per staff: collected per employee	Ibid.																														
8.5.6	List of providers	DPS																														
9	URBAN ENVIRONMENT																															
9.1	Solid waste generated	DPS DPS collects 350 tons per year. However, DPS estimates that the city produces about 400 tons per year. This results in per capita production of 0.61 tons per year. As stated in 8.3.1																														
9.2	Household sewage disposal																															
9.3	Wastewater treated																															
9.4	Percent BOD removed from wastewater	NAV																														
9.5	Air pollution concentrations	NAP																														
9.6	Energy usage per person	Energy usage per person is 1 MWh per year <table><tr><td>Residential</td><td>149,909</td><td>169,856</td><td>184,952</td><td>207,179</td><td>233,932</td></tr><tr><td>Commercial</td><td>120,543</td><td>116,701</td><td>124,472</td><td>141,727</td><td>149,306</td></tr><tr><td>Industrial</td><td>153,709</td><td>185,936</td><td>196,044</td><td>215,769</td><td>246,166</td></tr><tr><td>Others</td><td>14,559</td><td>15,104</td><td>15,318</td><td>15,641</td><td>15,497</td></tr><tr><td>Total</td><td>438,720</td><td>487,597</td><td>520,786</td><td>580,316</td><td>644,901</td></tr></table>	Residential	149,909	169,856	184,952	207,179	233,932	Commercial	120,543	116,701	124,472	141,727	149,306	Industrial	153,709	185,936	196,044	215,769	246,166	Others	14,559	15,104	15,318	15,641	15,497	Total	438,720	487,597	520,786	580,316	644,901
Residential	149,909	169,856	184,952	207,179	233,932																											
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Industrial	153,709	185,936	196,044	215,769	246,166																											
Others	14,559	15,104	15,318	15,641	15,497																											
Total	438,720	487,597	520,786	580,316	644,901																											
9.7	Noise complaints	Department of Environment and Natural Resources (DENR)																														
9.8	Disasters in the last 10 years	NAV																														
9.9	Solid waste collection	NAV																														

10 URBAN TRANSPORT

10.1	Mode of travel	
10.2	Median travel time	
10.3	Expenditure on road infrastructure	
10.5	Automobile ownership	Land Transportation Office
10.6	Cost recovery from fares	NAP
10.7	Port/air activity	Mactan Cebu International Airport Authority; Philippine Ports Authority
10.8	Goods carried	Ibid.
10.9	Transport fatalities	NAV

11 CULTURAL

11.1	Attendance at public events	NAV
11.2	Attendance at galleries and museums	NAV
11.3	Participation in sports	Interview with experts

12 LOCAL GOVERNMENT FINANCE

12.1	Sources of revenue	City Accountant's Office (CAO)
12.2	Capital and recurrent expenditure per person	Ibid.
12.3	Collection efficiency	The city government reported a collection efficiency of 70%.
12.4	Debt service charge	CAO
12.5	Employees	Office of the Administrator
12.6	Wages in budget	CAO Reported budget expenditure is 38%. Based on the Local Government Code, expenditures for personnel services are limited to 45% of the budget and most local government units use this total amount however they can. Cebu City has many contractual employees whose remunerations are not reflected as personnel services, but are classified under special projects. It is safe to assume that Cebu City spends the full 45% on personnel services.
12.7	Contracted recurrent expenditure ratio	Ibid.
12.8	Business permits	Recurrent expenditures are reflected in the general services budget.
12.9	Enterprise revenues	Cebu City Management Information and Computer System Time Deposit Transaction – \$1,296,000; Market Operation – \$611,000

13 URBAN GOVERNANCE

13.1	Functions of local government	City administrator
13.2	Delivery of annual plan	
13.3	Voter participation by sex	Commission on Elections
13.4	Independence from higher government	Local Government Code (LGC)
13.5	Elected and nominated councilors	- Only two councilors are nominated under the LGC. - The President of the Association of Barangay Captains is selected by the barangay captains of the different city barangays. - The Sangguniang Kabataan (SK) representative is the Federation Chairman elected by SK chairpersons in each barangay. The representative also represents the youth sector.
13.6	Representation of minorities	None
13.7	Planning applications refused	NAV
13.8	Business satisfaction	NAV
13.9	Consumer satisfaction	NAV
13.10	Perception as to place to live	NAV
13.11	Reported crimes	Cebu City Police Office
13.12	Access to information	Newsletter, press conference The local government acts on the premise that all public documents are accessible to the public. However, the mayor's daily press conference is a forum where all concerns of the city including what it is doing are communicated to the people through print and broadcast media. The city publishes an annual accomplishment report, and the city mayor regularly gives a state of the city address to the city council which is likewise communicated to the people through print and broadcast media.

Cebu

13.13 Contact with the public

- This is done by public consultation, press conference, and public gatherings.
- As stated in 13.12, information is usually provided through media. However, the city mayor and the council usually hold consultations all year.
- The City Development Council (CDC) is one of the primary fora by which the city government connects to the people.

13.14 Decentralized district units

- Likewise, the CDC holds public hearings on important laws to be enacted.
- Cebu City is part of a larger metropolis called Metro Cebu, which is composed of three cities and seven municipalities. By law, the ten local government units are independent of each other. However, the economic and urban interaction among the ten is so close it is sometimes difficult to distinguish where Cebu City ends and Metro Cebu begins. Cebu City, by population and economic strength, remains the driving force in the overall metropolis.
- The city is divided into 80 smaller political units which function as extensions of the city government.

Colombo

Indicators

1 POPULATION

1.1 Urbanization

1994 Department of Census and Statistics (DCS)

- In Sri Lanka "urban" status is statutorily conferred on an area purely for local administrative purposes by the minister in charge. The urban administrative areas are categorized into Municipal, Urban, and Town Council areas, which comprise about 5 percent of the country's total land area. Of the 17.4 million total population in 1993, about 3.9 million persons (or 21.8 percent of the total) lived in urban areas. The country's population grew at 1.2 percent per annum in 1993, whereas urban population rose at a rate of 1 percent per annum. The rate of increase of urban population in Sri Lanka from 1946 to 1994 is given in the following table.

Year	Rate of Increase in Urban Population
1946	15.4
1958	15.3
1963	19.1
1971	22.4
1981	21.5
1994	25.0 *

* Estimated.

1.2 City population

1963 Centenary Volume (CV-VMC); 1996 Urban Development Authority (UDA); and 1998 Budget Report, Colombo Municipal Council (BR-CMC)

- The total city population indicated in the table represents the total residential population of the CMC. According to the 1998 budget report of the CMC, its residential population was estimated to be 1,000,000 and the floating population was about 500,000. Daytime population of the city is higher because of the presence of the floating population. Based on CMC estimates, the annual population growth of the city showed a decline between 1971 and 1981 and an increase in subsequent years.

Census	Population	Growth Rate (%)
1901	154,691	2.20
1911	211,274	3.66
1921	224,163	0.61
1931	284,155	2.67
1946	362,074	1.83
1953	425,081	2.48
1963	511,639	2.04
1971	562,430	1.24
1981	587,647	0.45
1994	721,443	1.75 *
2010	1,000,000	2.42 *

* Estimated by UDA.

1.3 Migration

NAV

1.4 Population net density

UDA, 1996 Land Use Survey

- For the city of Colombo, population net density is calculated as below.

Total city population	- 800,000
Total land	- 3,729 hectares (ha)
less (vacant, commercial, industrial and other lands)	- 1,049 ha
Net residential land	- 2,680 ha
Population net density	= 800,000/2,680 = 298

1.5 Age pyramid

DCS, 1994 Demographic Survey

- Age categories of population were last available in 1994.

Age	Population	%	Male	Female
0-14	166,032	24.9	25.1	24.4
15-44	364,738	54.7	54.7	54.7
45-64	101,353	17.2	14.9	15.5
65 and over	40,007	6.0	5.0	5.4

1.6 Average household size

DCS, 1994 Demographic Survey

Colombo

- Average household size was calculated for the city as
Population of the city = 800,000
Number of households = 110,000
Average household size = 7.3

- 1.7 Household formation rate
- 1.8 Women-headed households
- 1.9 Minority groups

CDB estimates

NAV

1998 BR-CMC

- Colombo City is a multiethnic city consisting of three main racial groups and other minority groups living in harmony over centuries.

Racial Group	Percent of population
Sinhalese	50.1
Ceylon Tamils	22.1
Indian Tamils	2.1
Ceylon Moors	21.0
Malays	2.4
Others	1.1

- 1.10 Household types
- 1.11 Informal settlements

NAV

Sustainable Township Programme (STP), 1998 Land Use Survey

- Based on a detailed enumerators survey carried out in 1997/98 by the Sustainable Township Programme (STP) of the Ministry of Urban Development and Housing, different types of informal settlements were identified as follows:

Type	No. of Settlements (approximate)	%	No. of Housing Units	%	Population
Slums	1,071.0	71.1	25,000.0	38.6	
Shanties	183.0	12.2	13,313.0	20.2	
Low cost flats	103.0	6.8	8,950.0	13.6	
Relocated housing	97.0	6.4	14,814.0	22.4	
Old deteriorated	31.0	2.1	2,575.0	3.9	
Unplanned permanent	21.0	1.4	870.0	1.3	
Total	1,506.0	100.0	66,022.0	100.0	481,960.0

2 EQUITY

- 2.1 Income distribution
- 2.2 Households below poverty line
- 2.3 Women-headed households in poverty
- 2.4 Child labor

CDB estimates

Central Bank of Sri Lanka (CBSL) and Department of Poor Relief (DPR), 1998 Annual Reports

- The poverty line is defined as those whose monthly income was less than \$15.48 and having more than three dependents in the family. This category of poor is called Ultra poor, who constitutes about 19,732 households in the country. The total number of families who are beneficiaries of a government implemented poor relief called "Samurdhi Programme" included 1,973,183 or about 51% of the total population of Sri Lanka who are considered poor.

1993 United Nations Centre for Humana Settlements (UNCHS) Report

CBSL, 1996/97 Consumer Finances & Socio-Economic Survey

- The number of employed or economically active persons below 15 years age are considered as "child labor," as defined in the Consumer Finances and Socio-Economic Survey report of the Central Bank. Data available are at the national level. In 1986/87 the child labor component of total employed persons was 0.35 percent; in 1996/97 this percentage declined to 0.07 percent. The declining trend of child labor could be largely attributed to the new regulations enforced by the Government to prevent child labor as well as the awareness programs launched by civil society organizations.

- The following table indicates the number of children employed in different occupations in the country. There is no city level data available on this indicator.

Category	1986/87 (%)	1996/97 (%)
Sales Activities	6.6	20.0
Service Activities	35.6	30.0
Agricultural/Animal Husbandry/ Forestry and Fishing	48.0	30.0
Production and related works	11.8	20.0
Total	100.0	100.0

- 2.5 Informal employment

1993 UNCHS Report

Colombo

2.6 Unemployment

1996/97 Consumer Finances and Socio-Economic Survey, CBSL; CBSL June 1999 and 2000 BR-CMC

- Based on the above source, the term literacy implies the activity of people to read and write in a language. This proficiency varies, therefore, the literacy can be defined on the basis of the level of proficiency. The criteria used to define the literacy of a person is his ability to write his name and address and to read and understand a single sentence, for ages five years and above. For this indicator the city level data is not available and the sectoral basis for the entire country as indicated in the table below was used.

- Unemployment rates in 1998 at national level are as follows.

	% of Labor Force
Male	6.9
Female	14.6
Total	9.7
Colombo City	17.5

Unemployment rates by age groups, sex, and sectors, 1996/97

Age	All Sectors	Urban	Rural	Estate
14-18	35.6	40.2	34.7	37.5
19-25	30.4	33.0	30.8	18.7
26-35	8.8	11.8	8.9	2.9
36-45	2.4	4.6	2.2	0.0
46-55	1.0	2.7	0.8	0.5
Over 55	0.4	0.6	0.4	0.0
All ages	10.4	13.4	10.2	6.9
Male	6.4	8.3	6.1	6.1
Female	17.5	23.9	17.7	7.9

2.7 Expenditure on poverty reduction (per poor person)

1998 Annual Report, CBSL and 1998 BR-CMC

- The Government of Sri Lanka has established two main institutions to deal directly with poor relief activities in the country:
 - Samurdhi Authority of Sri Lanka (SASL). The SASL Sri Lanka is responsible for executing the Samurdhi Programme at the national level. During the past five years the Samurdhi Programme has grown into a massive poverty alleviation program and has changed from a single income transfer scheme into much more comprehensive programs including banking, insurance, savings, training, infrastructure development, and self-employment.
 - Department of Poor Relief (DPR). DPR is responsible for identifying beneficiaries and implementing relief programs and nutritional programs, and distributing dry ration cards to displaced families.
 - In addition to these two government institutions, the urban local authorities also allocate funds to implement poverty reduction programs within their authority areas.
 - The Colombo Municipal Council implements its Poor Relief Programme under the Charity Commissioner's Department. It provides monthly Poor Relief grants to destitute families in the city. In 1998, 12,241 persons benefited under the program. The Charity Commissioner's Department carries out skill training programs for the youth of poor families in the city. The department spent \$1.43 million in 1998 on these activities.

3 HEALTH AND EDUCATION

3.1 Persons per hospital bed

Ministry of Health (MH), 1998 Annual Health Bulletin, and CBSL 1998 CB Annual Report

- The country's prominent service organizations are located within the city, for example, the National Hospital of Sri Lanka. In calculating the number of persons per hospital beds, the following data were used:

No. of hospital beds in government hospitals	6,476
No. of hospital beds in private hospitals	1,600
Total beds in the city	8,076
Total no. of population	800,000
Ratio of persons per hospital bed	1,000:10

3.2 Child mortality

CDB estimates

3.3 Life expectancy at birth

MH, 1998 Annual Health Bulletin, and 1998 DCS

- Data on life expectancy at birth in Sri Lanka is available only at the national level. As indicated in the Annual Health Bulletin of 1998, life expectancy at birth increased from 42.8 years in 1946, to 70 years in 1981, and 73 years in 1991. This reflects a dramatic improvement in the survival of those groups most vulnerable and exposed to high risk of mortality, namely, infant and children in the age group 1-4 and women of childbearing age.

Colombo

3.4 Infectious diseases mortality

MH, 1998 Annual Health Bulletin

- Infectious diseases include all that can be passed from person to person. Available data represent the entire country and are given below:

Cases per 1,000 population		Deaths per 1,000 population	
1999	1998	1995	1998
17.58	26.53	0.132	0.158

*Excludes North and East.

3.5 Family planning

CDB estimates

3.6 Adult literacy rate

Consumer Finances & Socio-Economic Survey 1996/97

Literacy Rate, 1996/97

Sector	Male	Female	Total
Urban	96.1	93.0	94.5
Rural	94.5	90.4	92.3
Estate	87.2	67.3	76.9
All sectors	94.3	89.4	91.1

3.7 School enrollment rates (primary, secondary)

Consumer Finances and Socio-Economic Survey 1996/97

- Students who were attending schools, pirivenas (Buddhist religious schools), and universities and those who were studying externally were considered as currently enrolled in formal education. Those enrolled in formal education accounted for about one fourth of the population aged five and above in 1996/97. The available data indicates only sectoral perspectives of different economic sectors of Sri Lanka.

Students in Formal Education, by 1996/97

Sector	Primary	Secondary	Postsecondary
Urban	52.8	33.8	13.4
Rural	52.8	37.4	9.8
Estate	75.6	22.8	1.7
All Sectors	54.0	36.2	9.8

3.8 Tertiary graduates

Official communications between the consultant and CBSL, 27 July 2000 based on CBSL, 1998 Annual Report

3.9 Median years of education (years)

NAV

3.10 School children per classroom (primary,secondary)

CBSL, 1998 Annual Report

- An indirect way of deriving the indicator is indicated below. The data available were for the number of pupils and teachers. Assuming one teacher is assigned per classroom, a ratio can be worked out by dividing the number of pupils by the number of teachers.

	1997	1998
Total number of schools	10,983	11,007
Number of pupils	2,260,989	4,286,894

- Data are not available for the city. The countrywide situation may be considered as the general trend applicable to Colombo, since there is no disparity in national policies on education.

4 URBAN PRODUCTIVITY

4.1 City product per capita

CDB estimates

4.2 Employment by industry

Official communications between the consultant and CBSL, 27 July 2000 based on 1998 Annual Report

- According to the Colombo Municipal Council's Budget, the economically active population of the age group 15-64 were 698,998 people, which represents about 69% of the city population. In calculating the city population by industry, the sectoral classification of employed labor force for Colombo district, which is included in the Colombo Metropolitan Regional Structure Plan of 1998, was used.

4.3 Household expenditure

CBSL, 1996/97 Consumer Finances & Socio Economic Survey

- The Consumer Finances & Socio-Economic Survey report of 1996/97 has provided sectoral level data, which can be considered applicable to the city of Colombo. The following table indicates the expenditure data in terms of food, shelter, transport, and others by sectors.

Colombo

	Expenditure/Month/Person					
	Expenditure (Rs)			Percentage (%)		
	Urban	Rural	Estate	Urban	Rural	Estate
Food	1,189.35	942.29	947.35	37.5	50.4	67.0
Shelter	627.00	164.57	38.88	19.8	8.8	2.3
Transport	225.57	92.77	38.84	7.1	5.0	2.8
Others	1,130.74	669.52	399.24	35.6	35.8	28.2
Total	3,172.66	1,869.15	1,414.31	100.0	100.0	100.0

4.4 Investment by sector

CDB estimates based from 1998 Annual Report-CBSL and 1998 BR-CMC

4.5 Tourism

Ceylon Tourist Board, Accommodation Guide, May-October 2000

- The following table shows the national growth trends of the tourism sector during 1997, 1998, and 1999.

Year	No. of Hotels	No. of Rooms	Tourist Receipts	\$ million
1997	158	12,370	366,165	216.7
1998	164	12,770	381,063	230.5
1999	164	12,918	436,440	274.9

4.6 Major projects

- Sri Lanka recorded its highest tourist arrival in 1999 at about 436,440 tourists.
- CBSL, 1998 Annual Report

- The major projects in the City of Colombo in 1998 are listed below.

Name of Project	\$ million
Base Line Road Rehabilitation Project	1,530
Sri Lanka-Japan Friendship Bridge	-
Duplication Road Extension Project	52
Sustainable Township Program	-
Clean Settlement Program	65
The Colombo Flood Protection Project	-
Colombo Port Improvement Project	-
Eight-foot High Stacking Empty Container Yard	612
North Pier Development Project Phase 1	828
North Pier Development Project Phase 11	1,547
Queen Elisabeth Quay	16,560

4.7 Cost of stay

CDB estimate

4.8 Corporate headquarters

The Colombo Stock Exchange, 1999/2000

- The establishments falling under the category of having businesses with a turnover of \$100 million or more is small. The consultant has included establishments having a turnover of \$50 million for information.

They are as follows:

Name	\$ million
Bank of Ceylon	Over 100.0
People's Bank	Over 100.0
John Keels Holdings (Pvt) Limited	135.0
Ceylon Tobacco Company	73.7
Hatton National Bank Limited	59.7
DFCC Bank	58.5
National Development Bank	56.4
Commercial Bank	51.2
Hayles Group of Companies (Pvt) Limited	49.7

5 NEW TECHNOLOGY

5.1 R&D expenditure

CDB estimates from BR-CMC

5.2 Telephone traffic
(million calls per year)

NAV

5.3 Internet hosts per
thousand population

CBSL, 1998 Annual Report

- Internet connection was recently introduced. According to the Annual Report of the Central Bank there were 8,560 Internet and e-mail subscribers in Sri Lanka, about 90% of whom were in Colombo. There were also 12 customers for the Packet Switching Facility registered with the Sri Lanka Telecom Office. No city level data are available on this indicator.

Colombo

6 URBAN LAND

6.1	Urban land	1996 City Profile, Colombo, Sri Lanka The total land area of the city is 3,729 hectares.
6.2	Land developer multiplier	1993 UNCHS Report
6.3	Developer contributions	NAV
6.4	Median time for planning	CMC, 1998 Guide for Planning Permission
6.5	Vacant land with planning permission	NAV
6.6	Public open space	2000 Playgrounds & Recreational Department (PRD), CMC Proportion of open space in the built-up areas can be considered as public open places.
6.7	Vacant government land	NAV
6.8	Prime commercial land price	1998 Colombo Metropolitan Regional Structure Plan (CMRSP, Vol. IV and UDA-SL)
6.9	Prime rental and occupancy costs	Official communications with the consultant, 4 August 2000 Based on Central Bank Survey, CBSL 1998 Annual Report
6.10	Expenditure on development permission	1998 & 1999 BR-CMC and 2000 Mayor's Budget Speech The guidebook prepared by the City Planning Division of CMC in 1998 describes the procedure for obtaining planning permission for a subdivision plan.

7 HOUSING

7.1	Dwelling type	DCS, 1994 Demographic Survey According to the demographic survey carried out by the DCS, the city had a housing stock of 108,907 units in 1994.
7.2	Tenure type	Ibid.
7.3	House price to income ratio	NAV
7.4	House rent to income ratio	NAV
7.5	Floor area per person	DCS, 1994 Demographic Survey Percentage floor area for the city has been calculated relative to the different floor area sizes of houses in the city. The data available in the following table represent 1994 and no recent data are available.
7.6	Housing in compliance	1998 BR-CMC - NAV - One way to establish the number of housing units in compliance within the city is to assume that all the permanent housing units and old tenement gardens are classified under this category. The municipality collects property rates only from permanent housing units for which building permissions were issued by CMC.
7.7	Mortgage to credit ratio	NAV
7.8	Houses with mortgages	NAV
7.9	Mortgage loans for women	NAV
7.10	Housing production	NAV
7.11	Squatter resettlement or normalization	2000 National Housing Development Authority, City Office, Colombo (NHDA-COC) No squatter regularization has been done after 1994. It was 7,425 before 1994. The total number of squatter families was 13,237 (1997/98). Therefore, the percentage was = $7,425 \times 100 / 13,237 = 56.1$ CDB estimates based on CBC 1998 Annual Report
7.12	Net housing outlays by government (per person)	
7.13	Homeless people	1994 Department of Probation and ChildCare (DPCC) - No reliable data are available on this category of people in the city. - A survey conducted by DPCC in 1994 indicates that the city had about 10,000 street children. However, interviews by the consultant with staff of the National Social School of Colombo reveal that the above number was reduced by about 50% due to the various rehabilitation programs of the Government and religious and NGO programs carried out before.

8 MUNICIPAL SERVICES

8.1	Water	
8.1.1	Household connections	1998 Water Section (WS), CMC Piped water connection is available only for about 51.5% of the houses in Colombo while the rest of the houses depend on stand posts, shallow wells, tube wells and rivers water for their water needs.
8.1.2	Investment per capita	1998 BR-CMC

Colombo

8.1.3	Operations and maintenance expenditure	Ibid.																
8.1.4	Cost recovery	1997, 1998, 1999 BR-CMC																
8.1.5	Output per staff: water supplied per employee	CDB estimates																
8.1.6	List of providers	Water Supply Section (WSS0, CMC) Bulk water supply to the city is provided by the National Water Supply and Drainage Board. WSS-CMC handles distribution within the city.																
8.1.7	Nonrevenue water	Ibid. The percentage of nonrevenue water per month was around 45% or 19,922,998 m³. This could be attributed to leaks, illegal connections, and meter related losses from public standposts.																
	a. Percentage unaccounted for water																	
	b. Interruptions in water service																	
8.2	Electricity																	
8.2.1	Household connections	1995-2000 MV Distribution Development Plan-Ceylon Electricity Board (MVDDP-CEB)																
8.2.2	Investment per capita	NAV																
8.2.3	Operations and maintenance expenditure	CDB estimates																
8.2.4	Cost recovery	NAV																
8.2.5	Output per staff: megawatt hours of electricity supplied per employee	NAV																
8.2.6	List of providers	CMC, Engineering Division - Ceylon Electricity Board – 100 percent supply - Colombo Municipal Council – Operations and maintenance (100 %)																
8.2.7	Nonrevenue electricity	NAV																
8.3	Sewerage/wastewater																	
8.3.1	Household connections	CMC, Drainage Section The city has an underground sewerage system that stretches up to 250 km and covers approximately 80% of the city. The remaining 20% is served by septic tanks, pit latrines, or discharged directly to nearby canals, drains, and swamps.																
8.3.2	Investment per capita	1997, 1998, 1999 BR-CMC Major development works on sewerage system are carried out annually. The following per capita investment ratios were calculated. <table><tr><td></td><td>1997</td><td>1998</td><td>1999</td></tr><tr><td>Expenditure (\$ million)</td><td>67.0</td><td>1,463.00</td><td>411.0</td></tr><tr><td>Population (million)</td><td>0.8</td><td>0.80</td><td>1.0</td></tr><tr><td>Investment per capita (\$)</td><td>83.7</td><td>1,828.70</td><td>411.0</td></tr></table>		1997	1998	1999	Expenditure (\$ million)	67.0	1,463.00	411.0	Population (million)	0.8	0.80	1.0	Investment per capita (\$)	83.7	1,828.70	411.0
	1997	1998	1999															
Expenditure (\$ million)	67.0	1,463.00	411.0															
Population (million)	0.8	0.80	1.0															
Investment per capita (\$)	83.7	1,828.70	411.0															
8.3.3	Operations and maintenance expenditure	1997, 1998, 1999 BR-CMC <table><tr><td></td><td>1997</td><td>1998</td><td>1999</td></tr><tr><td>O&M cost (\$ million)</td><td>65.0</td><td>120.0</td><td>1,731.0</td></tr><tr><td>Population (million)</td><td>0.8</td><td>0.8</td><td>1.0</td></tr><tr><td>Per capita cost per person</td><td>81.0</td><td>150.0</td><td>1,731.0</td></tr></table>		1997	1998	1999	O&M cost (\$ million)	65.0	120.0	1,731.0	Population (million)	0.8	0.8	1.0	Per capita cost per person	81.0	150.0	1,731.0
	1997	1998	1999															
O&M cost (\$ million)	65.0	120.0	1,731.0															
Population (million)	0.8	0.8	1.0															
Per capita cost per person	81.0	150.0	1,731.0															
8.3.4	Cost recovery	NAV																
8.3.5	Output per staff: wastewater discharge or treater per employee	NAV																
8.3.6	List of providers	CMC 1998, Sewerage Section CMC is the sole provider of this service. It covers 80% of the city territory and CMC cleans septic tanks in nonsewerage areas using vacuum tankers.																
8.4	Telephone																	
8.4.1	Household connections	CBSL, 1998 Annual Report The Colombo Municipal area covers 53% of the total telephone connections in Sri Lanka. Of the total private sector telephone connections about 70%–80% are distributed within the city limits.																

Colombo

8.4.2	Investment per capita	NAV
8.4.3	Operations and maintenance expenditure	NAV

8.4.4	Cost recovery	
8.4.5	Output per staff: thousands of calls per employee	NAV
8.4.6	List of providers	

Telecommunications Regulatory Commissions (TRC)

- Below is a list of providers of telephone connections to the city. However, data on their output are not available.

1. Sri Lanka Telecom
2. Suntel Dialog
3. Mobitel
4. Dialog GSM
5. Lanka Bell

8.5 Solid waste collection Data are from Solid Waste Management Division of the Colombo Municipal Council (SWMD- CMC)

8.5.1 Households with regular service

SWMD-CMC

- The officials of the SWMD-CMC claim that they cover 100% collection of solid waste of the city. The frequency of collection varies from daily collection in the commercial areas to twice a week in residential areas.

8.5.2 Investment per capita

1997,1998,1999 BR-CMC

	1997	1998	1999
Total expenditure (\$ million)	300.0	900.0	90.0
Population (million)	0.8	0.8	1.0
Investment per person (\$)	375.0	1,125.0	90.0

8.5.3 Operations and maintenance expenditure

1998, 1999 BR-CMC

	1997	1998	1999
O&M expenditure (\$ million)	1.6	59.0	57.0
Population	0.8	0.8	1.0
Expenditure per person (\$)	2.0	74.0	57.0

8.5.4 Cost recovery

NAV

8.5.5 Output per staff: collected per employee

1998 BR-CMC

- The output of solid waste collected per employee per month has been calculated using the following data.

Total daily collection is	: 625.0 metric tons (mt)
Total monthly collection is 625 x 30	: 1,875.0 mt
Total no. of employees in the division in 1998	: 2,395.0 mt
Output per employee per month	: 7.8 mt

8.5.6 List of providers

SWMD-CMC

- The provider was Colombo Municipal Council in 1998. However, at present part of the city's solid waste collection services has been contracted to the private sector. About 50% of the city's solid waste collection is handled by the private sector and the balance of 50% by the Council.

9 URBAN ENVIRONMENT

9.1 Solid waste generated

Ibid.

- The total solid waste collection per day was 625 tons in the city. The volume of solid waste generated per person per annum was calculated as follows:

Solid waste generated per annum	: 625 x 30 x 12 = 225,000 mt
No. of households	: 110,000
Solid waste generated per annum	: 2.045 mt

9.2 Household sewage disposal (% of households)

CDB estimates

9.3 Wastewater treated

CMC, Engineering Section

- There is no wastewater treatment system in operation. The city's wastewater is discharged directly to the sea.

Colombo

9.4	Percent BOD removed from wastewater	NAP																																																
9.5	Air pollution concentrations	NAV																																																
9.6	Energy usage per person	NAV																																																
9.7	Noise complaints	Central Environmental Authority-Protection Division (CEA-PD) There is no published data available on this indicator. Through interviews by the consultant with the officials of the Environmental Protection Division of the Central Environmental Authority, the following information was collected. <table><tr><th>Type of Complaint</th><th>No. of Complaints received in the city</th></tr><tr><td>Industrial and traffic noises</td><td>About 100 per month</td></tr></table>	Type of Complaint	No. of Complaints received in the city	Industrial and traffic noises	About 100 per month																																												
Type of Complaint	No. of Complaints received in the city																																																	
Industrial and traffic noises	About 100 per month																																																	
9.8	Disasters in last 10 years	Police Reports The most common disasters that had affected the city include floods and terrorist-related incidents. The following table presents some of the disasters that occurred during the last 10 years: <table><tr><th>Disaster</th><th>Year</th><th>Lives Lost</th><th>Dwellings Destroyed</th></tr><tr><td>Flood</td><td>1992</td><td></td><td></td></tr><tr><td>Bomb blast, Armour St</td><td>1993</td><td>35</td><td>4</td></tr><tr><td>Bomb blast, Thotalaga</td><td>1993</td><td>24</td><td>2</td></tr><tr><td>Kolonnawa Oil Tank</td><td>1994</td><td>8</td><td></td></tr><tr><td>Building</td><td>1996</td><td>Over 100</td><td>Over 100</td></tr><tr><td>Bomb blast, Galaadri Hotel</td><td>1997</td><td>28</td><td>10</td></tr><tr><td>Bomb blast, Maradana Junction</td><td>1997</td><td>15</td><td>15</td></tr><tr><td>Bomb blast Town Hall Grounds</td><td>1999</td><td>24</td><td></td></tr><tr><td>Flower Road - opposite PM's office</td><td>1999</td><td>14</td><td></td></tr><tr><td>Floods</td><td>1999</td><td></td><td></td></tr><tr><td>Terrorist attack at Castle Junction</td><td>2000</td><td>16</td><td></td></tr></table>	Disaster	Year	Lives Lost	Dwellings Destroyed	Flood	1992			Bomb blast, Armour St	1993	35	4	Bomb blast, Thotalaga	1993	24	2	Kolonnawa Oil Tank	1994	8		Building	1996	Over 100	Over 100	Bomb blast, Galaadri Hotel	1997	28	10	Bomb blast, Maradana Junction	1997	15	15	Bomb blast Town Hall Grounds	1999	24		Flower Road - opposite PM's office	1999	14		Floods	1999			Terrorist attack at Castle Junction	2000	16	
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Terrorist attack at Castle Junction	2000	16																																																
9.9	Methods of solid waste disposal	Official communications between Colombo City Office and the consultant, 23 June 2000																																																
10 URBAN TRANSPORT																																																		
10.1	Mode of travel	1993 UNCHS Report																																																
10.2	Median travel time	Ibid.																																																
10.3	Expenditure on road infrastructure	CDB estimates																																																
10.4	Road congestion	NAV																																																
10.5	Automobile ownership	- Data are not available. National-level data are as follows: <table><tr><th>Type of Vehicle</th><th>1996</th><th>1997</th><th>1998</th></tr><tr><td>Cars</td><td>17,671</td><td>31,338</td><td>41,151</td></tr><tr><td>Motorcycles</td><td>31,995</td><td>36,755</td><td>42,089</td></tr><tr><td>Dual purpose vehicles</td><td>4,250</td><td>16,293</td><td>18,455</td></tr><tr><td>Total</td><td>53,876</td><td>84,386</td><td>101,695</td></tr></table> - The ratio of automobile ownership to the people of driving age (15-64 years old) for 1998 is 1:146.	Type of Vehicle	1996	1997	1998	Cars	17,671	31,338	41,151	Motorcycles	31,995	36,755	42,089	Dual purpose vehicles	4,250	16,293	18,455	Total	53,876	84,386	101,695																												
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10.6	Cost recovery from fares	NAV																																																
10.7	Port/air activity	NAV																																																
10.8	Goods carried	NAV																																																
10.9	Transport fatalities	City Traffic Police, Colombo (CTPC) Due to heavy traffic, traffic-related accidents are frequently recorded in the city. CTPC is responsible for maintaining the related data. The following table indicates the details. <table><tr><th>Year</th><th>Total Accidents</th><th>Fatal</th><th>Deaths</th><th>Per '000 population</th></tr><tr><td>1997</td><td>11,787</td><td>121</td><td>125</td><td>0.006</td></tr><tr><td>1998</td><td>11,649</td><td>94</td><td>95</td><td>0.008</td></tr><tr><td>1999</td><td>12,751</td><td>89</td><td>91</td><td>0.006</td></tr></table>	Year	Total Accidents	Fatal	Deaths	Per '000 population	1997	11,787	121	125	0.006	1998	11,649	94	95	0.008	1999	12,751	89	91	0.006																												
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1998	11,649	94	95	0.008																																														
1999	12,751	89	91	0.006																																														
10.9.1.	Colombo City																																																	
10.9.2.	Pedestrian deaths	Data on pedestrian deaths were for 1999.																																																

Colombo

11 CULTURAL

11.1 Attendance at public events

Official communications between national newspapers and the consultant, 4 August 2000 and Police Reports

- Major public events in the city are few and the estimated attendance at these events as follows:

Event	Estimated Attendance
Independence Day, 4 February	More than 300,000
Wesak Celebrations, May	More than 500,00
May Day Rallies, 1 May	More than 1.5 M
Cricket Matches (School level – January to April)	500,000 to 800,000
Division Level – all year	
International – Nov. to April, June to September	
Other sports activities	200,000
Nawam Perahera for Buddhists	300,000
Ramasan festival for Muslims	150,000
Christmas festival for Christians	200,000
Political meetings	More than 200,000

11.2 Attendance at galleries and museums

1998/99 weekly & monthly reports, Colombo Museum, and consultant interviews with officials of the centers

- There are some galleries, drama theaters, and a famous historical museum in Colombo. Colombo Museum and the Art Gallery are two important places that attract local as well as foreign visitors. Most of the other drama theaters cater to local participants. Data on attendance at these places are given below.

Cultural and Art Center		
Estimated Annual Attendance		
Colombo Museum	1998	1999
Local	182,691	280,654
Foreign	8,171	9,006
Galleries		
Art Gallery		67,500
Lionel Wendt theater		54,600
JR Jayaradene Theater		25,000
Elphinstone Theater		80,000
Lumbini Theater		56,000
John De Silva Theater		62,000
Sugathadasa Indoor Stadium		50,000
Bandaranayake International Conference Hall		40,000

11.3 Participation in sports

Consultant's interview with officials of sport bodies

- The list includes only the major sports activities participated in by the city residents.

Type of Sports	No of Participants (estimated)
Cricket	20,000
Athletics	8,000
Rugger	6,000
Soccer	8,000
Volley ball	4,000
Basketball	2,000
Net ball	2,000
Martial Arts	2,000
Bicycle Race	2,000

12 LOCAL GOVERNMENT FINANCE

12.1 Sources of revenue

Official communications with the consultant, 27 July 2000 and 1998 MTD-CMC and Budget Report of the Municipal Council

12.2 Capital and recurrent expenditure per person

CDB estimates

Colombo

12.3	Collection efficiency, property taxes	1998 Revenue Summary, BR-CMC It was difficult to estimate the collection efficiency and arrears of property rates and taxes in the city. The closest estimation that can be made for the above indicator is as follows: Property rates and taxes as estimated for the year 1998 = \$16.39 Total amount collected for the year 1998 = \$703.85 million (66.50%) Total arrears = \$175.64 million (16.5 %)								
12.4	Debt service charge	NAV								
12.5	Employees	1998 BR-CMC The total residential population of the city was estimated to be 0.8 million in 1988. Based on this figure, the number of employees of the city council per 1,000 population was calculated as follows: <table><tr><td>Total residential population of the city</td><td>= 8,000,000</td></tr><tr><td>Total employees of the council</td><td>= 10,853</td></tr><tr><td>Employees per 1,000 population</td><td>= 1,000/73.7</td></tr><tr><td></td><td>= 13.6</td></tr></table>	Total residential population of the city	= 8,000,000	Total employees of the council	= 10,853	Employees per 1,000 population	= 1,000/73.7		= 13.6
Total residential population of the city	= 8,000,000									
Total employees of the council	= 10,853									
Employees per 1,000 population	= 1,000/73.7									
	= 13.6									
12.6	Wages in budget	1998 Payments Summary, Account Branch, CMC The actual figures related to wages and recurrent expenditure of the Colombo Municipal Council for 1998 are presented as follows: <table><tr><td>Total recurrent expenditure</td><td>= \$1,143,700 million</td></tr><tr><td>Wages for employees</td><td>= \$81,406 million</td></tr><tr><td>Percentage of employees wages</td><td>= 71.17%</td></tr></table>	Total recurrent expenditure	= \$1,143,700 million	Wages for employees	= \$81,406 million	Percentage of employees wages	= 71.17%		
Total recurrent expenditure	= \$1,143,700 million									
Wages for employees	= \$81,406 million									
Percentage of employees wages	= 71.17%									
12.7	Contracted recurrent expenditure ratio	CDB estimates Name of Institution Bank of Ceylon People's Bank National Savings Bank State Mortgage and Investment Bank National Development Bank National Water Supply Drainage Board Ceylon Electricity Board Sri Lanka Telecom Limited Cooperative Wholesale Establishment Sri Lanka Government Railway Central Transport Board Sri Lanka Customs Sri Lanka Ports Authority Sri Lankan Airline Ceylon Tourist Board								
12.8	Business permits	The business permits of the Colombo Municipal Council were issued by the Treasurer's Department of the Council. About 3,500 permits were issued annually from 1995 to 1999.								
12.9	Enterprise revenues									
12.10	Computerization of functions	1998 Municipal Treasurer's Department (MTD), CMC								

13 URBAN GOVERNANCE

13.1	Functions of local government	2000 Senior Management staff of the CMC - The usual functions of CMC are specified in Municipal Council Ordinance 29 of 1947 and the latest amendments were made in 1987. The broad functions specified are as follows: a. the regulation, control, and administration of all matters relating to public health, public utility services, and public thoroughfares; and b. the protection and promotion of comfort, convenience, and welfare of the people and amenities of the municipality. - Apart from the above usual functions, CMC also provides the following services: a. setting up advisory committees (parallel to the 15 standing committees) consisting of volunteer senior citizens and professionals to advise the mayor on different services the CMC is providing;. b. creating a steering committee consisting of the mayor, deputy mayor, municipal commissioner, the two deputy municipal commissioners, municipal engineer, municipal treasurer, and the municipal secretary to decide on important management issues of CMC;

		c. conducting monthly meetings chaired by the mayor/deputy mayor, allowing representatives of the community development council of low-income communities to bring their problems to the forum. The forum is called "Housing and Community Development Council"; d. operating a public day every Wednesday for the people to bring their grievances to the mayor, deputy mayor, and to the heads of departments of the council. This is a compulsory gathering; e. forming a city watch committee consisting of senior citizens who voluntarily contribute to the development of CMC. They give ideas and make constructive criticisms about council matters to improve the city's performance; f. allocating council funds of \$0.02 million per council member per year to spend on improving the basic amenities of low-income settlements; g. offering customer oriented training to municipal staff. The municipality has developed a corporate plan for 1998-2002 outlining key issues, strategies, and specific actions to improve the quality of CMC services; and h. producing a service directory indicating the different services offered and contact personnel.																		
13.2	Delivery of annual plan	NAV																		
13.3	Voter participation rates, by sex	NAV																		
13.4	Independence from higher government	Official communications with the consultant, 4 August 2000 • The government administration of Sri Lanka has the following level of governance: a. Central Government through national state of assembly b. Provincial government with provincial councils c. Local government with municipal and urban local authorities d. rural areas with pradeshiya sabhas • The provincial council is the immediate superior level of government operating above pradeshiya sabhas, urban councils, and municipal councils. The affairs of these local bodies are to some extent governed by the provincial council and the Government through its line ministries and departments. • The government or the provincial council has no authority to remove councilors or to close down the council. However, if the mayor gets involved in any corruption or misuse of his powers, the provincial council has the authority to remove him or her from office. • CMC should obtain approval from the chief secretary of the provincial council for setting local tax levels. • CMC may set user charges for services with the approval of the chief secretary of the provincial council. • CMC may borrow funds, secure loans and debentures, and purchase credit from banks with the approval of the chief secretary of the provincial council. d. The council may choose contractors for foreign-funded major projects involving other national level organizations by consulting with authorities in the provincial council, relevant ministry, and the donor agency. However, for those projects involving programs of municipal services, selection of contractors is handled by the CMC without seeking the approval of higher authorities.																		
13.4.1	Closing down the council or removing councilors from office	1998 CMC																		
13.4.2	Setting local tax levels	NAV																		
13.4.3	Setting user charges	NAV																		
13.4.4	Borrowing funds																			
13.4.5	Choosing contractors for projects																			
13.5	Elected and nominated councils																			
13.5.1	Male																			
13.5.2	Female																			
13.6	Representation of minorities	Official communications with the consultant, 4 August 2000 • Colombo is a multiracial city where about six racial groups live in harmony. Local government elections are held democratically based on a multiparty system. The different racial groups are attached to registered political parties. Thus, the members belonging to different racial groups get elected at a democratic election. The racial composition of the present CMC is as follows: Total number of representatives of the council = 53 <table> <tr> <th>Racial Group</th><th>No.</th><th>%</th></tr> <tr> <td>Sinhala</td><td>30</td><td>56.6</td></tr> <tr> <td>Muslims</td><td>16</td><td>30.2</td></tr> <tr> <td>Tamils</td><td>6</td><td>11.3</td></tr> <tr> <td>Malay</td><td>1</td><td>1.9</td></tr> <tr> <td>Total</td><td>53</td><td>100.0</td></tr> </table>	Racial Group	No.	%	Sinhala	30	56.6	Muslims	16	30.2	Tamils	6	11.3	Malay	1	1.9	Total	53	100.0
Racial Group	No.	%																		
Sinhala	30	56.6																		
Muslims	16	30.2																		
Tamils	6	11.3																		
Malay	1	1.9																		
Total	53	100.0																		
13.7	Planning applications refused (%)	1999 Municipal Engineer's Department, City Plan Unit (MED-CPU)																		

- The following table presents the planning applications refused by the CMC during 1998.

No. of planning applications forwarded	1,702.0
No. of applications refused	570.0
Percentage of refusal	33.4

Reasons for refusal

- Plans are not prepared according to the requirements/regulations.
- The land in question is a state land or had an unclear title.
- Parking requirements were not fulfilled according to regulations.

- 13.8 Business satisfaction
- 13.9 Consumer satisfaction
- 13.10 Perception as place to live
- 13.11 Reported crimes
- 13.12 Access to information
- 13.13 Contact with the public
- 13.14 Decentralized district units

NAV

NAV

NAV

Crime Division, police headquarters

Municipal Secretary

Official communications with the consultant, 4 August 2000

Mayor's Office, CMC

- The City of Colombo is divided into 47 electoral divisions which are known as municipal wards. These 47 municipal wards are grouped into six municipal districts for municipal functions at district and ward levels. Each district has a district office of the council. The main functions of the district office are public health and engineering services (i.e., solid waste management, water, roads and sanitation, etc.). Medical centers, libraries, sports, and recreational activities are also handled at the district level.

Dhaka

Indicators

1 POPULATION

1.1	Urbanization	World Bank. 1999. Towards an Urban Strategy for Bangladesh. South Asia Region, Infrastructure Sector Unit, p.3 The level of urbanization was 4.33% in 1951; 5.19% in 1961; 8.78% in 1974; 15.18% in 1981; and 19.83% in 1991. Presently, it is estimated to be 23%.
1.2	City population	Population data relate to 1995 estimated by City Development Strategy (CDS), World Bank team. The city population was 0.34 million, 0.55 million, 1.61 million, 3.44 million, and 3.68 million in 1951, 1961, 1974, 1981, and 1991, respectively.
1.3	Migration	Net migration in previous period estimated by Dhaka Metropolitan Development Plan (DMDP), 1995, Dhaka Structure Plan 1995–2015, pp.2-9 The reference period is 1991.
1.4	Population net density	Estimated as a ratio of city population with residential land use data.
1.5	Age pyramid	Calculated from BBS, 1993, Bangladesh Population Census 1991, Community series, Table C02, pp.153-184
1.6	Average household size	ADB. 1996. Urban Poverty Reduction Project, Interim Report, cited in World Bank (2000); World Bank. 2000. Urban Development Strategy and City Assistance Program in South Asia (Bangladesh), Interim Report. Dhaka, pp.2-6
1.7	Household formation rate	HABITAT National Report. 1996. Dhaka: Ministry of Housing and Public Works, p.67 The reference year is 1991–1993.
1.8	Women-headed households	Ibid., p.67
1.9	Minority groups	BBS, 1993, Bangladesh Population Census 1991, Zila Dhaka, Community series, Table C08, pp.344-375.
1.10	Household types	Ibid., Table C10, pp.383-389 Only single person data on these categories are available.
1.11	Informal settlements	Informal settlements known as slums are called bastees in Bangladesh. The largest bastee in Dhaka is on government land and is called Agargaon bastee which houses nearly 0.6 million people. Estimates of population and households in informal settlements reflect that 35% of the city population is squatting in slums. From land use data it could be gathered that about 10% of residential land belongs to the informal housing sector.

2 EQUITY

2.1	Income distribution	Recalculated from BBS, 1999, Statistical Yearbook of Bangladesh 1998, Dhaka; data assembled from Household Expenditure Survey of 1995/96, cited in p.611
2.2	Households below poverty line	World Bank. 2000. Urban Development Strategy and City Assistance Program in South Asia (Bangladesh), Interim Report. Dhaka, pp.2-11
2.3	Women-headed households in poverty	HABITAT National Report. 1996. Dhaka: Ministry of Housing and Public Works, p.67
2.4	Child labor	Bureau of Bangladesh of Statistics (BBS) Labour Force Survey, 1995/96 City level data is unavailable. Data refers to national data.
2.5	Informal employment	World Bank. 2000. Urban Development Strategy and City Assistance Program in South Asia (Bangladesh), Interim Report. Dhaka, pp.2-7
2.6	Unemployment	Ibid.
2.7	Expenditure on poverty reduction (per poor person)	The main government agencies are the Dhaka City Corporation, Local Government Engineering Department, and the Bangladesh Water Development Board. Fifty NGOs forming a coalition called Coalition for Urban Poor (CUP) have different programs aimed at poverty reduction in the city.

3 HEALTH AND EDUCATION

3.1	Persons per hospital bed	HABITAT National Report. 1996. Dhaka: Ministry of Housing and Public Works, p.69 The data reference year is 1993.
3.2	Child mortality	National Institute of Population Research and Training (NIPORT) 1997, Bangladesh – Demographic and Health Survey 1996/97, p.102 Data refer to the national urban situation and the reference year is 1996.
3.3	Life expectancy at birth	World Bank. 2000. Urban Development Strategy and City Assistance Program in South Asia (Bangladesh), Interim Report. Dhaka, p.2-17
3.4	Infectious diseases mortality	BBS. 1999. Statistical Yearbook of Bangladesh 1998. Dhaka, p.573 Data refer to the national urban situation.

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- 3.5 Family planning
National Institute of Population Research and Training (NIPORT). 1997. Bangladesh – Demographic and Health Survey 1996-97, p.55
- Data refer to the national urban situation; city level not available.
- 3.6 Adult literacy rate
• This is a government declaration.
- 3.7 School enrollment rates (primary, secondary)
World Bank. 1999. Dhaka CDS. pp.2-16
- Secondary school enrollment data is national because city data is unavailable and the source is Banbies, 1998.
 - For primary school enrollment the reference year is 1997 and for primary school enrollment the reference year is 1997.
- 3.8 Tertiary graduates
Estimated for Dhaka from BBS. 1999. Statistical Yearbook of Bangladesh 1998. Dhaka, p.55
- 3.9 Median years of education (years)
NAV
- 3.10 School children per classroom (primary/secondary)
HABIITAT National Report. 1996. Dhaka: Ministry of Housing and Public Works, p.69
- The reference year is 1993.

4 URBAN PRODUCTIVITY

- 4.1 City product per capita
World Bank. 2000. Urban Development Strategy and City Assistance Program in South Asia (Bangladesh), Interim Report. Dhaka, p.2-4
- 4.2 Employment by industry
NAV
- 4.3 Household expenditure
BBS. 1999. Statistical Yearbook of Bangladesh 1998. Dhaka, p.616
- Data refer to the national urban situation of 1995/96.
- 4.4 Investment by sector
NAV
- 4.5 Tourism
Ibid.
- Data refer to the national urban situation of 1996.
- 4.6 Major projects
Dhaka Urban Transport Project (DUTP), World Bank Loan, \$234 million
Fourth Dhaka Water Supply Project, World Bank Loan, \$148 million
Air Quality Management Project (AQMP), World Bank Loan, \$155 million
9th and 10th Power Project, ADB Loan, \$314/\$330 million
Urban Primary Health Care, ADB Loan \$60 million/GOB \$42.5 million
Dhaka Power System Upgrade, ADB Loan \$251 million
Dhaka Integrated Flood Protection Project, ADB Loan, \$120 million
Flood Damage Rehabilitation Project, ADB Loan, \$130 million
Southwest Road Network Development, ADB Loan, \$134 million
Urban Basic Service Delivery, UNICEF/UNCHS Grant, \$20.4 million
Installation of Incinerator for Hospital Waste and Development of Landfill in Dhaka City Corporation, Netherlands Loan, \$20 million
Procurement of Modern Remixing Plant for Development of Dhaka City Roads, German Grant, \$10 million
- 4.7 Cost of stay
CDB estimates
- 4.8 Corporate headquarters
GOB, Ministry of Establishment, list of directorates/corporations under different ministries of the Government

5 NEW TECHNOLOGY

- 5.1 R&D expenditure
NAV
- 5.2 Telephone traffic
NAV
- 5.3 Internet hosts per thousand population
• These are from daily newspapers and names are not indicated.

6 URBAN LAND

- 6.1 Urban land
HABITAT National Report. 1996. Dhaka: Ministry of Housing and Public Works, p.67.
- 6.2 Land developer multiplier
Ibid.
- 6.3 Developer contributions
Communications with town planner, Capital Development Authority (RAJUK), Dhaka
- 6.4 Median time for planning permission
Ibid.
- 6.5 Vacant land with planning permission
Ibid.
- 6.6 Public open space
Habitat Day Seminar, 1999, p.98
- 6.7 Vacant government land
ADB. 1993. Formulation of Land Development Controls and Procedures for Dhaka City. Culpin Planning Ltd.
- The reference year is 1993.

Dhaka

6.8	Prime commercial land price	Communications with president, Real Estate and Housing Development Association of Bangladesh (REHAB), Dhaka. Confirmed in an e-mail on 11 September by consultant.
6.9	Prime rental and occupancy costs	Ibid.
6.10	Expenditure on development	NAV

7 HOUSING

7.1	Dwelling type	BBS. 1993. Bangladesh Population Census 1991. Community series Table C10-11, pp.373-389. The single family dwelling type is defined as having one to four persons in the family. Medium density is five to six persons in dwelling units. Temporary dwellings are those with vulnerable roof materials. Habitat National Report. 1996. Dhaka: Ministry of Housing and Public Works, p.68
7.2	Tenure type	Ibid., p.73
7.3	House price to income ratio	Ibid.
7.4	House rent to income ratio	Ibid.
7.5	Floor area per person	Ibid.
7.6	Housing in compliance	Ibid.
7.7	Mortgage to credit ratio	NAV
7.8	Houses with mortgages	NAV
7.9	Mortgage loans for women	HABITAT National Report. 1996. Dhaka: Ministry of Housing and Public Works, p.73
7.10	Housing production	ADB. 2000. Urban Sector Strategy, p.3-18. Data refer to Dhaka and Chittagong.
7.11	Squatter resettlement or normalization	NAV
7.12	Net housing outlays by government (per person)	BBS. 1997. Bangladesh Population Census 1991, Urban Area Report, p.82 The data year is 1991.
7.13	Homeless people	

8 MUNICIPAL SERVICES

8.1	Water	
8.1.1	Household connections	ADB. 1997. Second Water Utilities Data Book
8.1.2	Investment per capita	NAV
8.1.3	Operations and maintenance expenditures	Dhaka Water and Sewerage Authority (DWASA). 1998. Annual Report 1997/98, p. 39
8.1.4	Cost recovery	DWASA. 1998. Annual Report 1997/98, p. 39
8.1.5	Output per staff: water supplied per employee	Ibid.
8.1.6	List of providers	Ibid.
8.1.7	Nonrevenue water	Ibid.
	a. Percentage unaccounted for water	Ibid.
	b. Interruptions in water service	NAV
8.1.8	Consumption of water per capita	Ibid.
8.1.9	Median price of water, scarce season	Ibid.
8.2	Electricity	
8.2.1	Household connections	BBS. 1999. Statistical Yearbook of Bangladesh 1998, Dhaka, p.46. Data refer to the national urban situation of 1994.
8.2.2	Investment per capita	NAV
8.2.3	Operations and maintenance expenditure	NAV
8.2.4	Cost recovery (%)	NAV
8.2.5	Output per staff: megawatt hours of electricity supplied per employee	NAV
8.2.6	List of providers	- The Bangladesh Power Development Board generates power and in Dhaka City power distribution is under the Dhaka Electricity Supply Authority generating power. - This is from a national daily. - Power supply during summer when demand is high is interrupted by load shedding.
8.2.7	Nonrevenue electricity	
	a. Line loss for electricity	

Dhaka

8.3	Sewerage/wastewater	
8.3.1	Household connections	This is from communications with DWASA.
8.3.2	Investment per capita	NAV
8.3.3	Operations and maintenance expenditure	NAV
8.3.4	Cost recovery	NAV
8.3.5	Output per staff: wastewater discharged or treated per employee	NAV
8.3.6	List of providers	DWASA provides sewerage in the city.
8.4	Telephone	
8.4.1	Household connections	This is estimated from Bangladesh Telephone and Telegraph Board supplied data.
8.4.2	Investment per capita	NAV
8.4.3	Operations and maintenance expenditure	NAV
8.4.4	Cost recovery	NAV
8.4.5	Output per staff: thousands of calls per employee	NAV
8.4.6	List of providers	BTTB
8.5	Solid waste collection	
8.5.1	Households with regular service	Dhaka City Corporation (DCC) report
8.5.2	Investment per capita	NAV
8.5.3	Operations and maintenance expenditure	NAV
8.5.4	Cost recovery	NAV
8.5.5	Output per staff: Collected per employee	NAV
8.5.6	List of providers	DCC, CBOs

9 URBAN ENVIRONMENT

9.1	Solid waste generated	DCC, Solid Waste Management of Dhaka City
9.2	Household sewage disposal (% of households)	NAV
9.3	Wastewater treated	This is from communications with DWASA.
9.4	Percent BOD removed from wastewater	NAV
9.5	Air pollution concentrations	NAV
9.6	Energy usage per person	NAV
9.7	Noise complaints	NAV
9.8	Disasters in last 10 years	There were 734 fire hazards in 1998 and 858 in 1999. In the 1998 flood, 67% of the city was under water for about 90 days.
9.9	Methods of solid waste disposal	

10 URBAN TRANSPORT

10.1	Mode of travel	Dhaka Urban Transport Project, Phase II Consultancy, Final Report, prepared by PPK, Mott MacDonald and DDC, 1999, p.17
10.2	Median travel time	- The reference year is 1993. Ibid. - The reference year is 1993.
10.3	Expenditure on road infrastructure	NAV
10.4	Road congestion	Congestion is severe in the city but there is no data.
10.5	Automobile ownership	BBS. 1999. Statistical Yearbook of Bangladesh 1998, p.278 This includes cars and motorbikes.

Dhaka

10.6	Cost recovery from fares	NAV
10.7	Port/air activity	NAV
10.8	Goods carried	BBS. 1999. Statistical Yearbook of Bangladesh 1998, p.286 • Data for air activity in 1996/97 are available.
10.9	Transport fatalities	NAV

11 CULTURAL

11.1	Attendance at public events	International trade fair Art exhibitions Computer fairs Independence Day, 26 March Language Day, 21 February Victory Day, 16 December Pahela Baishak
11.2	Attendance at galleries and museums	National Museum Art Gallery
11.3	Participation in sports	Corporations and government departments organize athletic sports regularly. Cricket and soccer are popular games and government departments, corporations, and universities organize games. Morning walks have become very popular among middle class families in which women also take part. This is an indication of health consciousness among city people.

12 LOCAL GOVERNMENT FINANCE

12.1	Sources of revenue	These include taxes, user charges, transfers, loans, and other income.
12.2	Capital and recurrent expenditure per person	DDC Report
12.3	Collection efficiency, property taxes	DDC Report
12.4	Debt service charge	Ibid.
12.5	Employees	Ibid.
12.6	Wages in budget	Ibid.
12.7	Contracted recurrent expenditure ratio	NAV
12.8	Business permits	Communication with DCC
12.9	Enterprise revenues	NAV
12.10	Computerization of functions	• DCC has a program to introduce computers in many activities.

13 URBAN GOVERNANCE

13.1	Functions of local government	NAV.
13.2	Delivery of annual plan	• DCC does not prepare town or land use plans.
13.3	Voter participation rates, by sex	NAV
13.4	Independence from higher government	NAV
13.5	Elected and nominated Councilors	NAV
13.6	Representation of minorities	None.
13.7	Planning applications refused	• The Dhaka City Corporation does not exercise planning functions.
13.8	Business satisfaction	NAV
13.9	Consumer satisfaction	SIRIUS Marketing and Social Research, in ADB, Dhaka City Management Reform Pilot Project, Final Report, 1998, pp. 69-84

Consumer Item	+Level of Satisfaction
Gas	6.1
Telephone	5.3
Water and sewerage	5.0
Waste disposal	4.8
Public transportation	4.2
Roads and highways	4.6
Law and order	3.9

Dhaka

Traffic control	3.1
Mosquito control	1.6
Parks and greenery	4.8
Street lighting	4.6

13.10 Perception as place to live

Previously the city was considered by many as a city of peace, but now it is regarded as a city of crimes and violence. For the poor, the city is a city of employment.

13.11 Reported crimes

Metropolitan Police Commissioner's Office, Dhaka

- Data years are 1996, 1997, and 1998.

13.12 Access to information

This is difficult.

13.13 Contact with the public

NAV

13.14 Decentralized district units

- A ward is a small elected unit of the city. In each ward, there is an elected ward commissioner who looks after developing the ward. Recently, DCC has undertaken a pilot scheme to decentralize service deliveries in five wards on a pilot basis.

Hanoi

Indicators

1 POPULATION

Hanoi Statistical Office (HSO) 1999, Hanoi Statistical Yearbook (HSY) 1998

- 1.1 Urbanization UNCHS Global Urban Indicators Database Version 1, 1998
[http:// www.unobservatory.org/indicators/database/](http://www.unobservatory.org/indicators/database/)
- 1.2 City population HSO, HSY 1998
- 1.3 Migration Intersectional population survey, HSO 1998
- 1.4 Population net density HSO, HSY 1998
Hanoi area (km²): 927.39
- 1.5 Age pyramid Census survey in Hanoi at 1 April 1999
- 1.6 Average household size HSO 1997, Report from Wealth and Poor Survey
- 1.7 Household formation rate HSO 1998, Annual Report on Population
- 1.8 Women-headed households Ibid.
- 1.9 Minority groups
 - Minority groups comprise less than 10% of the total population.
- 1.10 Household types Census survey in Hanoi at 1 April 1999
- 1.11 Informal settlements Ibid.

2 EQUITY

HSO 2000, Household Socio-Economic Survey (HSES) 1999

- 2.1 Income distribution HSO 2000, HSES 1999
- 2.2 Households below poverty line HSO 1997, Report from Wealth and Poor Survey
- 2.3 Women-headed households in poverty HSO, HSES 1999
- 2.4 Child labor
- 2.5 Informal employment

Calculated by CDB team based on figures (in percentages) given by the CDB consultant.
Census survey in Hanoi at 1 April 1999

 - There are 1,526 people working in informal sectors.
- 2.6 Unemployment HSO—Hanoi Department of Labor and Invalid Person, 1998 Labor survey report
- 2.7 Expenditure on poverty reduction (per poor person)

Hanoi Women Association; Department of Labor and Invalid Person; Peasant Association; and local authorities

 - Expenditure on poverty reduction is mostly in cash and in kind like expenses for education and training, health care programs, and interest subsidies that are implemented nationwide.

3 HEALTH AND EDUCATION

- 3.1 Persons per hospital bed HSO 1999, HSY 1998
- 3.2 Child mortality HSO 1998, Annual Report on Population
- 3.3 Life expectancy at birth Ibid.
- 3.4 Infectious diseases mortality Ibid., Annual Report on Health
- 3.5 Family planning Ibid., Annual Report on Population
- 3.6 Adult literacy rate Ibid., Annual Report on Education and Training, 1998
- 3.7 School enrollment rates (primary,secondary) Ibid.
- 3.8 Tertiary graduates Ibid.
- 3.9 Median years of education Ibid.
- 3.10 School children per classroom (primary/secondary) Ibid.

4 URBAN PRODUCTIVITY

- 4.1 City product per capita

HSO 1999, HSY 1998

 - The method used was under the System of National Account, introduced by the General Statistical Office of Viet Nam.
- 4.2 Employment by industry HSO 1998, Annual Report on Labor and Income
- 4.3 Household expenditure HSO 1997, Report from Wealth and Poor Survey
- 4.4 Investment by sector HSO 1999, HSY 1998
- 4.5 Tourism Ibid.
- 4.6 Major projects

Tourists' expenditure: HSO 1997, Study on System of National Account in Hanoi
NAV

Hanoi

4.7	Cost of stay	About \$6 is the current rate for regular hotels and daily living expenses are provided for government servants. The cost of an international hotel fluctuates from \$50 to \$175 per day.
4.8	Corporate headquarters	Consultant's assessment based on interviews and survey
5	NEW TECHNOLOGY	
5.1	R&D expenditure	The amount of R&D expenditure is the volume of value added from Science and Research Technology Industries in Hanoi (HSO 1999).
5.2	Telephone traffic (million calls per year)	Hanoi Postal Services and Telecommunication
5.3	Internet hosts per thousand population	Ibid., CDB estimate There are 2.5 connections per thousand population.
6	URBAN LAND	
6.1	Urban land	Based on interview with Hanoi Housing and Cadastral Department
6.2	Land developer multiplier	Ibid.
6.3	Developer contributions	Based on interview and survey
6.4	Median time for planning permission	Ibid.
6.5	Vacant land with planning permission	Ibid.
6.6	Public open space	Ibid.
6.7	Vacant government land	Ibid.
6.8	Prime commercial land price	Ibid. The interview was taken at Hangdao Street in the city center. The size occupied is small to average at 8-10 m².
6.9	Prime rental and occupancy costs	Ibid.
6.10	Expenditure on development	Ibid.
7	HOUSING	
7.1	Dwelling type	Census survey in Hanoi at 1 April 1999
7.2	Tenure type	Ibid.
7.3	House price to income ratio	Ibid.
7.4	House rent to income ratio	Ibid.
7.5	Floor area per person	Ibid.
7.6	Housing in compliance	Consultant's assessment
7.7	Mortgage to credit ratio	NAV
7.8	Houses with mortgage	NAV
7.9	Mortgage loans for women	NAV
7.10	Housing production	HSO 1999, Annual Report on Socio-Economic Condition Two or three households share a house.
7.11	Squatter resettlement or normalization	Squatters are illegal and rarely normalized.
7.12	Net housing outlays by government per person	HSO 1999, HSY 1998
7.13	Homeless people	Census survey in Hanoi at 1 April 1999
8	MUNICIPAL SERVICES	Most services are provided by state-owned enterprises (SOEs). Water and solid waste collection are under the Hanoi Authority. Mobile phones are partly served by SOEs and partly by joint ventures between SOEs and foreign investors.
8.1	Water	Interview with chief executives officers (CEOs) of Hanoi Water Supply Company, Water Supply No. 2 Company, and Than Xuan Company, ADB Second Water Utilities Data Book 1997
8.2	Electricity	Interview with CEO of Hanoi Electricity Company
8.3	Sewerage/wastewater	Interview with CEO of Hanoi Drainage Company
8.4	Telephone	Interview with CEO of Hanoi Postal Service and Telecommunication and Mobil Phone Company The cost charged to users for setting up a line is \$98 (2000).
8.5	Solid waste collection	Interview with CEOs of Hanoi Urban Environment Company and estimate from Hanoi Institute for Socio-Economic Development Studies

Hanoi

9 URBAN ENVIRONMENT

9.1	Solid waste generated	HSO 1999, Annual report on environment
9.2	Household sewage disposal (% of households)	NAV
9.3	Wastewater treated	Hanoi Institute for Socio-economic Studies (HISEDS)
9.4	Percent BOD removed from wastewater	Not applicable
9.5	Air pollution concentrations	NAP
9.6	Energy usage per person	NAP
9.7	Noise complaints	No records
9.8	Disasters in last 10 years	No major disasters
9.9	Methods of solid waste disposal	HSO, Report on Waste Disposal 1998

10 URBAN TRANSPORT

10.1	Mode of travel	Consultant's assessment based on available sources in HSO report
10.2	Median travel time	Ibid.
10.3	Expenditure on road infrastructure	HSO 1999, HSY 1998
10.4	Road congestion	NAV
10.5	Automobile ownership	Hanoi Department of Transportation
10.6	Cost recovery from fares	Hanoi Public Transport Company
10.7	Port/air activity	Noibai Airport and Gialam Airport Hanoi has an inland water route, but it is used mainly for transporting goods and a few tourists.
10.8	Goods carried	HSO 1999, HSY 1999
10.9	Transport fatalities	HSO 1998, Annual Report on Crime

11 CULTURAL

11.1	Attendance at public events	The Tiger Cup was held in Hanoi in 1998 and 240,000 attended.
11.2	Attendance at galleries and museums	- Data for 1999 was collected through interviews. - Military museums: 31,000 attendance; History Museum: 65,000 attendance; Revolution Museum: 176,000 attendance; Ho Chi Minh Museum: 3,030,000 attendance
11.3	Participation in sports	Hanoi Authority of Planning and Investment 1999 There were 350,000 participants or 15% of the total population.

12 LOCAL GOVERNMENT FINANCE

12.1	Sources of revenue	Hanoi Department of Finance, Report on Budget Revenue and Expenditure 1998 The local government is not permitted to borrow.
12.2	Capital and recurrent expenditure per person	Ibid.
12.3	Collection efficiency, property taxes	Ibid.
12.4	Debt service charge	There is no debt service as local governments are not permitted to borrow.
12.5	Employees	HSO 1998, Annual Report on Labor and Income
12.6	Wages in budget	Hanoi Department of Finance, Report on Budget Revenue and Expenditure 1998
12.7	Contracted recurrent expenditure ratio	There are no contracted recurrent expenditures.
12.8	Business permits	HSO 1998
12.9	Enterprise revenues	The data is the profit of Hanoi-based companies.
12.10	Computerization of functions	- Computerization of functions is mainly done on archived periodical reports and data. The network setup between local government offices and the city's committee is not widely used. - The city lacks computers to execute governance functions.

13 URBAN GOVERNANCE

13.1	Functions of local government	• Tasks 13.1.1, 13.1.2, 13.1.3, 13.1.4, 13.1.8, 13.1.6, belong to the local state enterprises, financed by the local government.
13.2	Delivery of annual plan	Consultant's estimate
13.3	Voter participation rates, by sex	Hanoi Department for Personnel and Organization, 1999 Election
13.4	Independence from higher government	• Only the city's committee has the right to close down the council or remove councilors from office at the lower level. It is not permitted to set local taxes but can submit extra charges and fees comparable to central Government levels. • Choosing contractors for projects is illegal except for fairly small projects which are mandated by law.
13.5	Elected and nominated councilors	• One chairperson, five vice-chairpersons, one Director of the Office of the Hanoi People's Committee, Director of Finance, three others
13.6	Representation of minorities	
13.7	Planning applications refused	• No planning application was refused in 1998 and two projects were refused in 1999.
13.8	Business satisfaction	• Of the 6,300 SOEs only 930 include private sector ventures. More private companies are choosing Hanoi as their headquarters.
13.9	Consumer satisfaction	• This is an estimate gathered from the local committees' report at the People's Council in 1999. • There were no such surveys in recent years. • There were no such surveys in recent years.
13.10	Perception as place to live	
13.11	Reported crimes	
13.12	Access to information	• Relevant reports are widely published in newspapers and broadcast on radio.
13.13	Contact with the public	NAV
13.14	Decentralized district units	• There are four hierarchies of administrative management: central Government, provincial/city governance, district governance, and commune governance. In Hanoi there are 12 districts and 229 communes.

Indicators

1 POPULATION

1.1	Urbanization	Statistic Yearbook of Hohhot (HSY) 1999 The urban area of Hohhot consists of the area inside the Second Ring Road, and Jinchuan and the Ruyi economic subdistricts.
1.2	City population	HSY 1999 - Hohhot is part of the Municipal Region of Hohhot. - The current municipal region of Hohhot is classified into four categories: City of Hohhot (City), Great Urban Area of Hohhot (Great Urban Area), Metropolitan Area of Hohhot (Metropolitan Area), and Urban Area of Hohhot (Urban Area). Before 1995, the City consisted of four districts and two counties/banners. The four districts are Huimin, Yuquan, Xincheng, and Suburban. The two counties are Tuoketuo County, and Tumotezuo Banner/County. In 1995, Helingeer County, Qingshuihe County, and Wuchuan County were included in the administrative area of the City.
1.3	Migration	Ibid. - Population increase by 1998 was 40,862. - Out-migration was 15,023.
1.4	Population net density	Ibid.
1.5	Age pyramid	Inner Mongolia Publisher 1992, Book of Development and Layout of Hohhot Based on the latest census of 1990 and projected population of 1998
1.6	Average household size	Ibid. This is based on a 1997 sampling census of 400 households.
1.7	Household formation rate	Ibid.
1.8	Women-headed households	NAV
1.9	Minority groups	These are Mongolians, 14.12%; Hui (Muslim) 4.23%; and Manzhou 2.62%.
1.10	Household types	
1.11	Informal settlements	NAV

2 EQUITY

2.1	Income distribution	Based on a survey done by the Urban Census Team of Hohhot in 1998 using a sample of 400 households																														
2.2	Households below poverty line	NAV																														
2.3	Women-headed households in poverty	NAV																														
2.4	Child labor	Child labor is illegal. Most families have only one child.																														
2.5	Informal employment	HSY 1999																														
2.6	Unemployment	Ibid. <table> <tr> <th>Year</th><th>Employed</th><th>Unemployed</th></tr> <tr> <td>1990</td><td>403,699</td><td>103,000</td></tr> <tr> <td>1991</td><td>418,131</td><td>9,000</td></tr> <tr> <td>1992</td><td>435,525</td><td>5,000</td></tr> <tr> <td>1993</td><td>453,697</td><td>6,000</td></tr> <tr> <td>1994</td><td>463,334</td><td>9,000</td></tr> <tr> <td>1995</td><td>477,370</td><td>13,000</td></tr> <tr> <td>1996</td><td>472,391</td><td>15,000</td></tr> <tr> <td>1997</td><td>460,086</td><td>15,000</td></tr> <tr> <td>1998</td><td>433,662</td><td>29,634</td></tr> </table>	Year	Employed	Unemployed	1990	403,699	103,000	1991	418,131	9,000	1992	435,525	5,000	1993	453,697	6,000	1994	463,334	9,000	1995	477,370	13,000	1996	472,391	15,000	1997	460,086	15,000	1998	433,662	29,634
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1997	460,086	15,000																														
1998	433,662	29,634																														
2.7	Expenditure on poverty reduction (per poor person)	Ibid.; Consultant's estimate There are many organizations involved in poverty reduction like the Hope Project, which sends poor children to school. Normally poor households are cared for by their employers (state-owned enterprises). It is difficult to estimate total expenditure on poverty reduction. According to the report of the implementation of the Economic and Social Development Plan in 1998 and 1999, \$11.22 million was spent for the retirement pension of SOEs, basic living alimony of laid-off SOE workers, and the lowest alimony of urban citizens.																														

3 HEALTH AND EDUCATION

3.1	Persons per hospital bed	China Statistical Yearbook 1997
3.2	Child mortality	- This is Inner Mongolia Autonomous Region data. Hohhot Statistic Bureau 1999, Book of the Splendid 50 Years of Hohhot - It summarizes the achievements since 1949 when the Government prioritized programs against infectious diseases. It is projected that by 1998, the mortality of women in child delivery will be 40.8 persons per 100,000 people, child mortality will be 18.28 per 1,000, and the child immunity rate will be above 98%.
3.3	Life expectancy at birth	Ibid.
3.4	Infectious diseases mortality	Ibid.
		Hohhot Health Bureau
		The epidemic currency rate is 141.2 per 100,000 population in 1999 or 0.0034 per thousand people.
3.5	Family planning	HSY 1999
3.6	Adult literacy rate	Hohhot Education Commission 1998
3.7	School enrollment rates (primary, secondary)	HSY 1999
3.8	Tertiary graduates	Estimated by 15 professors
3.9	Median years of education (years)	NAV
		Nine years of education is compulsory. In urban areas, 90% of the population will finish studies in high school, or 12 years of schooling. More than 80% of those who finish secondary education will go to universities, technical schools, TV universities, vocational and technology colleges, etc.
3.10	School children per classroom (primary,secondary)	Hohhot Education Commission 1998

4 URBAN PRODUCTIVITY

4.1	City product per capita	HSY 1999																						
4.2	Employment by industry	Ibid.																						
4.3	Household expenditure	Ibid.																						
		Hohhot Statistic Bureau 1999, Book of the Splendid 50 Years of Hohhot.																						
4.4	Investment by sector	HSY 1999																						
4.5	Tourism	Ibid																						
4.6	Major projects	Hohhot Planning Commission																						
		<table border="0"> <tr> <td style="vertical-align: top;">• Name of Project</td> <td style="text-align: right; vertical-align: top;">Amount (\$ million)</td> </tr> <tr> <td>Water Supply Project</td> <td style="text-align: right;">214.639</td> </tr> <tr> <td>Second Phase Project of Wastewater Treatment</td> <td style="text-align: right;">90.565</td> </tr> <tr> <td>Second Phase of District Heating</td> <td style="text-align: right;">69.871</td> </tr> <tr> <td>Reconstruction of main and sub main roads</td> <td style="text-align: right;">43.097</td> </tr> <tr> <td>overpass at Gulou</td> <td style="text-align: right;">42.276</td> </tr> <tr> <td>Storm collection network reconstruction</td> <td style="text-align: right;">34.545</td> </tr> <tr> <td>reconstruction of water supply network</td> <td style="text-align: right;">33.663</td> </tr> <tr> <td>Expanding Jinhai Road</td> <td style="text-align: right;">16.327</td> </tr> <tr> <td>reconstruction of East First Ring Road</td> <td style="text-align: right;">15.019</td> </tr> <tr> <td>waste treatment plant of east of Hohhot</td> <td style="text-align: right;">10.871</td> </tr> </table>	• Name of Project	Amount (\$ million)	Water Supply Project	214.639	Second Phase Project of Wastewater Treatment	90.565	Second Phase of District Heating	69.871	Reconstruction of main and sub main roads	43.097	overpass at Gulou	42.276	Storm collection network reconstruction	34.545	reconstruction of water supply network	33.663	Expanding Jinhai Road	16.327	reconstruction of East First Ring Road	15.019	waste treatment plant of east of Hohhot	10.871
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4.7	Cost of stay	Cities Data Book (CDB) estimate																						
4.8	Corporate headquarters	Hohhot Planning Commission																						

5 NEW TECHNOLOGY

5.1	R&D expenditure	Science and Technology Committee of Hohhot
5.2	Telephone traffic (million calls per year)	HSY 1999
5.3	Internet hosts per thousand population	Digital Communication Bureau and based on CDB calculation
		These rose from 0 in 1996 to 860 in 1998.

6 URBAN LAND

6.1	Urban land	Hohhot Urban Planning Bureau; Final Report of ADB TA Project on Hohhot Urban Development, 1998
6.2	Land developer multiplier	Estimated from data in final report of ADB TA project on Hohhot Urban Development, 1998
6.3	Developer contributions	Hohhot Urban Construction Bureau
		Both government and private sectors implement large-scale projects.

Hohhot

6.4	Median time for planning permission	Both government and private sectors implement large-scale projects. Hohhot Urban Construction Bureau
6.5	Vacant land with planning permission	Responsibilities for review and approval are divided among the municipal government, the autonomous region government, and the central Government. NAV
6.6	Public open space	Hohhot Urban Construction Bureau
6.7	Vacant government land	Ibid.
6.8	Prime commercial land price	Ibid.
6.9	Prime rental and occupancy costs	Ibid.
6.10	Expenditure on development	The prime rental cost is \$0.27 per month per square meter, and the occupancy cost is \$144.94. Hohhot Urban Construction Bureau

7 HOUSING

7.1	Dwelling type	Apartment storied buildings are the main type of dwelling. There are old traditional Chinese houses, but data for other types of dwellings are unavailable.
7.2	Tenure type	About 62% of residents live in the apartments provided by their employers. The Government is shifting its policy and is now encouraging individuals to buy and own houses instead of renting them. Tenure types are privately owned, partly privately owned, owned by enterprises and institutes, or rented.
7.3	House price to income ratio	Housing Bureau of Hohhot; survey with housing developers
7.4	House rent to income ratio	Ibid.
7.5	Floor area per person	- House rent is \$0.6 for a traditional Chinese house and \$1.60 for an apartment per month per m². Statistic data and surveys - The floor area per person increased from 7.66 m² in 1995, to 8.19 m² in 1997, and to 10.28 m² in 1998. NAV
7.6	Housing in compliance	Ibid.
7.7	Mortgage to credit ratio	Ibid.
7.8	Houses with mortgages	Ibid.
7.9	Mortgage loans for women	Ibid.
7.10	Housing production	The total area of reconstructed and completed houses is 63,394 m², and 36,942 m², respectively, in 1998. The value of the completed houses is \$1,658,413. The total area of newly developed houses being constructed in 1998 is 1,357,554 m² and 439,893 m² is completed. The total value of completed houses is \$59,321,174. NAV
7.11	Squatter resettlement or normalization	NAV
7.12	Net housing outlays by government per person	HSY 1999
7.13	Homeless people	The total housing development investment is \$56.33 million in 1998 or 70% more than that of 1997. Police Bureau of Hohhot

8 MUNICIPAL SERVICES

8.1	Water	
8.1.1	Household connections	Hohhot Water Supply Company
8.1.2	Investment per capita	Ibid.
8.1.3	Operations and maintenance	Ibid.
8.1.4	Cost recovery	Ibid.
8.1.5	Output per staff: water supplied per employee	Ibid.
8.1.6	List of providers	Ibid.
8.1.7	Non revenue water	Ibid.
	a.) Percentage of unaccounted for water	About 0.04% of unaccounted for water is used for public purposes such as watering the city's trees, grass, and streets. Hohhot Water Supply Company
	b.) Interruptions in water service	Hohhot Water Supply Company
8.1.8	Consumption of water per capita	Ibid.
8.1.9	Median price of water, scarce season	Ibid.
	hours of electricity supplied per employee	

Hohhot

8.2	Electricity	
8.2.1	Household connections	Ibid.
8.2.2	Investment per capita	Ibid.
8.2.3	Operations and maintenance expenditure	Ibid.
8.2.4	Cost recovery	Ibid.
8.2.5	Output per staff: megawatt hours of electricity supplied per employee	Ibid.
8.2.6	List of providers	Hohhot Power Supply Bureau
8.2.7	Nonrevenue electricity	
	a.) Line loss for electricity	Hohhot Power Supply Company
	b.) Interruptions to power supply	Ibid.
8.3	Sewerage/wastewater	
8.3.1	Household connections	Hohhot Sewerage Management Bureau (HSMB) and Hohhot Urban Construction Bureau (HUCB)
		The total length of sewerage network is 402 km and the total annual sewerage quantity is 80.30 million tons. The wastewater treatment plant has a capacity of 150,000 tons/day.
8.3.2	Investment per capita	HUCB
		The first phase of the implementation of the wastewater project commenced in 1976. The total investment is \$1,682,643.
8.3.3	Operations and maintenance expenditure	HSMB's and HUCB
8.3.4	Cost recovery	Ibid.
8.3.5	Output per staff: Wastewater discharged or treated per employee	Ibid.
8.3.6	List of providers	Hohhot Sewerage Management Bureau administrative agency and Xinxinban wastewater treatment plant is the only one in Hohhot.
8.4	Telephone	
8.4.1	Household connections	Hohhot branch of China Telecom and Statistic Yearbook 1999
8.4.2	Investment per capita	Ibid.
8.4.3	Operations and maintenance expenditure	Ibid.
8.4.4	Cost recovery	Ibid.
8.4.5	Output per staff: thousands of calls per employee	Ibid.
8.4.6	List of providers	Hohhot branch of China Telecom
8.5	Solid waste collection	
8.5.1	Households with regular service	Night soil division; Hohhot Environment Sanitation Bureau of HUCB and HSY 1999.
8.5.2	Investment per capita	Ibid.
8.5.3	Operations and maintenance expenditure	Ibid.
8.5.4	Cost recovery	Ibid.
8.5.5	Output per staff: collected per employee	Ibid.
8.5.6	List of providers	Hohhot Comprehensive Waste Plant, Hohhot Construction Waste Plant
9	URBAN ENVIRONMENT	
9.1	Solid waste generated	HSY 1999
9.2	Household sewage disposal (% of households)	Ibid.
9.3	Waste water treated	Ibid.
		About 5,475 tons of wastewater can be treated annually or about 40% of the total wastewater undergoes primary processing.
9.4	Percent BOD removed from wastewater	Sewerage Management Bureau
9.5	Air pollution concentrations	Environment Protection Bureau

9.6	Energy usage per person	Hohhot Urban Construction Bureau
9.7	Noise complaints	Ibid.
9.8	Disasters in last 10 years	Statistic Bureau of Hohhot and surveys
9.9	Methods of solid waste disposal	

10 URBAN TRANSPORT

10.1	Mode of travel	HSY 1999 - Bikes outnumber cars nine to one. There were 301 buses on 35 routes and 3,483 taxis in 1998. - It takes about 25 minutes to travel to work by bicycle, and about 30 minutes by bus. - In 1998, the net length of roads increased by 47 km, which increased the net area of road by 390,000 km². Two overpasses were built. There were 11,696 street lamps in 1998 and 10,750 in 1997. Road infrastructure expenditures were \$19,367,073 in 1998, \$8,830,777 in 1997, and \$1,745,380 in 1996; the average over the three years was \$9,981,077.
10.2	Median travel time	Hohhot Urban Construction Bureau
10.3	Expenditure on road infrastructure	The urban area has high bicycle traffic volumes. Many live close to work. Over 80% of the roads and streets are paved with asphalt and concrete.
10.4	Road congestion	HUCB
10.5	Automobile ownership	About 14379 private automobiles or 44.8% of the total number of automobiles in the region are in Hohhot.
10.6	Cost recovery from fares	NAV
10.7	Port/air activity	HSY 1999 Hohhot is an inland city. Hohhot Airport connects to 11 domestic cities and to Ulaanbater in Mongolia. About 133,000 passengers and 5,143 tons of goods were transported in 1998.
10.8	Goods carried	HSY 1999 - About 101,858 billion ton of goods and 111,976 billion passengers were carried by road. - About 2.23 million tons of goods and 2.79 million passengers were carried by rail. - About 5,143 tons of goods and 133,000 passengers were carried by air.
10.9	Transport fatalities	Traffic and Road Management Bureau of Hohhot

11 CULTURAL

11.1	Attendance at public events	HSY 1999
11.2	Attendance at galleries and museums	Ibid.
11.3	Participation in sports	Ibid. The most popular sports are chess, badminton, ping-pong, wrestling, and wushu (gongfu).

12 LOCAL GOVERNMENT FINANCE

12.1

Sources of revenue

HSY 1999

- The total revenue in 1998 was \$209.23 million.
- The sources of revenue were value increased tax, business tax, enterprise income tax, income tax of joint ventures, personal income tax, resources tax, fixed property investment adjustment tax, urban construction and maintenance tax, real estate tax, stamp tax, land use tax, land value increased tax, vehicle use tax, slaughter tax, banquet tax, agricultural tax, special cropping tax, livestock tax, cultivated land use tax, land contracting tax, amusement tax, and others.

- Revenues

(\$ million)

1990

93

1991

90

1992

100

1993

122

1994

98

1995

110

1996

161

1997

186

1998

209

12.2

Capital and recurrent expenditure per person

- The total expenditure was \$185,704,795.

12.3	Collection efficiency, property taxes	Total capital expenditure was \$17,976,809 and urban infrastructure maintenance expenditure \$14,417,200. Expenditure on culture, education, and health was \$40,802,029. Administrative expenditure was \$20,579,780.
12.4	Debt service charge	The three-year average for 1996-1998 was \$155,068,978.
12.5	Employees	NAV Ibid. No borrowings were done by the local government. HSY 1999
12.6	Wages in budget	There are 35,860 government employees.
12.7	Contracted recurrent expenditure ratio	NAV
12.8	Business permits	HSY 1999
12.9	Enterprise revenues	There were 5,459 or 25.9% more private enterprises than last year and 30,498 private businesses or 12% more than last year. There were 5,459 registered private enterprises.
12.10	Computerization of functions	NAV NAV
13 URBAN GOVERNANCE		
13.1	Functions of local government	
13.2	Delivery of annual plan	Total revenue was \$209 million, which is 102.54% of the budget and 12.53% more than last year's. Expenditure was \$186 million or 89.13% of the budget and 20.44% more than last year's. The Urban Area's expenditure is \$103 million or 86.24% of the budget.
13.3	Voter participation rates, by sex	People's Congress of Hohhot
13.4	Independence from higher government	NAV
13.5	Elected and nominated councilors	Councilors or people's representatives are all elected. About one fourths are female councilors and three fourths are male.
13.6	Representation of minorities	The Inner Mongolia Autonomous Region (IMAR) is Mongolian-dominated (11.5%), although Han is the majority population group. There are more than 15 minorities in Hohhot. Minorities with more than 10,000 are Mongolians, Hui (Muslims) and Man. According to State policy, minorities have more rights, opportunities, and priorities than the Han in minority-dominated areas. For example, minority families can have up to two children in urban areas, whereas Han can only have one child; in universities, minority students account for more than 20% of the total students. Minority officials consisting of 17.7% of the total officials are given priority over Han officials. Officials above and equal to the level of the governors of a county account for 38.6% of the total.
13.7	Planning applications refused	NAV
13.8	Business satisfaction	Ibid.
13.9	Consumer satisfaction	Ibid.
13.10	Perception as place to live	Hohhot is an underdeveloped city. Urban infrastructure is poor and needs improvement, especially in environment, wastewater, solid waste, roads and traffic, central heating, and housing. Most enterprises are state owned which are operating at a loss and have laid off workers. Unemployment has risen.
13.11	Reported crimes	Hohhot Police Bureau
13.12	Access to information	Hohhot Daily, Hohhot Night Paper, Broadcasting, TV
13.13	Contact with the public	People's Congresses at different levels
13.14	Decentralized district units	Oil Refinery and Petrochemical Zone and Baita Chemical Engineering Zone, which are under the central Government.

Hong Kong

Indicators

1 POPULATION

Since August 2000, the “resident population” approach has been adopted in place of the “extended de facto” approach for compiling Hong Kong population figures. Revised population figures backdated to 1996 have been compiled and population-related figures revised accordingly. Notwithstanding the change, the revised figures from 1996 onwards are broadly comparable with those of earlier years. Because of the earlier timing of collating data for the Cities Data Book, population and population-related figures for Hong Kong presented here refer to the old series.

1.1 Urbanization

Department of Economic and Social Affairs, Population Division, World Urbanization Prospectus: The 1996, Revision United Nations 1998, New York, p. 91

- The figure is a projection for 2000.
- Projection of the level of urbanization in Hong Kong between 1995 and 2030 in percent:

1995	2000	2005	2010	2015	2020	2025	2030
95.0	95.7	96.1	96.4	96.7	96.8	97.0	97.2

1.2 City population

Hong Kong Special Administrative Region (HKSAR) Census and Statistics Department (CSD) 2000; Hong Kong Annual Digest of Statistics (HK-ADS) 1999, pp. XIV and 4

- Population of Hong Kong between 1995 and 1999:

1995	1996	1997	1998	1999
6,156,100	6,311,000	6,502,100	6,687,200	6,843,000

1.3 Migration

- 1.3.1 Other parts of the city
- 1.3.2 Other parts of the country
- 1.3.3 International migration
- 1.3.4 Total net migration

- The annual rate of population increase in 1999 was 2.3%.

HKSAR Information Services Department (HKSAR-ISD) 1999; Hong Kong 1998, p.394

- This refers to People's Republic of China and Macau.

- Formula: Total net migration = Immigrants–Emigrants
= 56,039 – 19,300
= 36,739

1.4 Population net density

HKSAR-ISD 1999; Hong Kong: The Facts—Population;

Website of HKSAR-CSD <http://www.info.gov.hk/censtatd/eng/hkstat/hkinf/population/pop5.htm>

- The population net densities for 1994 and 1999 are 55.6 and 63.5, respectively.

HKSAR-CSD 2000; HK-ADS 1999, p. 5

Hong Kong Monthly Digest of Statistics (HK-MDS) February 2000, p. 3

- In 1999, the age pyramid was

	Male (%)	Female (%)
Persons 0–14	8.7	8.1
Persons 15–64	36.6	35.9
Persons 65 & over	5.0	5.7

1.6 Average household size

HKSAR-CSD 2000; HK-ADS 1999, p. 10

1.7 Household formation rate

HKSAR-CSD website <http://www.info.gov.hk/censtatd/eng/hkstat/hkinf/population/pop6.htm>

1.8 Women-headed households

HKSAR-CSD 1997; Population by census 1996

1.9 Minority groups

HKSAR-CSD 1997

- There is no ethnic classification of population in the Demographic Statistics System. The following 1996 statistics reflect the population breakdown by first nationality: British (with right of abode in places outside Hong Kong, China)—2.82%; Chinese (place of domicile other than Hong Kong, China)—1.04%; Filipino—1.94%; Canadian—0.52%; American—0.47%; Indian, Pakistani, Bangladeshi and Sri Lankan—0.34%; Portuguese—0.33%; Australian—0.33%; Japanese—0.31%; Thai—0.26%, and; Others—1.20%.

HKSAR-CSD 1997

1.10 Household types

1.11 Informal settlements

HKSAR-ISD 1999; Hong Kong: The Facts—Housing

HKSAR Housing Authority

- Informal settlements refer to squatter areas and illegal rooftop structures. There is no data on the hectares of land occupied by informal settlements. In the fourth quarter of 1999, such structures numbered 95,900.

- This is December 1999 data.

CDB estimates

- This is September 1999 data.

1.11.1 Population

1.11.2 Households

1.11.3 Land occupied

NAV

2 EQUITY

- 2.1 Income distribution
- HKSAR-ISD 1999; Hong Kong: The Facts—Population
- The average monthly income (\$) in 1999 is top 20% 5,163 and above; next 20% 3,874–5,162; middle 20% 1,938–3,873; next bottom 20% 1,291–1,937; bottom 20% 0–1,290.
 - In the 1996 Census, the upper limit of monthly salary was set at \$129,110. Like many developed countries, the salary of a CEO in major multinational corporations can be high. The quoted figure is only for reference and cannot be regarded as the upper limit of monthly salary for the top 20% group.
- 2.2 Households below poverty line
- HKSAR-ISD 1999; HKSAR Social Welfare Department (HKSAR-SWD); Hong Kong Social and Economic Trends (HKSET) 1999, p. 156
- There is no defined absolute poverty line.
 - The HKSAR-SWD provides Comprehensive Social Security Assistance (CSSA) to households with monthly income insufficient to meet recognized needs. The income limit differs from case to case.
 - In 1998, the number of CSSA cases was old age 124,304; unemployed 31,942; single parent family 25,613; ill health 25,041; mentally ill 9,668; low earning 7,562; physically disabled 4,313; blind 550; deaf 210; others 3,616 – total 232,819.
 - The number of CSSA cases does not equal the number of households below the poverty line. It only represents the number of households which depend on government financial support.
- 2.3 Women-headed households in poverty
- 2.4 Child labor
- The Employment of Children Regulations made under the Employment Ordinance governs the employment of children in all economic sectors. A child means a person under 15 years who is prohibited from working in industry.
 - Children of 13 and 14 may be employed in nonindustrial establishments, if they attend full-time schooling, if they have not yet completed Form III of secondary school education, and if they conform to other conditions which aim to protect their safety, health, and welfare.
 - Children under 13 are prohibited from employment. However, for art and training, the Commissioner for Labour may give special permission for them to be employed as entertainers, subject to certain stringent conditions as the Commissioner may specify.
 - Without official statistics on informal employment, the informal sector is assumed to be very small.
- 2.5 Informal employment
- 2.6 Unemployment
- 2.7 Expenditure on poverty reduction (per poor person)
- HKSAR-CSD 2000; HK-ADS 1999, p. 19.
- HKSAR-SWD 1999; HKSAR-CSD 1999; HKSET, p. 157
- There is no objective definition of poverty.
 - The HKSAR-SWD provides two main kinds of social security allowances: CSSA and Social Security Allowance Schemes (SSA). In 1999 total expenditure was \$2,293.78 million. The number of cases for CSSA and SSA was 232,819 and 526,742, respectively.
 - SSA includes disability allowance, old age allowance, criminal and law enforcement injuries compensation, traffic accident victims assistance and emergency relief. See note 2.2 for details about CSSA.
 - The indicator represents the average allowance given per active case annually by the Social Welfare Department. It is not equal to the expenditure on poverty reduction per poor person. In addition, an active case may involve a single person or a family, in which the number of family members varies.

3 HEALTH AND EDUCATION

- 3.1 Persons per hospital bed
- HKSAR-CSD 2000; HK-ADS 1999, p. 259
- Cities Data Book (CDB) Formula: Persons per hospital bed
- $$= \text{Total population} / \text{Total hospital beds} = 6,687,200 / 32,836 = 204$$
- 3.2 Child mortality
- 3.3 Life expectancy at birth
- HKSAR-CSD 2000; HK-ADS 1999, p. 4
- Ibid.
- CDB estimate – average of figures given by the consultant.
- 3.4 Infectious diseases mortality
- 3.5 Family planning
- HKSAR Department of Health, Infectious Diseases Registry
- HKSAR Family Planning Association, “Knowledge, Attitude and Practice Survey on Family Planning” 1997, a territory study undertaken by the Association every 5 years.
- 3.6 Adult literacy rate
- HKSAR-CSD 2000; HK-ADS 1999, p. 231
- The rate reflects the percentage of population aged 15 and over with primary education or above.
- 3.7 School enrollment rates
- HKSAR-ISD 1999; Hong Kong: The Facts—Education
- Secondary school education can be divided into two groups. Aged 12-14 equals years 1-3, while aged 15-16 equals years 4-5 in secondary school education.
- 3.7.1 Primary schools
- 3.7.2 Secondary schools
- The CDB estimate is derived from HK-ADS 1998.

Hong Kong

- 3.8 Tertiary graduates
- 3.9 Median years of education
- 3.10 School children per classroom

The CDB estimate is based on the figures given by the consultant.

General Household Survey Section (2); HKSAR-CSD

- The Government of HKSAR provides 9 years compulsory education for all Hong Kong, China citizens.
- The figure for primary schools is an estimate.

4 URBAN PRODUCTIVITY

- 4.1 City product per capita
- 4.2 Employment by industry
- 4.3 Household expenditure

- The CDB used Method B in deriving the figure.

HKSAR-CSD 2000; HK-ADS 1999, p. 21

Ibid., Household Expenditure Survey

- Data are based on the results of the 1994/95 Household Expenditure Survey conducted by CSD.
- Indicator 4.3.4 "Others" is an aggregate of fuel and light (2.4%), alcoholic drinks and tobacco (1.1%), clothing and footwear (7.4%), durable goods (3.8%), miscellaneous goods (4.6%), and miscellaneous services (12.5%).

- 4.4 Investment by sector

HKSAR-CSD 2000; Gross Domestic Product 1961–1999, pp. 34-35

- Gross domestic fixed capital formation (GDFCF) in 1998 equaled \$49,997 million.
- GDFCF for physical infrastructure in 1998 was \$9,937 million. This includes nonresidential buildings and other constructions.
- GDFCF for housing in 1998 was \$8,066.44 million.
- GDFCF for services in 1998 was \$11,186.27 million. This includes transfer costs of land and buildings and real estate developers' margins (REDM). Transfer costs are the expenditure incurred for transfer of ownership of land and buildings, which includes stamp duties, legal fees, and agent's commissions. REDM requires taking the sales value of property less the sum of the current cost of the land which the property stands on and the project development outlays.
- GDFCF for others in 1998 was \$20,807.20 million. This includes investment in all machinery and equipment.

- 4.5 Tourism

HKSAR-CSD 2000; HK-ADS 1999, p. 177, 179; HK-MDS February 2000, p. 97

- 4.6 Major projects

- In 1999 10,678,640 tourists visited Hong Kong.
- HKSAR Works Bureau; Government of HKSAR "Introduction to the Estimates" 2000-01; website of Government Information Center at <http://www.info.gov.hk>
- The Hong Kong International Airport and the Airport Core Projects for \$9.076 billion
- Priority Rail Projects for \$15.247 billion including the West Rail (Phase I), KCRC Tsim Sha Tsui extension and Ma On Shan Rail, Tseung Kwan O Extension and Sheung Shui to Lok Ma Chau Spur Line.
- The Strategic Sewage Disposal Scheme Phase I for \$1.033 billion
- Science Park at Pak Shek Kok – Phase I for \$308.57 million
- Container Terminal No. 9 for \$348.60 million
- The CDB estimate is based on ADB and UN daily subsistence allowances.
- HKSAR Industry Department 1999; Survey of Regional Representative by Overseas Companies in Hong Kong 1998, p. 14

5 NEW TECHNOLOGY

- 5.1 R&D expenditure
- 5.2 Telephone traffic:
million calls per year
- 5.3 Internet hosts per thousand
population

HKSAR-CSD, Industrial Production Statistics Section

- In 1998, the total private sector R&D expenditure equaled \$181.71 million.

HKSAR Office of the Telecommunication Authority (HKSAR-OTA)

- The CDB estimate is based on data given by the consultant.

Ibid.; CDB estimates

- In December 1999, the estimated number of Internet users was 1,859,245. This figure was based on information from the Internet Service Providers (ISPs). It does not include users who are not customers of the licensed ISPs, such as users of the campus networks in the universities.

6 URBAN LAND

- 6.1 Urban land
- 6.2 Land developer multiplier
- 6.3 Developer contributions
- 6.4 Median time for
planning permission
- 6.5 Vacant land with planning
permission

HKSAR-CSD 2000; HK-ADS 1999, p. 340

- It is difficult to define urban fringe and undeveloped land.
- Developer contributions are not legislated.

HKSAR Planning Department

- According to section 16(3) of the Town Planning Ordinance, the Town Planning Board shall, within two months of the receipt of the application, consider an application.

NAV

Hong Kong

6.6	Public open space	HKSAR-CSD 2000; HK-ADS 1999, p. 340 Formula: $\text{Proportion of public open space} = \frac{\text{Open space}}{\text{Total developed land}}$
6.7	Vacant government land	Theoretically, all land without clear entitlement to individuals or companies belongs to the Government of HKSAR. This includes land such as woodland, grass, and scrub and will over-estimate the quantity of usable land owned by the Government.
6.8	Prime commercial land price	- In 1998, the Government disposed of 1,384,629 m² of land through public auction or tender. - There has not been a land sale in prime commercial areas since 1997 because land is scarce in these areas. 1998 figure
6.9	Prime rental and occupancy costs	HKSAR Rating and Valuation Department (HKSAR-RVD) - Offices are classified into three grades. Grade A are of the highest quality in facilities and estate management while Grade C provide only basic finishes, restricted layout, and average estate management. - Indicator 6.9.1 represents the average rents per m² per month in Central, the central business district of Hong Kong, for private grade A offices in 1999. - The average rents for grade B and grade C offices in 1999 were \$55 and \$40 per m², respectively.
6.10	Expenditure on development	HKSAR Territory Development Department The figure only represents the expenditure on land development projects in HKSAR.

7 HOUSING

7.1	Dwelling type	Census Planning Section 2000; HKSAR-CSD CDB estimates - The classification of dwellings is different from that in the CDB. Housing is classified as public rental housing, subsidized sale flats, private housing, nondomestic housing, and public/private temporary housing. - In September 1998, the proportion of each dwelling type was Public Rental Housing (33.6%); Subsidized Sale (12.2%); Private Housing (50.6%); Nondomestic Housing (0.8%); and Public/Private Temporary Housing (2.7%). - Temporary housing in Hong Kong refers to transit centers, temporary housing areas, and interim housing.
7.2	Tenure type	CDB estimates
7.3	House price to income ratio	HKSAR-RVD; HKSAR-ISD 1999; HK: The Facts—Population - As shown in 7.5, average floor area per person for private permanent flats is 16.4 m². It is estimated that the median flat area for a household with four family members is 60 m². Formula: $\text{Estimated median house price} = 60 \text{ m}^2 * \$6,032.50 = \$361,949.83$ - Median annual household income = \$30,985.00
7.4	House rent to income ratio	HKSAR-RVD; HKSAR-ISD HK: The Facts – Population 1999; HKSAR Annual Report of Housing Department, 1998/99 - The estimated median flat area is 34 m², which is the standard flat size of public rental housing for a household with three to four family members. Formula: $\text{Estimated median annual rent for public flats:}$ $= \$177.82 * 12$ $= \$2,133.94$ Estimated median annual rent for private flats: $= 34 \text{ m}^2 * \$22.34 * 12$ $= \$9,113.14$ - In 7.1, it shows that the percentage of public rental housing is 33.6% while private housing and others is 66.4%. The percentage of private rental housing is not available. Using a weighted average method, the house rent to income ratio is $= [(\$2,133.94 * 0.336) + (\$9,113.14 * 0.664)] / \$30,985.00 = 21.8\%$
7.5	Floor area per person	Administrative Record of Housing Department, HKSAR (HKSAR-ARHD); HKSAR-RVD; HKSAR-CSD 2000 - The average floor area per person refers to public rental housing. - For subsidized sales flats and private permanent housing, the average floor areas are 14 m² and 16.4 m², respectively.
7.6	Housing in compliance	CDB estimates
7.7	Mortgage to credit ratio	HKSAR Hong Kong Monetary Authority The figure reflects the mortgage to credit ratio in the three-tier banking system in 1999. This does not include quasi-government institutions, credit unions, trust companies, insurance companies, and pension funds.
7.8	Houses with mortgages	NAV
7.9	Mortgage loans for women	NAV

Hong Kong

7.10 Housing production

HKSAR-ARHD; HKSAR-RVD

- There were 58,540 residential flats built in 1998. Figures showing whether the houses were built on new land or land converted from other uses are not available.
- 1999 figure

7.10.1 On new (vacant) land

7.10.2 Conversions or infill from other uses

NAP

7.11 Squatter resettlement or normalization

HKSAR Housing Bureau

- About 1,250 persons were resettled in 1998.
- Informal settlements held 249,000 people.

7.12 Net housing outlays by government (per person)

HKSAR Housing Authority "Housing Authority Annual Report" 1999

- The figure represents public expenditure on housing in 1998. The mid-year population in 1998 was 6,502,100.
- The Hong Kong Housing Authority is a public organization which provides most of public housing. It also builds subsidized flats for the low to medium income group. The programs are called Home Ownership Scheme (HOS), Private Sector Participation Scheme (PSPS), Tenants Purchase Scheme (TPS), and Home Purchase Loan Scheme (HPLS).
- The Housing Authority also manages temporary housing, namely transit centers, interim housing, and temporary housing areas for victims of natural disasters and those whose eligibility is being assessed for rehousing to permanent public estates.
- The figure represents the total number of homeless people in September 1999.

7.13 Homeless people

8 MUNICIPAL SERVICES

8.1 Water

8.1.1 Household connections

HKSAR Water Supplies Department "Water Supplies Department Annual Report" (HKSAR-WSD-WSDAR) 1998/99, p. 82

8.1.2 Investment per capita

Ibid., p.83

- Total capital investment in 1999 was \$468.8 million.

8.1.3 Operations and maintenance expenditures

Ibid., pp.90-98

8.1.4 Cost recovery

Ibid.

8.1.5 Output per staff: water supplied per employee

ADB "Second Water Utilities Data Book"

- CDB estimates
- HKSAR-WSD (100%)

8.1.6 List of providers

8.1.7 Nonrevenue water

Ibid.

a. Percentage unaccounted for water

b. Interruptions in water service

Ibid.

- There were 1,935 main bursts in 1999.
- The total time of emergency supply interruptions from main bursts equaled 15,678 hours and the average duration of each emergency supply interruption was 8.15 hours in 1999.
- The area and population affected are usually small and limited in each normal case of emergency supply interruption.

8.1.8 Consumption of water per capita

HKSAR-WSD-WSDAR 1998/99, p. 80

8.1.9 Median price of water, scarce season

NAP

8.2 Electricity

8.2.1 Household connections

HKSAR-ISD; Hong Kong: The Facts—Water, Power and Gas Supplies

- CLP Power Hong Kong Limited and Hongkong Electric Company Limited have 1.8 million and 513,000 customers, respectively.

8.2.2 Investment per capita

CLP Holdings Annual Report 1998 (CLPH-AR) 1998, p. 36

- The figures in 8.2 are from CLP Power Hong Kong Limited, which provides 72% of Hong Kong's electricity.
- Capital expenditure in 1999 was \$405.9 million.
- Ibid., p.32
- The operating costs in 1999 were \$297.7 million.
- Ibid., p.31-32
- Total revenue from the sales of electricity in 1999 was \$3,102.3 million.
- Total recurrent expenditure in 1999 was \$1,455.6 million.

8.2.3 Operations and maintenance expenditure

8.2.4 Cost recovery

Hong Kong

8.2.5	Output per staff: megawatt hours of electricity supplied per employee	Ibid., p.36 HKSAR-ISD; Hong Kong: The Facts—Water, Power and Gas Supplies - The company's workforce was 4,420 in 1999. - The local maximum demand was 5,304 MW.
8.2.6	List of providers	- There are 2 electricity providers in Hong Kong. They are CLP Power Hong Kong Limited and the Hongkong Electric Company Limited. - CLP Power Hong Kong Limited supplies electricity to Kowloon and the New Territories, including Lantau, Cheung Chau, and most of the outlying islands. In 1999, local sales amounted to 24.9 billion kWh, which is 72% of the total consumption. - Hongkong Electric Company Limited supplies electricity to Hong Kong Island, Ap Lei Chau, and Lamma Island. In 1999, local sales amounted to 9,693 million kWh, which is 28% of the total consumption. - The electricity supply is 50 Hz AC, 220V (single phase) and 380/220V (three-phase).
8.2.7	Nonrevenue electricity	NAV
8.3	Sewerage/wastewater	
8.3.1	Household connections	HKSAR Drainage Services Department (HKSAR-DSD)
8.3.2	Investment per capita	Ibid. Formula: $\text{Investment per capita} = \frac{\text{Total investment}}{\text{Total population}}$ $= \frac{\\$258,221,114.11}{6,687,200}$ $= \\$38.6$
8.3.3	Operations and maintenance expenditure	Ibid. Formula: $\text{Operations and maintenance expenditure per capita in 1999} = \frac{\text{Total operations and maintenance expenditure}}{\text{Total population}}$ $= \frac{\\$142,021,613.11}{6,687,200}$ $= \\$21.24$
8.3.4	Cost recovery	Ibid. Formula: $\text{Total revenue} / \text{Total recurrent expenditure}$ $= 740,000,000 / 1,100,000,000$
8.3.5	Output per staff: wastewater discharged or treated per employee	Ibid. - Wastewater discharged or treated in 1998/99 = 795 million tons - There were 2,150 employees in HKSAR-DSD in 1999.
8.3.6	List of providers	HKSAR-DSD is responsible for 95% of sewerage treatment.
8.4	Telephone	
8.4.1	Household connections	CDB estimates
8.4.2	Investment per capita	Cable & Wireless HKT Telephone Limited Annual Report (C&W HKTL—AR) 1998 The figure in this section reflects the situation of Cable & Wireless HKT only. The company is the largest fixed telephone network provider.
8.4.3	Operations and maintenance expenditures	Ibid.
8.4.4	Cost recovery	Ibid.
8.4.5	Output per staff: thousands of calls per employee	Ibid. - There were 3,592,255 connections to HKT services in 1999. This represents 252 lines per employee. - There are seven fixed telecommunications network services licensees. They are Cable & Wireless HKT Telephone Limited, Hutchison Communications Limited, New T&T Hong Kong Limited, New World Telephone Limited, SmarTone Mobile Communications Limited, Hong Kong Cable Television Limited, and China Digital satNet Limited. - At present, only Cable & Wireless HKT Telephone Limited, Hutchison Communications Limited, New T&T Hong Kong Limited, and New World Telephone Limited provide fixed-line telephone services.
8.4.6	List of providers	
8.5	Solid waste collection	
8.5.1	Households with regular service	HKSAR Food and Environmental Hygiene Department (HKSAR-FEHD)
8.5.2	Investment per capita	NAV
8.5.3	Operations and maintenance expenditure	HKSAR-FEHD - Total operations and maintenance expenditure per person for waste collection in 1999 was \$24.7. The expenditure refers to the expenses for street sweeping and refuse collection services. - This indicator is not applicable in Hong Kong. The Food and Environmental Hygiene Department is responsible for all domestic solid waste collection. This is a public service provided by the Government of HKSAR and no fee should be charged.
8.5.4	Cost recovery	

Hong Kong

8.5.5 Output per staff:
collected per employee

8.5.6 List of providers

HKSAR-FEHD

- In 2000, the total of solid waste collected was 2,200,950 tons and in 1999 it was 2,129,673 tons. The department has about 4,500 staff directly involved in sweeping and 2,200 staff in refuse collection.
- HKSAR-FEHD is the main domestic solid waste collection agent. It replaces the former Urban Services Department and Regional Services Department in 2000.
- There are also private contractors operating independently of the Government of HKSAR.

9 URBAN ENVIRONMENT

9.1 Solid waste generated

2000 HKSAR-CSD; 1999 HK-ADS, p.332.

- Solid waste can be classified as commercial, domestic, industrial, construction and demolition, special waste, and recovered material. If the aggregate amount is used, the number will rise to 1.14 tons per person.

9.2 Household sewage disposal

HKSAR-DSD

- Methods such as septic tanks or pan collection are not used.
- Nearly all households are connected to the central sewage disposal system. The Strategic Sewage Disposal Scheme Phase I, costing \$1.02 billion, aims at improving sewage collection and treatment in older urban areas.

9.3 Wastewater treated

Ibid.

9.4 Percent BOD removed
from wastewater

Ibid.

- There is no aggregate figure available.
- 90% and 73% of BOD can be removed by biological treatment and chemical treatment, respectively.

9.5 Air pollution concentrations

HKSAR Environmental Protection Department (HKSAR-EPD)

- The data reflect the air pollution in the Central and Western districts, which EPD classifies as general and residential regions.

- Instead of NO_x , the figure shows the concentration of NO_2 .

- The number of days exceeding WHO standards for SPM and Pb per annum is not available. In 1998, the annual mean of SPM and Pb was $77 \mu\text{g}/\text{m}^3$ and $61 \mu\text{g}/\text{m}^3$, respectively.

9.6 Energy usage per person

HKSAR-CSD Industrial Production Statistics Section; HKSAR-CSD "Annual Report of Hong Kong Energy Statistics" 1999

9.7 Noise complaints

2000 HKSAR-CSD; HK-ADS 1999, p. 337

- The Noise Control Ordinance governs noise from domestic premises and public places, construction sites, intruder alarm systems, motor vehicles, and noisy products.
- The EPD and the Police Force of Hong Kong are responsible for noise complaints. Complaints can be written or telephoned to the EPD local hotline or to a local police station.
- Any person who commits an offense under the ordinance is liable to penalty or imprisonment depending on the offense.

9.8 Disasters in last 10 years

- There has been no natural disaster for the last 10 years.

9.9 Method of solid waste disposal

HKSAR-EPD

- In 1998, about 1.56 million tons of municipal solid waste (MSW) were recovered, representing 33% of the total MSW or 13.8% of total solid waste.
- There has been no incinerator since 1997.

10 URBAN TRANSPORT

10.1 Mode of travel

HKSAR Transport Department, Third Comprehensive Transport Study (HKSAR-TD-TCTS) 1997
The data were obtained in 1997/98.

Private automobiles include both private cars and motorcycles.

10.2 Median travel time

Ibid.

The data were obtained in 1998.

10.3 Expenditure on road
infrastructure

HKSAR Website of Transport Bureau, <http://www.info.gov.hk/tb/press/keystat/3.htm>

- Total transport expenditures in 1996, 1997, and 1998 were \$891.12 million, \$603.37 million, and \$491.78 million, respectively. The three-year average of total transport expenditure is \$662.42 million.
- The total transport expenditure includes expenditure by the Highway Department, Civil Engineering Department, and Transport Department for all transport related projects such as the airport core program, bridges, flyovers, ferry piers, and roads.

10.4 Road congestion

HKSAR-TD-TCTS 1997

- The figure only reflects road congestion on the main roads and highways during morning peak hours. If secondary roads are included, the figure will be much smaller.
- The data were obtained in 1998.

Hong Kong

- 10.5 Automobile ownership
HKSAR-CSD 2000; HK-MDS February 2000, p.90; HKSAR-CSD Demographic Statistics Section
- In Hong Kong, the minimum driving age is 18.
 - In 2000, there were 5,417,300 people above 18.
 - 574,193 motor vehicles were registered in 2000.
- 10.6 Cost recovery from fares
Hong Kong Mass Transit Railway (MTR) Corporation Annual Report 1999
- CDB has opted to use MTR for this indicator. The Kowloon-Canton Railway (KCR) is the other main public transportation system.
- 10.7 Port/air activity
HKSAR-CSD 2000; HKSAR-ADS 1999, pp. 158-159; HKSAR-CSD 2000, HK-MDS February 2000, p. 79
- The figures are monthly averages in 1998.
 - The Port of Hong Kong has one of the highest turnover rates in the world. There are eight container terminals.
 - Hong Kong's international airport is the Hong Kong International Airport.
 - In 1999, there were 6,974 commercial flights leaving each month.
- 10.8 Goods carried
HKSAR-CSD 2000, HK-ADS 1999, pp.82-83; HKSAR-CSD 2000, HK-MDS February 2000, pp.82-83
- The amount of cargo carried by river was 39,688,000 tons in 1999, which is not included in the indicator.
 - Amount of goods carried by various transport modes in 1999:
(millions of revenue tons per annum)
Road: 38,553,000; Rail: 466,000; Air: 1,976,000 (provisional figure)
- 10.9 Transport fatalities
HKSAR Transport Department, Road Safety and Standards Division 1999; Road Traffic Accident Statistics 1998

11 CULTURAL

- 11.1 Attendance at public events
HKSAR Leisure and Cultural Services Department (HKSAR-LCSD)
- The five largest public events in 1999:
- | Event | Attendance |
|--|------------|
| Lunar New Year Fireworks Display | 577,000 |
| The Hong Kong Flower Show | 400,000 |
| National Day Fireworks Display | 380,000 |
| Egyptian Treasures from the British Museum | 310,000 |
| 22nd Hong Kong International Film Festival | 188,000 |
- 11.2 Attendance at galleries and museums
HKSAR-CSD 2000; HK-ADS 1999, p.318
- | Venue | Attendance |
|--------------------------|------------|
| Hong Kong Science Museum | 567,289 |
| Hong Kong Museum of Art | 541,014 |
| Hong Kong Railway Museum | 425,820 |
| Sam Tung Uk Museum | 399,523 |
| Hong Kong Space Museum | 334,839 |
- 11.3 Participation in sports
HKSAR-LCSD
- Popular sports include swimming, windsurfing, canoeing, tennis, table-tennis, badminton, squash, cycling, basketball, volleyball, and hiking.
 - LCSD promotes "Sport-For-All". It organizes inexpensive monthly sports activities and runs the majority of public sports facilities. Around 9,000 activities are organized per year to meet the public's needs.
 - LCSD also organizes sports programs for the elderly, overweight children, and people with disabilities.

12 LOCAL GOVERNMENT FINANCE

- 12.1 Sources of revenue
HKSAR-CSD 2000; HK-ADS 1999, p. 187
- The main direct taxes are the profits and salary taxes. Indirect taxes include the bets and sweeps tax, entertainment tax, hotel accommodation tax, property tax and stamp duties, air passenger departure tax, cross harbor tunnel passage tax, duties, general rates, motor vehicle taxes, and royalties and concessions.
 - Hong Kong is an independent economic entity. Transfers here do not equal funding from the central Government of the PRC. It refers to transfers from funds and reserves of the Government of HKSAR such as the Land Fund, Capital Works Reserve Fund, Capital Investment Fund, and Loan Fund.
- 12.2 Capital and recurrent expenditure per person
HKSAR Finance Bureau (HKSAR-FB)
- Figures are on a per capita basis. The total recurrent expenditure and capital expenditure in 1999 were \$21,209.9 million and \$28,250.8 million, respectively.

Hong Kong

12.3	Collection efficiency, property taxes	HKSAR Inland Revenue Department Annual Report 1998-99, pp. 9-11 - In 1999, the property tax collected equaled \$172.18 million. Property tax accounted for 17.6% of the "Total Earnings & Profits Tax" or 13.2% of the "Total Revenue Collected." - There is no separate figure for the collection cost of property tax. The overall cost of collection of taxes is 1.21%. - There is high compliance with the property tax. Indeed, the Inland Revenue Department has an effective investigation and field audit unit. In 1999, there were 4,642 cases of property compliance checks with understated rental income of \$25.05 million. Back tax and penalties assessed equaled \$3 million.
12.4	Debt service charge	The Government of HKSAR has no national debt and bond obligation.
12.5	Employees	HKSAR-CSD 2000; HK-ADS 1999, pp. 5, 21
12.6	Wages in budget	Ibid., p.188
12.7	Contracted recurrent expenditure ratio	NAV
12.8	Business permits	HKSAR Company Registry website, http://www.info.gov.hk/cr/key/chart2.htm - Instead of business permits issued, the data show the number of companies incorporated during the past five years. - The number of companies incorporated during 1994 and 1998: 1994: 42,723; 1995: 33,008; 1996: 49,734; 1997: 49,275; 1998: 29,947
12.9	Enterprise revenues	Mass Transit Railway Corporation (MTRC) Annual Report 1999; Kowloon Canton Railway Corporation (KCRC) Annual Report 1999 - MTRC and KCRC are 2 major public corporations. - In 1999, the retained profit of MTRC was \$688 million and KCRC's net profit after tax was \$211.6 million.
12.10	Computerization of functions	HKSAR Information Technology Services Department (HKSAR-ITSD) website http://www.info.gov.hk/itsd/ - ITSD was set up in 1990 to hasten computerization and the use of information technology in both government departments and the private sector. - The government IT expenditure in 1999 was \$261.8 million. The workstation ratio was 424 per 1,000 civil servants in December 1999.
13 URBAN GOVERNANCE		
13.1	Functions of local government	The major functions of the district boards are public enquiry service, emergency services, rural planning and improvement strategy, and licensing and building management.
13.2	Delivery of annual plan	HKSAR-FB The budgeted expenditure on the annual plan was \$32,051.44 million and the actual expenditure was \$30,903.39 million in 1999.
13.3	Voter participation rates, by sex	HKSAR Registration and Electoral Office website http://www.info.gov.hk/eac/english/update/rfce1609.htm The overall voter participation rate is 53.29%.
13.4	Independence from higher government	The Basic Law of Hong Kong: "The HKSAR shall be a local administrative region of the PRC, which shall enjoy a high degree of autonomy and come directly under the Central People's Government." (Article 12) "The Central People's Government shall be responsible for the foreign affairs relating to the HKSAR." (Article 13) "The Central People's Government shall be responsible for the defense of the HKSAR. The Government of HKSAR shall be responsible for the maintenance of public order in the Region." (Article 14) "The HKSAR shall be vested with executive power." (Article 16) "The HKSAR shall be vested with legislative power." (Article 17) "The HKSAR shall be vested with independent judicial power, including that of final adjudication." (Article 19)
13.5	Elected and nominated councilors	HKSAR Legislative Council and Executive Council - The figure provided shows the situation in the Legislative Council. - For the Executive Council of HKSAR, all 14 members are appointed by the Chief Executive. - As shown in 1.9, Hong Kong does not have any major minority group.
13.6	Representation of minorities	
13.7	Planning applications refused	HKSAR Planning Department - This is 1999/2000 data. - In 2000, there were 900 applications of which 154 were rejected.
13.8	Business satisfaction	Oriental Daily News, Hong Kong 21 March 2000 - There are no local surveys or studies about business satisfaction with local government services. - The Political and Economic Risk Consultancy Ltd. interviewed expatriates in 12 Asian countries to investigate the level of bureaucracy in local government. According to the survey, the Government of HKSAR has the lowest bureaucracy among the 12 countries.

Hong Kong

13.9 Consumer satisfaction

- All government departments in Hong Kong have their own performance pledge, which states the services delivered, performance standards and targets, the monitoring system, and customer satisfaction level. Reports are published every year by individual departments to report their performance for the year.
- For more information about performance pledges, please visit their websites or email: pubenq@censtatd.gov.hk or write to ask for Performance Pledge Reports.

13.10 Perception as place to live

13.11 Reported crimes

HKSAR-CSD 2000, HK-ADS 1999, p. 302; HKSAR-CSD 2000, HKMDS February, p. 150

- In 1999, the number of reported crimes per 1,000 people was 11.22. The number of murders, drug related crimes, and thefts reported per 1,000 people was 0.009, 0.33, and 3.6, respectively.

13.12 Access to information

- HKSAR-CSD publishes various statistical reports such as HK-ADS and Hong Kong Trade Statistics. For details, please visit the website of the department at <http://www.info.gov.hk/censtatd/eng>

- All government bureaus and departments of HKSAR issue annual reports for the public. All information can be accessed by visiting the HKSAR Information Center at <http://www.info.gov.hk/eindex.htm>

- Most of the departments have access to information officers, who are responsible for providing information requested by individuals or companies.

13.13 Contact with the public

Public Information Division, Legislative Council Secretariat; HKSAR Home Affairs Department
NAV

- The Government of HKSAR periodically collects public opinion and explains the policies through various channels.

13.14 Decentralized district units

Website of HKSAR Home Affairs Department, <http://www.info.gov.hk/had/>

- The major responsibilities of district councils are district administration, public enquiry service, emergency services, rural planning and improvement strategy, licensing, and building management. They also help new immigrants and organize overseas domestic helper centers.

- For more information about performance pledges, please visit their websites or e-mail : pubenq@censtatd.gov.hk or write to ask for Performance Pledge Reports.

Kathmandu

Indicators

1 POPULATION

1.1	Urbanization	Udile/GTZ "Towards National Urban Strategy— A Discussion Paper (Udile/GTZ: TNUS-ADP), Vol. I Text 1998
1.2	City population	National Research Associates (NRA) of Nepal: Nepal District Profile (NDP) (A District-wise Socio-Techno-Economic Profile along with a Comprehensive National Profile) 1999
1.2.1	Resident population of municipal area	The population estimation for 1998 is based on the 1991 census.
1.2.2	Population during daytime working hours	IUCN 1995: Regulating Growth—Kathmandu Valley. National Conservation Strategy Implementation Project-National Planning Commission/Nepal (IUCN: RG – KVNCSIP-NPC/Nepal 1995)
1.2.3	Annual rate of population increase	In Regulating Growth: Kathmandu Valley, the floating population is estimated at 50,000.
1.3	Migration	Udile/GTZ: TNUS-ADP, Vol. I Text 1998
1.4	Population net density	The estimation is based on the 1991 census.
1.5	Age pyramid	Cities Data Book (CDB) estimates
1.6	Average household size	IUCN: RG – KVNCSIP-NPC/Nepal 1995; Housing and Urban Development in Nepal—Analysis and Design of Participatory Development Process (HUDN-ADPDP), Jibgar Joshi 1998
1.7	Household formation rate	This is calculated from the net residential area (mixed use + planned residential area and land occupied by squatters) to the total population.
1.8	Women-headed households	His Majesty's Government (HMG) Nepal Central Bureau of Statistics (CBS) Population Census—Urban Table; National Planning Commission Secretariat (NPCS) 1994
1.9	Minority groups	The CDB estimate is based on the data submitted by the consultant.
1.10	Household types	NRA of Nepal: NDP (A District-wise Socio-Techno-Economic Profile along with a Comprehensive National Profile) 1999
1.10.1	Single person	Ministry of Housing and Physical Planning (MHPP) Report on Urban Indicator Program, Kathmandu 1995;
1.10.2	Adults only	HUDN-ADPDP, Jibgar Joshi 1999
1.10.3	Single parent family	HMG Nepal, CBS National Planning Commission Secretariat (CBS-NPCS)
1.10.4	Adults and children	These are calculated by the expert from the CBS by using primary data from the Nepal Living Standard Survey Report 1996
1.11	Informal settlements	HMG Nepal, CBS-NPCS 1991
		The Kirats minority group covers 10% of the total population. They have a population of 56,166.
		The minority group's ethnic groups are the Limbu, Rai, Gurung, Thakali, Tamang, and Magar.
		HMG Nepal, CBS-NPCS Population Census—Urban Tables 1994
		CBS has categorized household sizes into nine groups according to the number of persons per household.
		NAV
		NAV
		CDB estimates
		Condition of Low Income Settlements in Kathmandu Action Research in Squatter Settlements, Tanaka Masako 1997
		Ramhity, Kathmandu Metropolitan City (KMC) Ward 6: 729; Maharajgunj, KMC Ward 3: 633; Balaju Chakrapath, KMC Ward 16: 531; Sankhamul: 504; Bansighat, Thapathali: 392

2 EQUITY

2.1	Income distribution	CBS
2.2	Households below poverty line	- The CDB estimate is based on the consultant's data. - This is calculated by the expert from CBS by using primary data from the Nepal Living Standard Survey Report 1996.
2.3	Women-headed households in poverty	HMG Nepal CBS-NPCS
2.4	Child labor	The poverty line of \$95 a month per household has been derived from the income distribution stated in section 2.1.
2.5	Informal employment	Ibid.
		- Out of 14.36% of women-headed households in Kathmandu City, 97% are estimated to be below the poverty line. - These are calculated by the expert from CBS by using primary data from the Nepal Living Standard Survey Report 1996.
		Ibid.

Kathmandu

- This is calculated by the expert from CBS by using primary data from the Nepal Living Standard Survey Report 1996.

- 2.6 Unemployment
2.7 Expenditure on poverty reduction (per poor person)

3 HEALTH AND EDUCATION

- 3.1 Persons per hospital bed

Ministry of Health and SOGREAH for preparing the proposal on Kathmandu Hazardous Waste Management 1997 and primary data collection from additional private hospitals

Year	Number of Hospitals		Hospital Beds/Person	
	Public	Private	Total	
1986	1,353	40	1,393	225
1997	2,000	1,077	3,077	197
1998	2,100	1,177	3,277	197

- 3.2 Child mortality

M.P. Shrestha and I. Shrestha, 1999. Poverty and Development Paradigm: People's Perspective. Paper presented in IPHN/ WHO South Asia Dialogue on Poverty and Health, Bangalore, India (15-18 November 1999)

- There is no specific figure for child mortality in Kathmandu, however, a report on "Poverty and Development Paradigm; People's Perspective" estimated the child mortality rate as 9% in Kathmandu. NRA of Nepal: NDP (A District-wise Socio-Techno-Economic Profile along with a Comprehensive National Profile) 1999

- 3.3 Life expectancy at birth

- The given figure is for Kathmandu District.

- 3.4 Infectious diseases mortality

- The data collected are from Teku Hospital (the only hospital for infectious diseases) and Kanti Hospital (the only hospital for children) records, 1998/99.

- 3.5 Family planning

CDB estimates

- 3.6 Adult literacy rate

"A Study on Willingness to Pay and Ability to Pay of Water Users in Kathmandu Valley," New Era 1998 District Education Office

- 3.7 School enrollment rates

- School children per grade is quoted from the District Education Office Record and the age-wise population is projected to 1998 by using the formula ($P_t = P_0 \cdot e^r$) from the Population Census 1991. The age groups considered for primary school enrollment and secondary enrollment are 5–10 and 11–15, respectively, as per the Nepalese standard in the Nepal Living Standard Survey Report, 1996.
- The data for 1998 are projected from the 1991 Census using the above formula, and the figure mentioned here is estimated.

- 3.8 Tertiary graduates

- Official communications with Dr. Shrestha, 11 August 2000

Consultant calculated raw data from CBS.

- 3.9 Median years of education

Tribhuvan University Central Department for Population Studies: "Employment Situation in Nepal," Kathmandu, Nepal 1997

- 3.10 School children per classroom

Ministry of Education—Educational Statistics of Nepal 1995, 1996 and 1997

Official communications with Dr. Shrestha, 5 July 2000

- The quoted figure is derived from HUDN-ADPDP, Jibgar Joshi 1999.
- From discussion with an officer from the District Education Office, there is no system to evaluate the number of students per classroom. Though the Office prepares an annual database about schools, it does not include this indicator in the survey format. Generally there are more students per classroom in public schools than in private ones. The number of students per classroom is calculated as the ratio of the number of students in primary and secondary levels to the number of primary and secondary schools.

	1995	1996	1997
Primary	42	41	40
Secondary	25	24	23

4 URBAN PRODUCTIVITY

- 4.1 City product per capita
4.2 Employment by industry

The CDB estimate is based on the consultant's data.

Udile/GTZ: TNUS-ADP, Vol. I Text 1998

- Employment by industry is quoted from the 1991 census. It classifies the economically active population engaged in different economic sectors as follows:

ISIC Division

Industry	Population	
	(No.)	(%)
1. Agriculture, forestry & fisheries	8,556	6
2. Mining & quarrying	154	0
3. Manufacturing	19,763	14
4. Electricity, gas & water	1,576	1
5. Construction	2,721	2
6. Commerce	34,810	25
7. Transport & communication	5,512	4
8. Finance & business services	4,503	3
9. Personal & commercial services	55,311	40
10. Others	1,230	1
11. Not stated	5,831	4

4.3 Household expenditure

Nepal Rastra Bank (NRB) Quarterly Economic Bulletin. NRB Vol. XXXIII (1 and 2) 1998; Family Budget Survey 1994

- Household Expenditure

Item	Expenditure (1)	Expenditure (2)
	(%)	(%)
Food	51.53	59.96
Housing	15.14	14.62
Transport & comm.	4.21	2.40
Others	29.12	23.02

Price Index of 1983 and NRA of Nepal: NDP(A District-wise Socio-Techno-Economic Profile along with a Comprehensive National Profile)

4.4 Investment by sector

Nepal Water Supply Corporation (NWSC)—Management Information Report 1999; Nepal Telecommunication Corporation (NTC)—Management Information Report 1999

- The investment per person for Kathmandu City since 1998 has been separated from the investment for the district.

	(\$)
Roads	0.516
Water Supply and Sanitation	3.54
Total	4.06
Housing	4.00
Electricity	0.38
Education	0.14
Health	8.45
Total	8.97 per person

Other Sports and Culture—\$13.4 per person (because of the 1999 South Asian Games in Kathmandu, the amount spent in this sector was high in 1998).

	(\$)
Tourism	8.14
Vocational Training	0.29
Local Development	5.26
Industry	0.076
Total	27.17

4.5 Tourism

HMG Department of Tourism (DOT) 1998: Summary of Tourism Statistics, 1997 vs 1998, Ministry of Tourism and Civil Aviation (MOTCA), Singh Durbar, Kathmandu, Nepal

These are 1998 figures and do not include Indian tourists.

4.6 Major projects

Project Coordinator, Kathmandu Urban Development Project (KUDP); Project Directorate, ADB; Nepal Electricity Authority (NEA): Corporate Data Base, Monitoring and Evaluation Department Planning Directorate 1993; Ministry of Population and Environment 1998/99; Bagmati Area Sewerage Construction/ Rehabilitation Project; HMG Nepal Ministry of Housing and Physical Planning (MHPP), Department of Housing and Urban Development (DHUD), Kathmandu Valley Town Development Committee (KVTDC): "Land Pooling in Kathmandu Valley," S. B. Sanghachhe 1999

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Project	\$ million
HMG/Nepal Electricity Strengthening Project	0.20
Kathmandu Urban Development Project, 1994–1999	8.00
Second Road Improvement Project (this includes only the expenditure in road sections present in Kathmandu City), 1990–1997	0.30
Institutional Strengthening Project for Environmental Monitoring	0.58
Bagmati Area Sewerage Development Project, 1996 (ongoing)	3.80
Land Pooling Projects	8.98
Dallu Land Pooling Project, 1978 (ongoing)	—
Gongabu Land Pooling Project, 1989–1997	—
Sinamangal Land Pooling Project, 1995 (ongoing)	—
Gopi Krishna Land Pooling Project, 1995 (ongoing)	—

- 4.7 Cost of stay HMG MOTCA, DOT: Tourism Statistics (unpublished report) 1998
- These are CDB estimates from ADB and UN sources.
 - The cost of stay for tourists is \$44, whereas for diplomats and executives the cost goes up to \$100–\$150.
- 4.8 Corporate headquarters NAP
- Corporate headquarters are not established in Kathmandu as in the criteria given.

5 NEW TECHNOLOGY

- 5.1 R&D expenditure NAV
- City-specific R&D expenditures are not available.
- 5.2 Telephone traffic (million calls per year)
- 5.2.1 Local Official communications with Dr. Shrestha, 5 July 2000 re: 27 June comments
- 5.2.2 STD Ibid.
- 5.2.3 International Ibid.
- 5.2.4 Mobile or cellphone Ibid.
- 5.3 Internet hosts per thousand population Nepal Telecommunication Authority 1999

6 URBAN LAND

- 6.1 Urban land KMC – Urban Development Department (KMC-UDD); IUCN: Regulating Growth, Kathmandu Valley 1995; National Planning Commission Secretariat, National Conservation Strategy Implementation Project (NPCS-NCSIP); Halcrow Fox Associates (HFA), PPK & CEMAT: Kathmandu Valley Urban Development Plans and Program, Department of Housing and Urban Development, HMG/ADB, Nepal 1991
- Different land uses were interpreted from different sources:
- Land use zoning map—KMC-Urban Development Department 1997; Existing land use map—Regulating Growth: Kathmandu Valley 1995; Kathmandu Valley Urban Development Plans and Programs 1991
- There are no commercial, residential, industrial, or service land use zoning. Thus the figures are logical interpretations of existing land use for which the total area of Kathmandu is considered as 5,076 hectares (calculated and verified by KMC Geographical Information System Section).
 - Mixed use includes the residential area in the city core and city centers with commercial uses.
 - Others includes vacant land, water bodies, open spaces, V.I.P. diplomatic areas, and areas occupied by squatters.
- 6.2 Land developer multiplier Verbal interaction with head of department, KMC-UDD and with acting secretary of KVTDC
- Land development projects caused land prices to rise by 2.5 times.
- 6.3 Developer contributions Discussion with the acting secretary of KVTDC and KMC on 21 February 2000
- There is no legal provision for contributing to infrastructure, but a 29% contribution was reported in a recently completed project (Naya Bazar Land Pooling) of KMC. In Kathmandu, most land development projects are self-financed, i.e., the public contributes for land development and the land contribution for development of infrastructure like roads and open spaces varies from 10% to 40% in different land development projects.
- 6.4 Median time for planning permission Official communications with Dr. Shrestha, 11 August 2000
- 6.5 Vacant land with planning permission NAV
- This is not yet applied because of inadequate land use regulations.

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		There is zoning regulation for building by-laws based on 1950 land use. A land use plan for Kathmandu Valley is being developed and will guide urban growth in the valley, so there is no guiding mechanism for planning permission for vacant land. Urban and Environmental Planning in Nepal, IUCN Nepal, Adhikari, A. 1998; KMC UDD; HFA, PPK & CEMAT: Kathmandu Valley Urban Development Plans and Program, DHUD, HMG/ADB, Nepal 1991										
6.6	Public open space											
6.7	Vacant government land	IUCN 1995: Regulating Growth – Kathmandu Valley; National Planning Commission-NCSIP										
6.7.1	Amount of land owned by Government											
6.8	Prime commercial land price	Official communications with Dr. Shrestha, 11 August 2000										
6.9	Prime rental and occupancy costs	Ibid., 29 July 2000										
6.9.1	Prime rental per month	This involved interaction with renters.										
6.9.2	Operating costs per month	Official communications with Dr. Shrestha, 29 July 2000										
6.9.3	Statutory charges per month	HMG statutory provision for municipalities in Nepal is 15% of the rent.										
6.10	Expenditure on development	Project coordinator, KUDP; Project directorate, ADB; NEA: Corporate Data Base, Monitoring and Evaluation Department Planning Directorate 1993; Ministry of Population and Environment; Bagmati Area Sewerage Construction/Rehabilitation Project; HMG/Nepal MHPP, DHUD, Kathmandu Valley Town Development Committee: Land Pooling in Kathmandu Valley, S. B. Sanghachhe 1999										
7 HOUSING												
7.1	Dwelling type	Environment Improvement Works of KMC, KUDP 1999 The data were not available in the given format and are estimated from available sources, i.e., Nepal National Household Survey 1991, Ministry of Housing and Urban Planning; Nepal Living Standard Survey, CBS 1996; Mr. Kishore Thapa, Housing Expert–Department of Housing and Physical Planning.										
7.1.1	Houses											
7.1.2	Medium density											
7.1.3	Apartments											
7.1.4	Temporary dwelling											
7.1.5	Other (Institutions,hostels, etc.)	There are too few of these in the city for data to be included. <table><tr><th colspan="2">Dwelling Type in Kathmandu City Core</th></tr><tr><th></th><th>(%)</th></tr><tr><td>Single (family)</td><td>31.8</td></tr><tr><td>Medium density</td><td>50.2</td></tr><tr><td>Apartment</td><td>18.0</td></tr></table>	Dwelling Type in Kathmandu City Core			(%)	Single (family)	31.8	Medium density	50.2	Apartment	18.0
Dwelling Type in Kathmandu City Core												
	(%)											
Single (family)	31.8											
Medium density	50.2											
Apartment	18.0											
7.2	Tenure type	CBS Nepal Living Standard Survey 1996 Official communications with Dr. Shrestha, 5 July 2000 re: 27 June 2000 comments The data were not available in the given format and are estimated from available sources, i.e., Nepal National Household Survey 1991, Ministry of Housing and Urban Planning; and Nepal Living Standard Survey, CBS 1996, Mr. Kishore Thapa, Housing Expert – Department of Housing and Physical Planning. Tenure Type in Kathmandu Valley includes owned–65.75%; rented–28.67%; rent free–3.4%; and others–2.1%.										
7.3	House price to income ratio	MHPP Report on Urban Indicator Program, Kathmandu 1995; HUDN-ADPDP, Jibgar Joshi 1999 The figure is directly quoted from the book of Jibgar Joshi 1995.										
7.4	House rent to income ratio	NRB 2000: Household Budget Survey 1995/96 (unpublished report), Baluwatar, Kathmandu The data is based on Kathmandu Valley urban centers (Kathmandu, Lalitpur, Bhaktapur, and Thimi).										
7.5	Floor area per person	New Era 1998: A Study on Willingness to Pay and Ability to Pay of Water Users in Kathmandu Valley The average size of dwelling units in Kathmandu is 55.75 m² and the average household size is 5.2.										
7.6	Housing in compliance	KVTDC Litigation Section NAV Official communications with Dr. Shrestha, 11 August and 5 July 2000 re: 27 June 2000 comments - Though there are many houses not in compliance, these are not reported officially to KVTDC. - Housing is mostly owner built and most land in Nepal is privately owned.										
7.7	Mortgage to credit ratio	Informal discussion with Mr. Gehendra Chandra Bhandari, Deputy Director, Credit Guarantee Corporation Different commercial banks have different mortgage to credit ratios, however, 1:2 ratio is the common practice.										
7.8	Houses with mortgages	NAV										
7.9	Mortgage loans for women	Women can borrow without a mortgage; however, loans for women are rare.										
7.10	Housing production	Official communications with Dr. Shrestha, 29 July and 11 August 2000										
7.11	Squatter resettlement or normalization	NAV										

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7.12	Net housing outlays by government (per person)	NAV																		
7.13	Homeless people	Estimates by Concern for Children in Nepal and Child Workers in Nepal																		
8	MUNICIPAL SERVICES																			
8.1	Water																			
8.1.1	Household connections	NWSC—Management Information Report 1999																		
8.1.2	Investment per capita	Consultation with Mr. Bishnu Basnet, Department of Finance (DOF), NWSC The total capital investment for Kathmandu Valley is \$4,936,700 of which 60% or \$2,962,020 is in the city.																		
8.1.3	Operations and maintenance expenditures	NWSC Annual Budget Report, 1998-99 and consultation with DOF-NWSC																		
8.1.4	Cost recovery	Ibid.																		
8.1.5	Output per staff: water supplied per employee																			
8.1.6	List of providers	NWSC is the only official agency supplying drinking water in city. There are several unregistered private companies which also provide tanker service.																		
8.1.7	Nonrevenue water																			
	a. Percentage unaccounted for water	Metcalf & Eddy 1999. Water Demand Review, April 1999 - There is no official record on the 40% reduction in unaccounted for water. - Losses arise from leakage and wastage in the distribution systems and old and complicated pipe network.																		
	b. Interruptions in water service	Melamchi Water Supply Development Board (HMG/ADB) 1999: Socioeconomic Survey Report on Present Water Use and Living Environment in Kathmandu Valley - The distribution system is intermittent. According to this survey, the city's water supply is <table><tr><th>Supply Condition</th><th>% of Households</th><th>Hours Interrupted/Month</th></tr><tr><td>Fully interrupted</td><td>6.9</td><td>49.68</td></tr><tr><td>2 hrs. supply</td><td>83.7</td><td>552.42</td></tr><tr><td>4 hrs. supply</td><td>8.8</td><td>52.80</td></tr><tr><td>Fully supplied</td><td>0.6</td><td>0.00</td></tr><tr><td>Total</td><td></td><td>654.90</td></tr></table> - The weighted hours of water supply interruption is 658.85 hours a month. - On average, the water supply is good for two hours or less since water production is only 94 million liters per day (mld) and water demand is 150 mld in Kathmandu Valley.	Supply Condition	% of Households	Hours Interrupted/Month	Fully interrupted	6.9	49.68	2 hrs. supply	83.7	552.42	4 hrs. supply	8.8	52.80	Fully supplied	0.6	0.00	Total		654.90
Supply Condition	% of Households	Hours Interrupted/Month																		
Fully interrupted	6.9	49.68																		
2 hrs. supply	83.7	552.42																		
4 hrs. supply	8.8	52.80																		
Fully supplied	0.6	0.00																		
Total		654.90																		
8.1.8	Consumption of water per capita	NWSC—Management Information Report 1999																		
8.1.9	Median price of water scarce season	The price of water during scarce season is the same during normal season. The price of water is \$0.15 per m³, but the cost can rise, depending on the size of connection pipes, to \$0.36.																		
8.2	Electricity																			
8.2.1	Household connections	New Era 1998: A Study on Willingness to Pay and Ability to Pay of Water Users in Kathmandu Valley—Final Report																		
8.2.2	Investment per capita	The figure is calculated from NEC data based on communications with Dr. Shrestha, 11 August 2000.																		
8.2.3	Operations and maintenance expenditure	NEA: Corporate Data Base Series, Monitoring and Evaluation Department Planning Directorate 1998 Expenditure is calculated as follows: <table><tr><td>Total O&M expenditure per annum in the country</td><td>\$23,550,000</td></tr><tr><td>% of total O&M in Kathmandu City</td><td>26% or \$6,123,000</td></tr><tr><td>Population of Kathmandu City</td><td>575,652</td></tr><tr><td>O&M expenditure per capita</td><td>\$10.7</td></tr></table>	Total O&M expenditure per annum in the country	\$23,550,000	% of total O&M in Kathmandu City	26% or \$6,123,000	Population of Kathmandu City	575,652	O&M expenditure per capita	\$10.7										
Total O&M expenditure per annum in the country	\$23,550,000																			
% of total O&M in Kathmandu City	26% or \$6,123,000																			
Population of Kathmandu City	575,652																			
O&M expenditure per capita	\$10.7																			
8.2.4	Cost recovery	Ibid.; Official communications with Dr. Shrestha, 5 July 2000 re: 27 June 2000 comments																		
8.2.5	Output per staff: megawatt hours of electricity supplied per employee	Official communications with Dr. Shrestha, 5 July 2000 re: 27 June 2000 comments																		

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8.2.6	List of providers	• NEA is the only official agency that supplies electricity.
8.2.7	Nonrevenue electricity	
	a. Line loss for electricity	NEA 1998: Monitoring and Evaluation Department Planning Directorate: Corporate Data Series
	b. Interruptions in power supply	NEA
		• Ten hours interruption is fixed under supply and economic conditions.
8.3	Sewerage/wastewater	
8.3.1	Household connections	NWSC—Management Information Report 1999; NWSC—Urban Water Supply and Sanitation Rehabilitation Project: Consumer Survey—SILT Consultant and Development and Resource Center (DRC) 1997
8.3.2	Investment per capita	Consultation with Mr. Bishnu Basnet, DOF-NWSC
		• The total capital investment for Kathmandu Valley is \$2,616,763 of which 60% or \$1,570,057 is in Kathmandu City.
8.3.3	Operations and maintenance expenditure	Consultation with DOF-NWSC and NWSC Annual Budget Report 1998/99
8.3.4	Cost recovery	Ibid.
8.3.5	Output per staff: Wastewater discharged or treated per employee	Management Information Report, NWSC 1998; IUCN, Regulating Growth – Kathmandu Valley 1995
8.3.6	List of providers	NCSIP-NPCS
		NWSC
8.4	Telephone	
8.4.1	Household connections	Nepal Telecommunication Corporation (NTC)
		• There were 108,781 telephone lines distributed in the city in 1998 and 68% of households are considered to be connected.
8.4.2	Investment per capita	• Investment is estimated as follows (1998 data):
		Total capital expenditure in the country: \$137,000,000
		Total telephone lines distributed in the country: 181,302
		Percentage of telephone lines distributed in Kathmandu City: 60% or 108,781
		Capital expenditure in Kathmandu City: \$82,380,000
		Total population of Kathmandu City : 575,652
		Investment per capita: \$144
8.4.3	Operations and maintenance expenditure	Management Information System—Nepal Telecommunication Corporation 1998
8.4.4	Cost recovery	Ibid.
8.4.5	Output per staff: thousands of calls per employee	Ibid.
8.4.6	List of providers	NTC
8.5	Solid waste collection	
8.5.1	Households with regular service	KMC, Solid Waste Management and Environment Department (KMC-SWMED) and common practices observed in the city
		• The city has different ways of collecting garbage. Though KMC is unable to provide door-to-door collection, garbage is collected in containers or is piled up at different sites. Besides this, several areas have door to door collection through local initiatives and private companies. Altogether solid waste collection is estimated at 75% in the city.
8.5.2	Investment per capita	ADB Technical Assistance (ADB-TA): Inception Report—Institutional Strengthening of KMC 1999
8.5.3	Operations and maintenance expenditure	Ibid.
8.5.4	Cost recovery	Ibid.
8.5.5	Output per staff: collected per employee	KMC-SWMED 1998/99
8.5.6	List of providers	ADB-TA: Inception Report—Institutional Strengthening of KMC 1999
9	URBAN ENVIRONMENT	
9.1	Solid waste generated	KMC-SWMED
9.2	Household sewage disposal	Urban Water Supply and Sanitation Rehabilitation Project, Final Report on Consumer Survey 1999. SILT Consultant and DRC; NWSC
		Official communications with Dr. Shrestha, 29 July 2000
9.3	Wastewater treated	• The only waste stabilization pond for treating wastewater is now nonoperational. All wastewater is now directly discharged into the river. Though septic tanks were estimated as 40% (Metcalf & Eddy/

Kathmandu

9.4	Percent BOD removed from wastewater	CEMAT 1999), the treatment efficiency of septic tanks is unknown. Therefore, treated wastewater is almost insignificant.
9.5	Air pollution concentrations	Since there is no treatment plant and efficiency of existing septic tanks is also unknown, BOD removal rate from wastewater could not be estimated.
9.6	Energy usage per person	World Bank: Urban Air Management Strategy in Asia—Kathmandu Valley Report, Metropolitan Environmental Improvement Program 1996
9.7	Noise complaints	United Nations Environment Programme; International Center for Integrated Mountain Development: State of the Environment Dataset Report: Strengthening Environment Assessment and Monitoring Capabilities in Nepal 2000
9.8	Disasters in last 10 years	Energy usage is 501 kg (coal equivalent) per person nationally.
9.9	Method of solid waste disposal	NAV
10 URBAN TRANSPORT		Official communications with Dr. Shrestha, 11 August 2000
10.1	Mode of travel	No major disasters in the past 10 years have affected the population.
10.2	Median travel time	KMC-SWMED
10.3	Expenditure on road infrastructure	Department of Roads (DOR); Nepal Transport Corporation (NTC)
10.4	Road congestion	Japan International Cooperation Agency; HMG/Nepal Ministry of Works and Transport, DOR: The Study on Kathmandu Valley Urban Road Development 1993
10.5	Automobile ownership	- The median travel time is estimated at 35 minutes. - There is no provision for charging for goods carried outside the city.
10.6	Cost recovery from fares	DOR Kathmandu Division
10.7	Port/air activity	Valley Traffic Police (VTP)
10.8	Goods carried	Records from Sajha Yatayat and Nepal Trolley Bus
10.9	Transport fatality	The cost recovery from fares from Sajha Yatayat (Public Transportation) is 36% and that from trolley bus is 83% and the average cost recovery from fares is 59.6%.
11 CULTURAL		Recorded from the Ministry of Tourism Civil Aviation Airport Branch
11.1	Attendance at public events	The airport is Tribhuvan International Airport.
11.2	Attendance at galleries and museums	NAP
11.3	Participation in sports	There is no provision for charging for goods carried outside the city.
12 LOCAL GOVERNMENT FINANCE		VTP
12.1	Sources of revenue	National Sports Council
12.2	Capital and recurrent expenditure per person	No records are available for attendance at public events since there are numerous public events where people inside as well as outside the city participate in these events. Some of the major events that many city people attend are Dashain, Tihar, Indra Jatra, Shiva Ratri, Democracy Day, and Martyr's Day. In national festivals like Dashain and Tihar, almost everyone participates (99%), but participation in other festivals like Indra Jatra, Democracy Day, and Martyrs Day is about 20%.
12.3	Collection efficiency, property taxes	Natural History Museum, Chauni; Tribhuwan and Mahendra Museum, Hanuman Dhoka; National Museum, Chauni
12.3.1	Percent of liabilities actually collected	Registered records from the National Sports Council
12.3.2	Costs of collecting property tax as percentage of receipts passed to the local government	Sports include taekwondo, judo, karate, boxing, football.

Kathmandu

12.4 Debt service charge

12.5 Employees

12.6 Wages in budget

12.7 Contracted recurrent expenditure ratio

12.8 Business permits

12.9 Enterprise revenues

KMC Budget 1997/98

- KMC had debt service only in fiscal year 1997/98.

Ibid.

Ibid.

Ibid.

Ministry of Industry; Chamber of Commerce

- There are 33 government enterprises in Kathmandu. The main government enterprises are Dairy Development Corporation, Royal Drugs Limited, National Trading Limited, Nepal Oil Corporation, National Construction Company of Nepal, Royal Nepal Airlines, Nepal Gorkhapatra Corporation, Nepal Electricity Authority, Nepal Water Supply Corporation, Nepal Telecommunication Corporation, and Rastriya Banijya Bank.

- Of 33 government enterprises, 18 are for profit.

- Computerization of functions is partly complete.

12.10 Computerization of functions

12.10.1 Land registration

12.10.2 Rates collection

12.10.3 Salaries

12.10.4 General finances

- In the Finance Department almost all functions are computerized.

- These are partly computerized.

- This is computerized.

13 URBAN GOVERNANCE

13.1 Functions of local government

Local Government Act 1999 and Local Self-Governance

- Local government functions are listed in the Local Government Act, 1999 in Section 96 but many of them are not practised.

13.1.1 Water

- (a) to carry out plans for drinking water
- (b) to operate, maintain, and repair water facilities
- (c) to preserve water resources and carry out irrigation plan

13.1.2 Sewerage

- (a) to carry out plans on sewerage
- (b) to operate, maintain, and repair sewerage facilities
- to collect, transport, and dispose of solid waste
- to generate and distribute electricity within the municipal area.

13.1.3 Refuse collection

13.1.4 Electricity

13.1.5 Telephone

13.1.6 Public or mass transport

- to arrange and supply communication facilities
- (a) to arrange bus parks and parking places
- (b) to register and control the numbers of pushcarts, rickshaws, and horse carts

13.1.7 Emergency (fire ambulance)

13.1.8 Road maintenance

13.1.9 Education

- to operate an ambulance service
- to maintain and repair roads not classified under the responsibility of HMG
- (a) to establish and support the operation and management of pre-primary and schools
- (b) to assist in providing primary level education in the mother tongue, to make arrangements for scholarships to the economically weak, and to carry out adult literacy programs to establish and manage libraries

13.1.10 Health care

- to establish and operate hospitals, clinics, health posts, and subhealth posts; to formulate and execute programs for family planning, vaccination, and preventive medicines; to ban the use and sale of substances harmful to public health

13.1.11 Public housing

- (a) to approve applications for construction of houses and buildings
- (b) to construct community buildings
- (c) to prepare and execute plans for land use and housing plans

13.1.12 Recreation/sports facilities

13.1.13 Police

- to manage sports development programs and events
- to regulate the hindrances in public spaces created by informal markets, temporary sheds, littering, and to help demolish houses constructed against the building by-laws

13.1.14 Drainage/flood control

- (a) to control and prevent flooding and soil erosion
- (b) to prepare plans for water and drainage, and to protect forest and vegetation

13.1.15 Livelihood assistance

- (a) to develop green areas, parks, museums, zoo, and recreation areas
- (b) to maintain public toilets; to carry out sanitation programs; to plant trees beside roads and other places; to control water, noise, and air pollution; to maintain street lighting

13.1.16 Others

- (a) to prepare an inventory
- (b) to maintain and repair cultural places and monuments
- (c) to promote culture, languages, and objects
- (d) to arrange for the burial of unclaimed deceased persons
- (e) to make arrangement for orphans
- (f) to carry out programs for the welfare of women and children
- (g) to control pet animals and slaughterhouses
- (h) to protect barren and unregistered land

- (i) to determine and manage crematoriums
- (j) to promote cottage, small, and medium industry

13.2	Delivery of annual plan	KMC Budget, 1997/98 In 1997/98 KMC allocated \$19,438,886 for the fiscal year budget, but actual expenses amounted to only \$6,647,737. KMC over-estimated revenue generation but is now trying to avoid future shortfalls.
13.3	Voter participation rates, by sex	NAV
13.4	Independence from higher government	After the introduction of The Local Self-Governance Act in 1999, KMC became an autonomous body, but the Government still oversees KMC's activities.
13.4.1	Closing down the council	The Local Self-Governance Act Section 86
13.4.2	Setting local taxes	KMC has the authority.
13.4.3	Setting users charges for local local services	KMC has the authority.
13.4.4	Borrowing funds	KMC has the authority.
13.4.5	Choosing contractors for projects	KMC has the authority.
13.5	Elected and nominated councilors	Consultant's estimate
13.6	Representation of minorities	NAV It does not exist in the city context, however, in the national context, 1% of the seats is allotted to minorities in parliament.
13.7	Planning applications refused	- There are several projects planned, but due to lack of financial resources they are not implemented. Therefore, they are not regarded as refused projects. - Some planning applications to KMC are not implemented due to ambiguous government policy (e.g. privatization of bus park). Other planning applications are refused because of political reasons.
13.8	Business satisfaction	NAV
13.9	Consumer satisfaction	Cited from 18 ward profiles out of 35 - No such surveys or studies have been conducted. But according to the ward profiles, generally, consumers are satisfied with municipal services except for solid waste management. The Municipality is not responsible for the various services provided in the city such as electricity, water, telephone, etc., since the related authorities are distributing them. Consumers do not have much to say about municipal services, though they complain about the irregularities in the services. - Kathmandu City being the capital city of Nepal is perceived as a good place to live. All major government institutions as well as socio-economic institutions such as hospitals, primary to tertiary educational institutions and education-related facilities, national banks, insurance companies, major industries, recreational facilities, internationally renowned religious areas, and security services are all available here. - In the past few years, rapid population growth has resulted in inadequate basic services such as water supply, sanitation, housing, etc. Increasing land prices and congestion cause people to prefer living on the outskirts of the city.
13.10	Perception as place to live	HMG Nepal, Home Ministry, Valley Crime Investigation Section
13.11	Reported crimes	
13.12	Access to information	
13.12.1	Annual report/budget	KMC has a regular annual report and budget.
13.12.2	Strategy/vision	KMC does not have such specific strategy.
13.12.3	Economic strategy	KMC does not have such specific strategy.
13.12.4	Social strategy	KMC does not have such specific strategy.
13.13	Contact with the public	KMC has a regular monthly bulletin, website, and FM radio station.
13.14	Decentralized district units	- The consultants in their e-mail of 11 August 2000 assert this is not assessable. - KMC is the only local government body in Nepal and it has 35 wards.

Indicators

1 POPULATION

1.1 Urbanization

Government of Pakistan, Population Census Organization (GOP-PCO), Statistics Division, Population and Housing Census of Pakistan (PHCP) – 1998, Provisional Results, July 1998; GOP-PCO Statistics Division, 1981 District Census Report of Lahore (DCRL), February 1984; GOP-PCO Ministry of Interior, States and Frontier Regions (MISFR), DCRL, 1972

- The urban area is defined as all localities, whether metropolitan corporation, municipal corporation, municipal committee, or cantonment at the time of the census.

- 1998 – 42,438,500 (32.5%); 1981 – 23,841,471 (28.3%); 1972 – 16,593,651 (25.41%)

- The daytime population consists of

Metropolitan Corporation	2,500,000
Municipal Corporation	500,000 to 2,500,000
Municipal Committee	30,000 to 500,000
Town Committee	10,000 to 30,000

1.2 City population

Ibid.

	City Population		
	1998	1981	1972
	4,502,038	2,707,215	2,022,577

- About 300,000 commuters come to the city from within and outside the Lahore Metropolitan Area (LMA) during the day. They include workers and students.

1.3 Migration

GOP-PCO, Statistics Division, PHCP 1998, Provisional Results, July 1998; GOP-PCO, Statistics Division, 1981 DCRL, February 1984

- The 1981 population was 2,707,215 and with a national growth rate of 2.6%; the 1998 population is estimated at 4,502,038.

- More than 310,000 people migrated to the LMA between 1981 and 1998. This includes both the natural increase and immigration from abroad. Although the city growth rate is 3%, we use the 2.6% national growth rate to work out migration. The birth rate is likely to be less than in the whole country.

- There is no document available showing net change in international migration to Lahore. However, (unlike Peshawar, for example), Lahore has not been a great recipient of international migrants in recent years.

1.4 Population net density

Government of Punjab, Lahore Development Authority (LDA)—Integrated Master Plan for Lahore, Draft Report, July 1998; PHCP, July 1998

City Population	4,502,038
Net Residential Land	18,714 hectares (ha)
Population Net Density	240.57 persons per ha

1.5 Age pyramid

GOP-PCO, Statistics Division, PHCP 1998, Provisional Results, July 1998; GOP-PCO, Statistics Division, 1981 DCRL, February 1984; GOP-PCO, MISFR, DCRL, 1972

	District Census Report Lahore		
	1998*	1981	1972
Persons 0-14	1,924,957	1,145,575	860,575
Persons 15-59	2,369,533	1,410,150	1,055,814
Persons over 60	254,554	151,490	106,188

*projected figures

Males = 2,358,127; Females = 2,143,911

Male/Female ratio = 2,358,127/2,143,911 x 100 = 109.99 or 110%

1.6 Average household size

GOP-PCO Statistics Division, PHCP 1998, Provisional Results, July 1998; Government of Punjab, LDA—Integrated Master Plan for Lahore, Draft Report, July 1998

Average Household Size		
1998	1981	1972
6.85	6.50	5.80

- Increase in household size is due to more live children per household and the emergence of extended families sharing human and financial resources due to the rising cost of living.

1.7 Household formation rate

GOP-PCO, Statistics Division, PHCP 1998, Provisional Results, July 1998; GOP-PCO, Statistics Division, 1981 DCRL, February 1984

Lahore

- 1.8 Women-headed households
- 1.9 Household types

Experts Group Discussion (EGD), April 2000

Cities Data Book (CDB) estimates

Adults only – 19%; Adults and children – 70%

- Normal households have both parents and children of all ages.

- 1.10 Informal settlements

GOP, National Housing Authority (NHA), Shelter for Low Income Communities Project, Punjab Final Report, Islamabad, 1992

• Like in all other urban centers of the Punjab province, there are two types of informal settlements: the first are the legalized squatter settlements on government land called “Katchi Abadis”. There are over 300 in Lahore, about one fourth of which have since been developed. The second are the poorly served low income areas, or slum areas. Located mainly at the urban edge, they consist of houses built on land subdivisions carried out by private owners without planning permission, with no or inadequate urban services.

• The katchi abadis and slum areas have been estimated to house 11% and 37% of the urban population. It is estimated that 40% of the city population or 1.8 million people are living in informal settlements in the Metropolitan Corporation Lahore (MCL) area.

• Some of the better known katchi abadis in Lahore include Ahata Mool Chand, Muftpura, Marzi Pura, and Pathi Ground. Slum areas are located mainly in and around the industrial areas of Badami Bagh, north and northeast Lahore, Kot Lakhpat, Bilal Ganj, and Mughalpura.

2 EQUITY

- 2.1 Income distribution

Projected from the LDA, Lahore Urban Development and Traffic Study, Final Report, Volume 1-A, Lahore, 1980 with an inflation rate of 10%

LMA 1998 Household Income Distribution

(\$ per annum)

Top 20%	More than 5,999
Next 20%	More than 2,999–5,999
Middle 20%	More than 1,500–2,999
Next 20%	More than 749.83–1,500
Bottom 20%	Less than 749.83

- 2.2 Households below poverty line

• The top 20% average computed at \$18,750 weighted average. Sabri, 2000

Tahir, Pervaz. Debt, Poverty, Equity and Structural Adjustment, in Poverty Seminar Report. UNDP, Islamabad, October 1996; Mahbub ul haq Center for Human Development (MCHD), UNDP, A Profile of Poverty in Pakistan. Islamabad, February 1999

• Using the basic needs approach, the poverty line for annual household incomes, for urban areas of Pakistan, has been determined at \$990.40 per annum.

- 2.3 Women-headed households in poverty

MCHD, UNDP, A Profile of Poverty in Pakistan. Islamabad, February 1999

Women-headed households are less prone to poverty as women are accepted as the head of the households only among the higher income groups.

- 2.4 Child labor

Government of Punjab, LDA–Integrated Master Plan for Lahore: Draft Report, July 1998, pp.1-5; UNICEF: Situation Analysis of Children and Women in Pakistan. Islamabad, 1992, p.84; UNICEF: Children and Women in Pakistan: A Situation Analysis. Islamabad, 1998, p.55

Percent of children in the workforce = 30%

Number of children employed in the MCL area = $1.07 \times 30/100 = 321,300$

Number of boys employed = 73% (234,549)

Number of girls employed = 27% (86,751)

- 2.5 Informal employment

EGD based on Stubbs’ and Clarke’s Megacity Management in the Asia and Pacific Region, Appendix-B, Vol. 1. Manila: ADB, 1996; and LDA, Lahore Urban Development and Traffic Study: Final Report, Vol. 1-A. Lahore, 1980, resulted in the figure of 60%.

- 2.6 Unemployment

GOP, Finance Division, Economic Adviser’s Wing, Economic Survey 1997/98, Islamabad

- These are national figures as there are no figures for Lahore:

Year	Employed (million)	Unemployed (million)	Unemployment Rate (%)
1997/98	36.13	2.05	5.37
1996/97	34.20	2.00	5.53
1995/96	33.26	1.94	5.51
1994/95	33.01	1.89	5.41
1993/94	32.08	1.68	4.98

- 2.7 Expenditure on poverty reduction (per poor person)

The Daily Awaz, 28 March 2000; Punjab Municipal Development Fund Company (PMDFC)

- Poverty alleviation has been the central theme of many external support agencies (ESAs). Major investments have been in primary health and education, technical education, slum upgrading, and improvement in urban sanitation. However, most of these ESAs now tend to focus on secondary cities in Punjab, instead of the LMA. Recently the Government has provided a \$40.5 million grant to Punjab province for poverty alleviation. A part of this will be available to the city of Lahore. Another window for obtaining financial assistance for poverty reduction is the recently established PMDFC, with seed capital provided by the World Bank.
- The entire federal grant of \$40.5 million targets poor people and is being spent on developing tertiary infrastructure in low-income areas. About 10% of the sum available or \$4 million is to be spent in Lahore. As the number of poor persons is 29.9% of 4.5 million or 1.35 million, it works out to \$2.96 per capita of the urban poor. Other sources of funding, particularly PMDFC, are also available to urban local councils for poverty reduction.

3 HEALTH AND EDUCATION

3.1 Persons per hospital bed

Government of Punjab, LDA—Integrated Master Plan for Lahore: Draft Report, July 1998
 Number of hospital beds in the public and private sectors = 12,191
 City population = 4,502,038
 Persons per hospital bed = $4,502,038/12,191 = 369$

3.2 Child mortality

UNICEF, Punjab: A Better Future for Children and Women in Pakistan, 1995.GOP; UNICEF: Master Plan of Cooperation 1999-2003 (Draft). Country Programme of Cooperation, March 1998; Federal Bureau of Statistics (FBS), GOP—Pakistan Integrated Household Survey (PIHS), Islamabad, 1996

- The under-five mortality rate is 132 per thousand live births in Punjab. This indicates that one out of seven children is likely to die before its fifth birthday. However, child mortality in urban areas in Punjab has been 82% of the figure for the whole province.

3.3 Life expectancy at birth

GOP, Finance Division, Economic Advisor's Wing. Economic Survey of Pakistan, 1997/98

3.4 Infectious diseases mortality

Scott & Furphy. Punjab Urban Environmental Project. World Bank-funded project, 1993
 MCL death register, March 2000
 Deaths from infectious diseases = 155,617
 Population of the Punjab province = 62.750 million
 Infectious diseases mortality per 1,000 population in Punjab = $155,617/62,750,000 \times 1,000 = 2.5$

3.5 Family planning

GOP, FBS-PIHS, 1996/97; Family Planning Association of Pakistan

3.6 Adult literacy rate

GOP-PCO, Statistics Division—1981 DCRL, February 1984
 Ibid.; MISFR, 1972

Adult Literacy Rate

1998*	1981	1972
(%)	(%)	(%)
66.00	51.50	32.97

- Adult literacy is higher in Lahore than in Punjab.

*Projected figures using literacy growth rate of 1.5%.

3.7 School enrollment rates

Government of Punjab, Bureau of Statistics, Punjab Development Statistics, 1998

School Enrollment Rates

	Male	Female
	(%)	(%)
Primary School (5–9 years)	65.60	57.50
Secondary School (13–14 years)	32.10	20.90

3.8 Tertiary graduates

Ibid.

- Male – 2.6%; Female – 3.9% Average = 3.25%
- Projected 1998 literacy growth rate = 1.5%
- Lahore is the center for higher learning in Pakistan. The number of tertiary graduates in Lahore is at least 50% higher than the provincial figure. Therefore, the estimated tertiary graduates in Lahore = $3.25 \times 1.5 = 4.875\%$

3.9 Median years of education

3.10 School children per classroom

GOP, FBS-PIHS, Islamabad, 1995/96; EGD, April 2000

No. of Children per Classroom

	Male	Female
Primary School	46	41
Secondary School	60	50

Lahore

4 URBAN PRODUCTIVITY

- 4.1 City product per capita
- 4.2 Employment by industry

CDB estimates

LDA, Lahore Urban Development and Traffic Study, Final Report, Volume 1-A, Lahore, 1980

- Sectoral Distribution of Employed Labor Force (% age) in LMA:

Sector	%
Agriculture	0.01
Manufacturing	16.90
Construction	10.60
Trade/Commerce	27.90
Transport	10.20
Government/Social/Personnel	27.70
Others	6.00

- 4.3 Household expenditure

GOP-FBS, Statistics Division, Household Income and Expenditure Survey, 1986/87

- Household expenditure in urban areas of Pakistan is as follows:

	(%)
Food	41.2
Shelter	18.3
Travel	6.2
Others	34.3

- 4.4 Investment by sector
- 4.5 Tourism

CDB estimates based on Indicator 4.1, city product per capita

Office of Sales and Tours Promotions Department, Punjab Tourism Development Corporation, March 2000;

World Tourism Organization, A Report of World Tourism, 1996

Tourists	Number (‘000)	Expenditure (\$ billion)
National	42,800	0.004
International	348	0.112

- These are national figures.
- Assuming 30% of tourist flow in Lahore, then tourists visiting the city is estimated as:

Tourists	Number (‘000)	Expenditure (\$ billion)
National	12,840	0.0012
International	104.4	0.0336

- 4.6 Cost of stay
- 4.7 Corporate headquarters

Cost of stay rates provided by CDB

NAV

5 NEW TECHNOLOGY

- 5.1 R&D expenditure
- 5.2 Telephone traffic
(million calls per year)

CDB Estimates

Office of the Director Coordination Pak Telecom (North) Region, Lahore, April 2000;

Discussions with Mobile Phone Vendors, June 2000

Participant Observation

Category	Number of calls per annum (million)		
	1999	1998	1997
Local	958.378	914.922	875.358
STD	64.180	53.384	47.404
International	1.898	1.950	1.746

- There are three well-established and widely used cellular phone networks, Mobilink, Instaphone, and Paktel. TV is universal. Dish antenna is commonly used. Cable TV is being provided in median density neighborhood by the informal sector, but the providers are not licensed.

- 5.3 Internet hosts per
thousand population

CDB estimates

Lahore

6 URBAN LAND

6.1 Urban land

LMA		
Land Use	Area (ha)	(%)
Residential	18,516	8.16
Business*	11,030	4.86
Services**	3,650	1.61
Transport	5,257	2.32
Mixed use	407	0.18
Others***	188,010	82.87
Total	226,870	100.00

MCL		
Land Use	Area (ha)	(%)
Residential	11,125	44.5
Business*	1,725	6.9
Services**	2,725	10.9
Transport	1,750	7.0
Mixed use	125	0.5
Other***	7,550	30.2
Total	25,000	100.0

*Business = Commercial and Industrial

**Services = Educational, Institutional, Graveyards, Parks/Recreational

***Others = Water Body, Forest, Vacant/Agricultural Land

6.2 Land developer multiplier

EGD, April 2000

- Median price of land of a developed plot at urban fringe = \$ 4,443.5/kanal
Median price of raw undeveloped land in an area being developed (i.e., with planning permission) = \$ 3,776.96/kanal
Land development multiplier = $4,443.5/3,776.96 = 1.18$
- Usually the land developer provides tertiary infrastructure including roads, water supply, sewerage, electricity, etc. This does not include the cost of secondary infrastructure. Not included are the connection charges for electricity, water, and sewerage. Again, development by the private sector is carried out with the money deposited in advance by the purchasers of plots, while LDA does not charge any profits on land and development.

6.3 Developer contributions

Ibid.

- Developers contribute 100% of the tertiary infrastructure (excluding telephone and fuel gas). All secondary and primary infrastructure is provided by the Government. There is, however, often a time lag, particularly for trunk sewers, with wastewater accumulating in open spaces or discharged into nearby agricultural fields.

6.4 Median time for planning permission

Ibid.

- Planning permission is granted within two months.

6.5 Vacant land with planning permission

EGD, April 2000

6.6 Public open space

Government of Punjab, LDA—Integrated Master Plan for Lahore, Draft Report, July 1998

- 1,148 hectares

6.7 Vacant government land

Ibid.

- 75,623 hectares

6.8 Prime commercial land price

Ibid.

6.9 Prime rental and occupancy costs

Prime rental per month = \$45 per m²

Operating cost per month = \$11 per m²

Statutory charges per month = \$4.44 per m²

6.10 Expenditure on development

EGD, April 2000

7 HOUSING

7.1 Dwelling type

Ibid.

Dwelling Type	%
Single Family Houses	48
Medium Density	43
Apartments	3
Temporary Dwellings	5
Others (institutions, hostels, etc.)	1

- High rise accommodation is not preferred because of weather conditions and the Islamic culture of privacy (see Profile).

7.2 Tenure type

GOP-PCO Statistics Division–1981 DCRL, February 1984*

Government of Punjab, LDA–Integrated Master Plan for Lahore, Draft Report, July 1998**

Year	Owned	Rented	Rent Free
	(%)	(%)	(%)
1981*	64	25	11
1989**	82	15	3

- All squatter settlements on government land have been regularized. There can be some squatters on private land but their number is negligible (less than 0.5%).

7.3 House price to income ratio

- A middle-income household in Lahore has an income of \$2,250 per annum (average of middle 20% in Section – 2.1).

• Type of Accessible Housing

Plot area 5 marla (112.5 m²)

Cost per marla = \$1,110.864

Cost of plot – Rs250,000 = \$5,554 – (i)

Covered area = 120 m² (double-storied house)

Cost per m² = \$88.87

Cost of house = 120 m² x 88.87 = \$10,664 – (ii)

Total cost = (i) + (ii) \$16, 218

House price to income ratio = \$16,218/2,250 = 7.2

7.4 House rent to income ratio

- With a middle-income household of \$2,250 per annum
 - Rent of a middle-income house = Rs3,000 per month = \$798 per annum
- House rent to income ratio = \$798/2,250 = 0.35

7.5 Floor area per person

EGD, April & August 2000

- Formal housing
 - Percent of households = 50%
 - Household size = 7
 - Floor area = 120 m²
 - Floor area per person = 120m²/7 = 17 m²
- Informal housing slum areas
 - Floor area per person = 70m²/10 = 7 m²
- Informal housing: katchi abadis
 - Floor area = 30 m² = 30/10 = 3 m²
- Overall weighted average
 - = (17 x 50 + 7 x 38 + 3 x 12) / 100 = 11.52

7.6 Housing in compliance

Government of Punjab, LDA–Integrated Master Plan for Lahore, Draft Report, July 1998

- The ratio of 15.21 which was wrongly worked out using the total number of developed plots in the LDA controlled area has been reworked after EGD, April 2000, deliberations as follows:

Type of Housing	Total	Housing in Compliance	Weighted Average
	(%)	(%)	(%)
Formal sector			
(public & private)	60	75	45
Slum areas	30	30	9
Katchi abadis	10	10	1
Total	100	100	100

Lahore

- 7.7 Mortgage to credit ratio
- 7.8 Houses with mortgages
- 7.9 Mortgage loans for women
- 7.10 Housing production

*Ibid.

***EGD, April 2000

**GOP, NHA, The World Bank, Shelter for Low Income Communities Study, Final Report, Punjab, Islamabad, 1992

7.10.1 On new (vacant) land

- Many new households tend to live in the same dwelling with their parents, brothers, etc. through incremental addition of rooms and utilities.

- *Formal single family houses = 1,884 per annum (in LDA schemes and private schemes in LDA controlled area)

**Informal housing in slum areas = 37% of total or 58.7%

Informal housing in slum areas = 1,092 per annum

***Private sector apartment housing = 1,000 per annum

***Mera Ghar Scheme and other government housing = 2,000 per annum

Total = 5,976 per annum or 6,000 houses per annum

Housing units per 1,000 population = $6,000 \times 1,000 / 4.5 = 1.33$ units per 1,000 population

7.10.2 Conversions or infill from other uses

No infill from other uses

7.11 Squatter resettlement or normalization

Government of Punjab, LDA—Integrated Master Plan for Lahore, Draft Report, July 1998

- All squatter settlements on government land having more than 40 houses in March 1985 have been legalized in Pakistan and the people given proprietary rights to their plots against nominal charges. Now called “katchi abadis,” these settlements have been provided with urban infrastructure facilities, including water supply, sewerage, street surfacing, street lighting, and solid waste management. In the province of Punjab, the Directorate General of Katchi Abadis has been specifically established in the Local Government and Rural Development Department to regularize and upgrade katchi abadis. The upgrading work in LMA has however been delegated to the LDA, which has so far completed 73 of the 308 katchi abadis in Lahore. The upgraded katchi abadis currently support 163,000 people.

7.12 Net housing outlays by government (per person)

LDA; Zafar, Naveed, “The Great Housing Gamble,” The Herald, Karachi, September 1999

- The repeal in 1985 of the Punjab Land Acquisition Act 1973 (which permitted compulsory acquisition of land at below market rates) has incapacitated the LDA from carrying out its traditional business of sites and services development. The entire housing sector is being managed essentially by the private sector, which has an obvious focus on high-income and higher middle-income groups. However, there have been two recent government initiatives:

- a. Development by LDA of the sites and services scheme called “Jubilee Town,” primarily through advanced “sale” of plots (prior to land acquisition and development). Spread over an area of 205 ha, the Jubilee Town entailed an investment of \$6.89 million to provide 4,882 plots.
- b. Government construction of 10,000 dwelling units underway on government land at an estimated cost of \$136,000. The four-storey walk-up apartments units will be allotted on a nonprofit basis.

7.13 Homeless people

GOP-CPO, MISFR, DCRL, 1972

- The number of homeless people is negligible. The problem is not so much with shelter as with access to urban services. However, the “Mera Ghar” scheme aims to provide 10,000 dwelling units in Lahore.

8 MUNICIPAL SERVICES

Most of the data here are based on McIntosh's and Yñiguez's Second Water Utilities Data Book: Asian and Pacific Region, published by ADB (Manila, October 1997). The other figures are from the MCL area, which is under Water and Sanitary Agency (WASA) and Water and Power Development Authority (WAPDA). It does not include cantonment and private housing schemes located outside municipal limits. The data have been obtained under the seal of the agencies concerned and are generally reliable. It is, however, important to note that the figures given are for legal connections only.

8.1 Water

8.1.1 Household connections

McIntosh, Arthur C. and Cesar E. Yñiguez, ed., Second Water Utilities Data Book: Asian and Pacific Region, ADB, Manila, October 1997

8.1.2 Investment per capita

Office of the Managing Director, WASA, Lahore, March 2000

8.1.3 Operations and maintenance expenditures

Ibid.

- Total O&M cost = \$16,485,226

Population = 4,502,038

Per person O&M cost = $\$16,485,226 / 4,502,038 = \$3.36$

Lahore

8.1.4	Cost recovery	Ibid. - Revenue = \$13,486 million - Expenditure = \$16,485 million - Cost Recovery = 82% - Unmetered connections are charged at a flat rate according to the plot size. They are for smaller plots of less than 250 m². Although there is an element of undeclared cross-subsidy, the smaller plots have low water pressure owing to their location toward the tail end. McIntosh, Arthur C. and Cesar E. Yñiguez, ed., Second Water Utilities Data Book: Asian and Pacific Region, ADB, Manila, October 1997
8.1.5	Output per staff: Water supplied per employee	
8.1.6	List of providers	
8.1.7	Nonrevenue water	
	a. Percentage unaccounted for water	Office of the Managing Director, WASA, Lahore, March 2000
	b. Interruptions in water service	Ibid. Mechanical and electrical failures cause interruptions in water service. Interruptions usually occur 87 times per month. In terms of per hour, interruptions took place for 21 hours per week.
8.1.8	Consumption of water per capita	Ibid.
8.1.9	Median price of water, scarce season	Ibid. There are no water vendors in Lahore.
8.2	Electricity	Office of the Director of Statistics, WAPDA House Lahore, GOP, March 2000 Experts' Group Discussion, April 2000
8.2.1	Household connections	Ibid. - No. of connections = 840,000 - No. of households = 656,896 - Household connections = 128% - All houses in Lahore, including those in slum areas, have an electric connection. Higher income households often have more than one connection. It often takes several months to get connected with the WAPDA system. People make informal arrangements with neighbors in the interim. Estimated figure from Punjab Urban Development Project "North-East Lahore Upgrading and Walled City Upgrading and Conservation Project" 1988/89 using inflation rate of 10% per annum.
8.2.2	Investment per capita	EGD, April 2000
8.2.3	Operations and maintenance expenditure	- Total O&M cost = \$30.56 million - Population = 4.5 million - Per person O&M cost = \$30.56/4.5 = \$6.79 Office of the Director of Statistics, WAPDA House, Lahore, GOP, March 2000
8.2.4	Cost recovery	WAPDA has a budget deficit and the Government meets shortfall.
8.2.5	Output per staff: megawatt hours of electricity supplied per employee	Ibid. - Megawatt hours (MWh) of electricity = 309 million - Total no. of staff = 137,000 - Output per staff = 2,255.5 MWh per employee
8.2.7	Nonrevenue electricity	
	a. Line loss for electricity	GOP, Planning Department Power Wing, Power System and Distribution, WAPDA, January 2000
	b. Interruptions in power supply	Office of the Director Statistics, WAPDA House, Lahore, GOP, March 2000
		- Following are the main reasons for power supply interruptions: Kite flying - Overloading of system - Failure of transformers - Load shedding - No. of hours per month that the service is not available: - Above 20 minutes per month = 500 times - Below 20 minutes per month = 9,000 times - In recent years kite flying has become popular and people use their roofs. This causes localized and brief breakdowns but sometimes results in more serious system breakdowns. In one instance, it resulted in burning up of a major grid station, leaving a quarter of the city in the dark for the whole night.
8.3	Sewerage/wastewater	
8.3.1	Household connections	Office of the Managing Director, WASA, Lahore, March 2000
		- Total no. of connections = 398,452 - Total no. of households = 656,896 - Household connections = 61%

Lahore

8.3.2	Investment per capita	Ibid.
8.3.3	Operations and maintenance expenditure	Ibid.
		- Total O&M cost = \$11,952,899 - Population = 4,502,038 - Per person O&M cost = \$11,952,899/4,502,038 = \$2.66
8.3.4	Cost recovery	Ibid.
8.4	Telephone	Sewerage charges are built-up as proportion of the water bill. Telephone data are mostly from the Office of the Director of Coordination, Pak Telecom (North) Region, Lahore, April 2000
8.4.1	Household connections	Ibid.
		- No. of connections = 408,000 - Total no. of households = 656,934 % of households connected = 408,000/656,934 x 100 = 62 - There are 408,000 telephone connections in the city. 62% of the households have thus been connected.
8.4.2	Investment per capita	Ibid.
8.4.3	Operations and maintenance expenditure	Ibid.
		- Total O&M cost = \$23.61 million - Population = 4.5 million - Per person O&M cost \$23.61/4.5 = \$5.38
8.4.4	Cost recovery	Ibid.
8.5	Solid waste collection	
8.5.1	Households with regular service	Office of the Chief Corporation Officer, March 2000
		The communal collection points consist of skips and containers, which are lifted by mechanical trucks and arm roll trucks, respectively, for final disposal. The skips and containers are placed at street corners. Usually skips and containers are emptied after 3-4 days. In some areas people pay waste-pickers to take the solid waste from the house to a communal collection point.
8.5.2	Investment per capita	MCL, Budget Document 1999/2000
		- Capital expenditure = \$10.89 million - Population = 4.5 million - Investment per capita = \$2.42
8.5.3	Operations and maintenance expenditure	Ibid.
		- Total O&M cost = \$23.613 million - Population = 4.5 million - Per person O&M cost = 23.613/4.5 = \$5.25
8.5.4	Cost recovery	Office of the Chief Corporation Officer, March 2000
9 URBAN ENVIRONMENT		
9.1	Solid waste generated	MCL, Budget Document 1999/2000
		3,000 tons per day or 0.666 kg per person
9.2	Household sewage disposal	Office of Managing Director, WASA, Lahore, March 2000
		- Within the jurisdiction of WASA served area = 100% - With the exception of the planned areas in the public or private schemes the WASA system remains generally limited to the secondary level. Although some informal settlements have been provided with household connections under Katchi Abadis Upgrading and the IDA-funded Lahore Area Upgrading Project, most such areas, consisting of 30% of the population, make their own arrangements at the tertiary level. Some NGOs have helped them to do so in certain localities such as in the Kot Lakhpat and Moghalpura areas.
9.3	Wastewater treated	Ibid.
9.4	Percent BOD removed from wastewater	Ibid.
		Since wastewater is not treated the percentage of BOD removed from wastewater is practically nil.
9.5	Energy usage per person	Projected from World Bank Reports (1980-1994)
		300 kg of oil equivalent (at Pakistan level) = 0.3 tons
9.6	Noise complaints	EGD, April 2000
		- People living downtown complain against the noise created by auto-rickshaws, most of which use tampered silencers aimed at reducing fuel consumption. - There is no means for citizens to make formal complaints to the city government.
9.7	Solid waste collection	Ibid., June 2000
9.7.1	Percent disposed to sanitary landfill	Zero percent of solid waste is disposed to sanitary landfill.

Lahore

- 9.7.2 Percent incinerated
 - Zero percent incinerated. Two incinerators have been installed in Shalimar Hospital and Mayo Hospital but they are still inoperative.
- 9.7.3 Percent dumped or burned in the open (and from disposal)
 - 100%
- 9.7.4 Percent recycled (formal and informal)
 - Formal – 0%
 - Informal – 75%
- 9.7.5 Others (any other formal means of disposal)
 - No other means of disposal

10 URBAN TRANSPORT

- 10.1 Mode of travel

These are collateral projected figures (rounded off), using information from the Government of Punjab, LDA, Lahore Urban Development Traffic Study, Final Report/Volume 3, 1980; Government of Punjab, LDA-I Integrated Master Plan for Lahore, Draft Report, July 1998
- 10.2 Median travel time

EGD, April 2000
- 10.3 Expenditure on road infrastructure

Ibid.

 - Total expenditure on road infrastructure = \$2.22 million
 - Population = 4.5 million
 - Per person expenditure = $\$2.2/4.5 = \$0.48$
- 10.4 Road congestion

Government of Punjab, LDA-Integrated Master Plan for Lahore, Draft Report, July 1999

 - The volume/capacity (V/C) ratios for different roads indicate that during peak hours most of the roads are severely choked. Circular Road and Ravi Road have the highest V/C ratios (2.70 and 3.25). Multan Road, Ravi bridge, Lower Mall, Canal Bank Road, Ferozepur Road, and Wahdat Road have V/C ratios ranging from 1.85 to 1.35.
- 10.5 Automobile ownership

Government of Punjab, Bureau of Statistics, Punjab Development Statistics 1997* and 1998 (projected for 1998**)

Year	No. of Vehicles
1997	671,821*
1998	561,949*

Minimum driving age = 18 years
 Persons of driving age = 2,329,596 (people of 18 years and above)**
 Ratio of automobiles to persons of driving age = 0.24

 - All these figures are Lahore-specific.
 - Projected 1998 figures are lower than 1997 owing to the discontinuation of Prime Minister Nawaz Sharif's Yellow Cab Scheme. This scheme involved the supply of yellow cabs (taxis) in easy installments through bank financing, which had bad defaults.
- 10.6 Cost recovery from fares

EGD, April 2000
- 10.7 Port/air activity

NAP

 - 100% of the capital and O&M cost of vehicles, as the entire transport is in the private sector.

The News International, a daily newspaper, 19 September 1998

 - Name of Airport: Lahore International Airport

Commercial flights for
 National destination – 977
 International destination – 244
- 10.8 Goods carried

EGD, April 2000*; Government of Punjab, LDA-Integrated Master Plan for Lahore, Draft Report, July 1998**; Government of Punjab, Bureau of Statistics, Punjab Development Statistics 1997 and 1998***

Goods Carried
(million tons)
Road* = 700
Rail** = 0.57
Air*** = 547
- 10.9 Transport fatalities

Punjab Development Statistics 1998, Bureau of Statistics, Government of Punjab*

EGD, April 2000**

 - 10.9.1 Transport related deaths

*All transport-related deaths per 1,000 population = $109/4,502,038 \times 1,000 = 0.024$
 - 10.9.2 Pedestrian deaths

**Pedestrian deaths per 1,000 population = 0.012

Lahore

11 CULTURAL

11.1 Attendance at public events

Office of the Director General of Sports, Lahore, March 2000

Event	Attendance
Urs Hazrat Ali Hajveri Data Ganj Baksh	10,000,000
Urs Madhu Lal Hussain	7,000,000
Jashan-e-Baharan, Basant Mela	6,000,000
Horse and Cattle Show	2,500,000
Exhibition at Fortress	5,000,000
Cricket One Day International	40,000
Cricket Test Matches	18,000
Hockey Matches	15,000

11.2 Attendance at galleries and museums

Lahore Art Council, 50 Years of Lahore, Sang-e-Meel Publications, 2000; Office of the Deputy Director (Administration), Lahore Art Council, March 2000; Office of the Coordinator, Art Galleries, Lahore, March 2000

Gallery	Attendance
Alhamra Art Gallery	6,000
Co-opera Art Gallery	2,500
Shakir Ali Art Gallery	2,000
Permanent Art Gallery	1,500
Lahore Art Gallery	1,500

Other galleries include Punjab University Art Gallery, NCA Art Gallery, Sami's Art Gallery, Ejaz's Art Gallery, Croweaters Gallery, Zaviay Gallery, Chen One Art Gallery, Iqbal Hussain Art Gallery

Museum	Attendance
Lahore Fort Museum	1,200,000
Lahore Museum	60,000
Shakir Ali Museum	30,000
Science Museum	20,000
Iqbal Museum	12,000
Chughtai Museum	20,000

11.3 Participation in sports

• Most popular sports: Cricket, Hockey, Squash, Football, Snooker, Bridge, Chess, Table Tennis, Volleyball, Badminton, Kite Flying, Martial Arts, Boxing, Wrestling, Kabadi.

12 LOCAL GOVERNMENT FINANCE

12.1 Sources of revenue

MCL, Budget Documents 1995–2000

- Sources of Revenue (1999/2000)
Taxes – 50.74%; User Charges – 24.89%; Other Own Source Income (Profit-Specific Investment) – 0.33%; Transfers – 0.33%; Loans – 0.79%; Other Sources – 22.92%
- Sources of Revenue (1998/99)
Taxes – 52.44%; User Charges – 4.78%; Other Own Source Income (Profit-Specific) – 0.39%; Other Sources – 42.39%
- Sources of Revenue (1997/98)
Taxes – 83.46%; User Charges – 4.78%; Other Sources – 11.76%
- Sources of Revenue (1996/97)
Taxes – 83.29%; User Charges – 7.54%; Other Sources – 9.17%
- Sources of Revenue (1995/96)
Taxes – 76.19%; User Charges – 10.73%; Other Sources – 13.08%
- Other sources include Penal Rent (Zonal Secretaries), Fines (Zonal Magistrates), Fine on Vehicles, Rent of MCL property, Board Rent, Mulba Rent, Market Rent, Sale of Land, Municipal Stock, Temporary Registration, Road Cut Deposits.
- In 1998, Octroi was the main source of revenue (70%) for the urban local councils. Urban Immovable Property Tax (UIPT) constituted 10% of the revenue, while the rest was contributed by various other taxes, like tax on transfer of property, cinema tax, etc. The Government abolished the Octroi Tax following large-scale irregularities in its collection and the Urban Local Councils (ULCs) have to depend on Federal grants to meet their development and recurring expenses. UIPT is collected by the Provincial Government on behalf of ULCs for which service the Government retains 15% of the tax collected.

Lahore

12.2 Capital and recurrent expenditure per person

Ibid., 1999/00

- Average capital and recurrent expenditure over the last three years:
Capital expenditure: \$17,340,669
Recurrent expenditure: \$21,515,804
Population = 4,502,038
Capital expenditure per person = $\$17,340,669 / 4,502,038 = \$3.852$
Recurrent expenditure per person = $\$21,515,804 / 4,502,038 = \$4.779$

12.3 Collection efficiency, property taxes

Ibid.

- Percentage of liabilities actually collected = 9.96% (1998/99)
Costs of collecting property taxes = 20%
- There is a long exemption list to UIPT, e.g., widow and retired government servants, and owner occupied properties are taxed at a much lower rate than rented properties. The Government has lately revised the criteria and rates of this tax, new surveys have been carried out, and assessment lists prepared.
- This is likely to result in a two- to three-fold increase in the UIPT-based revenue in the next financial year (2000/2001).

12.4 Debt service charge

EGD, April 2000

- The Government makes an at-source deduction in the MCL share of UIPT against repayment of Federal or external loans

12.5 Employees

MCL, Budget Document 1999/2000

- No. of employees = 14,676 (as indicated in 1999/2000 Budget Document)
- Ban had been imposed on new recruitment since 1988/89 up to the present.
- 1999/2000 figure.

12.6 Wages in budget

• Total amount of budget which goes to wages in the form of annual pay, annual allowance, annual leave/group insurance, and pension fund is \$20,207,780.

12.7 Contracted recurrent expenditure ratio

EGD, April 2000

- Development is carried out, almost entirely through Federal grants. Some external support agencies like Japan International Cooperation Agency and Department for International Development also help.

12.8 Business permits

NAP

- Most businesses are registered with various agencies, such as the Joint Registrar of Companies, the Income Tax Department, and Department of Excise and Taxation. They are registered as a sole proprietorship, partnership or (private or public) limited company. Current government policies disfavor the setting up of manufacturing units in the LMA. This explains the rapid shift in Lahore from primary toward tertiary and service industries.

13 URBAN GOVERNANCE

13.1 Functions of local government

Pakistan Planning Commission, "Report of the Committee on Poverty Alleviation, Social Sectors and Urban Services," Islamabad, 1996; A. Chaudhry, Mushtaq, New Local Government Laws in Punjab, Municipal Law Publishers, Lahore, 1998

- The local government laws are essentially of British origin. However, there is an Islamic Ideology Council, which ensures that none of them are contradictory to Islam. (For example, the Punjab Land Acquisition Act of 1973, which allowed the Government to compulsorily acquire private land for public projects (e.g., housing schemes) against nominal compensation, was abolished in 1985 because it violated the rights of citizens provided for in Islam.
- Other than Islamic jurisprudence, the laws of Islamic origin in force are those pertaining to social welfare and poverty reduction, known as "Zakat and Ushr". Operating formally since 1990, the Zakat and Ushr system consists of a 2.5% compulsory deduction, annually (on the First of Ramadan), on all profit-bearing accounts and agricultural produce. The funds are managed by a Zakat Council and are distributed to each district in proportion to population. 60% of the funds are distributed in the form of cash payments to "Mustahkeen" (Deserving) individuals, and the remaining 40% is channeled to institutions such as hospitals, orphanages, blood banks, etc. There were 1.1 million Mustahkeen in the country in 1992, each receiving an annual subsistence of \$75.

Functions of Local Government

Function	Compulsory	Optional
Regulatory	Building Regulations and Control, Traffic Control, and Preparation of Master Plans	Environmental Pollution

Service Provisions	Sanitation Solid Waste Disposal Water Supply Drainage Flood Control Street Lighting Fire Fighting Community Development Education Health	Markets Zoos and Gardens Social Welfare

13.2 Delivery of annual plan

EGD, April 2000

- There are two reasons:
 - a. The P & D Department applies “economy cuts” while releasing money to executing agencies.
 - b. There are delays in contract awards, etc., owing to a long approval process.

13.3 Voter participation rates, by sex

13.4 Independence from higher government

A. Chaudhry, Mushtaq, New Local Government Laws in Punjab, Municipal Law Publishers, Lahore, 1998

- The provincial government has full control on the affairs of ULCs to the extent that it can ask for a complete revision of the local council budget. It can (and has), by notification, suspend the local council if there are reasons to believe that the council is
 - a. unable to discharge or persistently fails to discharge its duties;
 - b. unable to administer its affairs or meet its financial obligations;
 - c. generally acts in a manner contrary to public interest; or
 - d. otherwise exceeds or abuses its powers.

13.5 Elected and nominated councilors

Office of the Chief Corporation Officer, LMC, March 2000

Ibid.

	Councilors (Either Sex)	Female Councilors
Elected	275	
Nominated	14	26

- The election of Muslim and Non-Muslim seats in a local council are held on the principle of separate electorates. The representatives of peasants, workers, and women are elected by the directly elected Muslim and Non-Muslim members. Any member of the Local Council may propose the name of any person who is duly qualified to be elected as a member. If the number of nominated councilors is more than the number of seats to be filled-in, then a poll is held by raising hands.

13.6 Representation of minorities

Ibid.

• Representation of Minorities

Male	10
Female	1

- Minorities include: Christians, Sikhs, Qadianis, etc.

13.7 Planning applications refused

EGD, April 2000

- Major reasons for rejection include disputed land title, and noncompatibility with the bylaws and standards. The refusals pertain mainly to housing schemes, commercial-cum-residential complexes, hotels, etc.

13.8 Business satisfaction

Ibid.

13.9 Consumer satisfaction

INNOVATIVE, “Situation Analysis of Urban Environmental Sanitation in Pakistan,” Draft Final Report, February 1999 (UNDP-World Bank Water & Sanitation Program, Regional Water & Sanitation Group–South Asia)

13.10 Perception as place to live

GOP-NHA, The World Bank, “Shelter for Low Income Communities Study,” Final Report, Punjab, Islamabad, 1992

13.11 Reported crimes

Punjab Police, Lahore, January 2000

	Reported Crimes		
Crime	1997	1998	1999
Murders	500	420	450
Drug-related	4,760	5,250	3,125
Thefts	5,825	5,150	5,920

13.12 Access to information

Office of the Chief Corporation Officer, Lahore Municipal Corporation, March 2000

Lahore

13.13 Contact with the public

Ibid.

- The Mayor holds a single meeting with 1,000 people. This meeting is for the general public. As far as business meetings are concerned, about 50 persons participate during two meetings in a week. While everyday officials and councilors meet with the Mayor, on the average, about 60 officials and councilors meet with the Mayor in a week.

13.14 Decentralized district units

- There are 8 zones of MCL. Zonal offices are located in various parts of the city. Each zone is headed by a Deputy Mayor. The functions of each zone are: sanitation, water supply and drainage; removal, collection and disposal of refuse; register births and deaths; take preventive measures against infectious diseases; prohibit picketing or littering in street; education; town planning; building control; arboriculture; etc.

Mandaluyong

Indicators

1 POPULATION

1.1 Urbanization

Official Communications with National Statistics Office (NSO), 14 February 2000

% of National Year	Population Residing in Urban Areas
1999	61.66
1990	48.60
1980	37.30

- “Urban Areas” refers to all cities regardless of their population density, and to municipalities with a population density of at least 500 persons per km².

$$\begin{aligned} \text{Growth rate, } r &= (0.486/0.373)^{1/10} - 1 \\ &= 0.0268 \\ \text{Urbanization (1999)} &= (0.486) (1.0268)^9 \\ &= 0.6166 \end{aligned}$$

1.2 City population

1996 and 1997/98 Socio-Economic and Physical Profile (SEPP); Official communications with NSO dated 14 February 2000; Consultation with Urban Development Department, 6 March 2000.

- Resident population of municipal area

Year	Population
1998	314,476
1993	269,817
1988	237,245

$$\begin{aligned} \text{Computation: Growth rate, } G &= (B/A)^{1/t} - 1 \\ G &= \frac{286,870}{246,131}^{1/5} - 1 \\ &= 0.0311, \text{ or } 3.11\% \end{aligned}$$

- Population estimate, $P_n = P_o (1 + r)^t$
 1998 = $(286,870) (1.0311)^3 = 314,476$
 1993 = $(246,131) (1.0311)^3 = 269,817$

- Population during daytime working hours

Year	Daytime Population
1999	972,768
1994	556,416
1989	362,345

- There is no published information or similar study on the daytime population of Mandaluyong City. It is therefore suggested that estimates be based on the manual Whither, Migrant to Metro Manila, which gives the daytime population of fully urbanized parts of Metro Manila, such as Makati City, as 3-4 times the nighttime population, based on a study done in early 1990.

- Mandaluyong is among areas that are fully urbanized. In other parts of Metro Manila, in contrast, the daytime population is estimated at 1½ or twice the nighttime population.

- Computation of estimated daytime population for 1999:

$$\begin{aligned} \text{Assumption: Daytime population} &= 3 \times \text{nighttime population} \\ \text{Population} &= (286,870) (1.0311)^4 = 324,256 \\ \text{Daytime population} &= (3) (324,256) = 972,768 \end{aligned}$$

1.3 Migration

1990–1993 SEPP; City Civil Registry in 2000

Origin	1999	1998	1997
Other parts of the city	602	560	266
Other parts of the country	3,236	3,008	1,428
International migration	49	46	22
Total net migration	3,887	3,614	1,716

Mandaluyong

- Annual increase in population determined by using growth rate, $r = 3.11\%$

Year	Population	Annual Increase
1999	324,256	9,780
1998	314,476	9,485
1997	304,991	9,199

- Using 1990 figures provided by the NSO (which provides figures at ten-year intervals), the participatory rate of migration (arrivals – departures) was determined.

Origin	Number ('000)	Rate (%)
Other parts of the city	3,848	15.49
Other parts of the country	20,679	83.2
International migration	315	1.27
Total	24,842	100.00 %

- Natural Increase = births – deaths

Year	Births	Deaths	Increase
1999	7,799	1,906	5,893
1998	7,736	1,865	5,871
1999	9,355	1,872	7,493

- Approximate number of migrants, using the following formula:

$$\text{net migration} = \text{annual increase} - \text{natural increase}$$

$$\text{migrants} = \text{net migration} \times \text{participation rate}$$

1.4 Net population density

1997–1998 SEPP; 1998 Land Use Map

Year	Density
1998	670 persons/ha
1990	55 persons/ha

- The net residential land area in 1998 was determined using the millimeter grid method.

1.5 Age pyramid

1996 and 1997/1998 SEPP; Official communications with Commission on Population (COP), 8 February 2000

Age	1998		1999	
	Male	Female	Male	Female
0–14	49,408	46,979	43,635	42,464
15–59	96,968	107,347	81,487	91,412
60 and over	5,822	7,952	4,717	6,102

1.6 Average household size

1996 and 1997/1998 SEPP; Official communications with NSO, 14 February 2000; Official communications with COP, 14 February 2000; "Census Facts and Figures," NSO, May 1993; (3) 1993; (2) 1996 and 1997/1998; (1) 2000

Average Household Size			
Year	Mandaluyong City	Philippines	NCR (Metro Manila)
1998	4.6	4.9	4.6
1993	4.7	5.2	4.9
1988	5.0	5.4	5.1
Population			
1995	285,584	68,431,669	9,411,697
1990	246,131	60,703,206	7,948,392
1980	205,368	48,098,460	5,925,884
Number of Households			
1995	61,096	13,508,747	1,985,299
1990	49,774	11,407,262	1,569,588
1980	38,881	8,607,187	1,103,563

Projected population: using data from 1.2

a. Growth rate

$$r_1 = \frac{49,774}{38,881}^{1/10} - 1 = 2.50\%$$

$$r_2 = \frac{61,096}{49,774}^{1/5} - 1 = 4.18\%$$

b. Number of households

1998 = (61,096) (1.0418)³ = 69,082

1993 = (49,774) (1.0418)³ = 56,280

1988 = (38,881) (1.0250)⁸ = 47,373

c. Average household size

1998 = 314,476/69,082 = 4.6

1993 = 269,817/56,280 = 4.7

1988 = 237,245/47,373 = 5.0

1.7 Household formation rate

1996 and 1997/1998 SEPP; Official communications with NSO, 14 February 2000; Official communications with COP, 8 February 2000

- Indicator was computed using the growth rate formula from 1.2 to 1.6.

1.8 Women-headed households

Official communications with COP, 8 February 2000; 1995 COP

Year	Percentage
1995	17.44
1990	14.48

Given: Total number of households in 1995 = 61,096
 Number of women-headed households = 10,657
 Percentage of women-headed households = 10,657/61,096 (100)
 = 17.44%

Description	Number	Percentage
Widowed	5,997	9.82
Separated/Divorced	1,897	3.10
Single mother	1,957	3.20
Unknown	806	1.32

1.9 Minority groups

1996 SEPP

Group	Percentage
Chinese	0.15
Americans	0.05

- NSO has not disaggregated the data locally. The data stated above were derived from the local publication "Socio-Economic Profile of Mandaluyong City." Unless a special research procedure exists, it is best to refer to this information for reference evaluation.

1.10 Household types

NAV

1.11 Informal settlements

Official communications with Mandaluyong Housing Development Authority (MHDA), 11 February 2000

Informal Settlers, City of Mandaluyong, 1998			
Barangay	Population	No. of Households	Land Area (ha)
Addition Hills	44,375	8,875	27.6500
Bagong Silang	32	6	0.0120
Barangka Drive	1,720	423	0.2196
Barangka Ibaba	728	147	0.1929
Barangka Ilaya	1,132	280	0.2462
Barangka Itaas	476	169	0.1340
Buayang Bato	336	99	0.7611
Burol	1,206	300	2.7000
Daang Bakal	11	2	0.0160
Hagdang Bato Libis	163	40	0.0802
Highway Hills	808	202	0.1580
Hulo	468	117	0.0566
Mabini J. Rizal	208	50	0.0620
Plainview	1,122	74	0.2178
Pleasant Hills	1,780	445	0.3402
Poblacion	169	106	0.2872
Vergara	492	148	0.1928
Total	58,275	12,443	37.0520

Mandaluyong

2.1 Income distribution

1997 Family Income and Expenditure Survey, National Statistics Office (FIES-NSO)

Total Number of Families, by Income Class

(in \$)

Income Class	No. of Families	Average Income
Under 344.84		
344.83–689.63	326	592
689.67–1,034.47		
1,034.50–1,379.33		
1,379.34–1,727.14	326	1,555
1,724.17–2,068.97	326	1,830
2,069.00–2,758.64	4,876	2,337
2,758.67–3,448.31	2,468	3,219
3,448.34–5,172.47	12,918	4,230
5,172.51–8,620.81	19,651	6,517
8,620.85–15,517.49	17,429	11,964
15,545.98 and over	4,315	23,716

2.2 Households below poverty line

Government Estimate Property, Commission on Population Publication, 15–28 February 1999; Abraham Calamba, urban poor leader, 10 March 2000; MHDA, “Towards a Humane World-Class Metropolis,” November 1999

Year	Poverty Incidence (%)
1997	32.1
1991	39.9
1988	40.2

- Metro Manila has a higher poverty incidence, at 44.2%..

2.3 Women-headed households in poverty

Bureau of Women and Young Workers, Department of Labor and Employment fax of 10 February 2000

Year	(%)
1997	31.8
1994	35.5
1988	40.2

2.4 Child labor

Official communications with City Social Welfare and Development (CSWD), 11 February 2000

Using 1998 figures

Number of employed under 15 years old	= 50
Total number of children below 15 years old	= 96,387
% of total	= 50/96,385
	= 0.00052

- Child labor figures were also referred to the National Bureau of Investigation and NSO for comparison with local data. The NBI said that it has not yet investigated any labor case involving children from the city of Mandaluyong. The NSO groups Mandaluyong with “Other Metro Areas.” Further, data were not disaggregated by city or municipality.

2.5 Informal employment

Official communications with Public Employment Service Office (PESO), Office of the Mayor, 24 February 2000

- Ma. Socorro Nobleza Garcia, PESO chief, gave the following information:

Year	% of Informal Employment to Total Employment
1999	40
1998	45
1997	50
1995	50
1995	50

2.6 Unemployment

Special Release (Gazette), No. 3, Series of 1999, Office of the Regional Administrator, NSO

Year	(%)
1999	15.750
1998	16.275
1997	12.550
1999 April	17.000
1999 July	14.500

Mandaluyong

- 2.7 Expenditure on poverty reduction

Statement of Income and Expenditure, City of Mandaluyong

Year	Expenditure per Poor Person (\$)
1999	52.23
1998	46.83
1997	53.92
1996	46.45

3 HEALTH AND EDUCATION

- 3.1 Persons per hospital bed

Official communications with City Health Department (CHD), 15 February 2000; consultation by telephone with Arch. Zeny Gablon, Bureau of Licensing and Regulations, Department of Health, 13 April 2000

- **Persons per Hospital Bed, 1998**

Mandaluyong City	63
Metro Manila	412

- The city's hospital bed ratio is obviously better than Metro Manila's because Mandaluyong has fewer people and more hospital beds. A national government hospital is located in the city.

Given (1998 figures):

Number of beds, public	4,305
private	655
Population	314,476
Persons per hospital bed	$314,476/4,960 = 63$

- Mandaluyong is served by 22 health centers strategically located in various barangays. These are supervised by the City Health Office, which provides general medicine, dental and optical laboratory, family planning, nutrition supplements, immunization, and other services. Secondary and tertiary medical services are provided by the Mandaluyong Medical Center, which is owned and operated by the city government. Three other private hospitals provide medical support and other related services to the city and neighboring cities and municipalities. The ratio of health center services to population is 1: 14,000 (versus Metro Manila's 1:23,932) and of persons to hospital beds is 1:63 (versus Metro Manila's 1:412).

- 3.2 Child mortality

Official communications with City Civil Registry, 16 February 2000

Year	No. of Deaths under 5 yrs. Old	Annual Births	% Probability of Deaths
1999	196	7,799	2.51
1998	204	7,736	2.64
1997	260	9,355	2.78
1996	253	8,748	2.89
1995	214	8,008	2.67

- Cases of child mortality, morbidity, and infectious diseases have been considerably reduced.

- 3.3 Life expectancy at birth

Official communications with CHD, 15 February 2000

Year	Expected Age
1998	69
1993	67

- 3.4 Mortality from infectious diseases

Ibid.

Year	Mortality per ('000) Population
1998	0.20
1993	0.27
1988	0.23

- 3.5 Family planning

Ibid.

- In 1998, CHD conducted a cluster survey in the different barangays to determine the extent to which married couples practice family planning. Of the 930 respondents 51% said they were engaged in family planning in some form.

- 3.6 Adult literacy rate

1996 and 1997/98 SEPP

Year	Percent
1995	99.38
1990	99.48

1995: Rate = $178,796 = 99.38\%$
179,916

1990: Rate = $157,918 = 99.48\%$
158,714

Mandaluyong

3.7 School enrollment rates
(primary/secondary)

Philippine manpower is among the best in Southeast Asia, if not in the whole of Asia. because of the relatively high rate of literacy. Records show that, for many years, the city has had a 97% adult literacy rate and that a little more than 30% are college graduates, higher than 14.6% for Metro Manila. Official communications with Division of City Schools, 10 February 2000

The city has 87 private and public educational institutions, or about 3.2% of all the schools in Metro Manila. Of the 87, 39 are preschools; 26, elementary; 8, secondary; 6, tertiary; and 9, technical and vocational. School enrollment is 94%, with 45 students per class in primary schools (versus 56 in Metro Manila) and 56 students per class in secondary schools (versus 53 in Metro Manila). The city has continually increased its budget for school facilities and training programs for teachers.

3.8 Tertiary graduates

Ibid.

3.9 Median years of education

Ibid.

Year	Median Years of Education
1998	14–15
1993	14–15
1998	14–15

3.10 School children per classroom
(primary/secondary)

Ibid.

4 URBAN PRODUCTIVITY

4.1 City product per capita

1997 FIES, Vol.21, Provincial/Key City Final Report, Integrated Survey of Household Bulletin Series, November 1998, NSO

In the absence of industry employment figures at the local level, the consultant used method B, obtaining figures directly from the source.

Year	City Product per Capita (\$)
1997	2,434
1994	2,240

Given: (1997 figures):

GNP of the Philippines	= \$86,997.61 (millions)
Total household income in the Philippines	= \$0.060 (trillions)
Average household income in the city	= \$8,213.08
Number of households in the city	= 62,635 (actual, from source)
City product	= $(\$86,997.61 \times 106)(62,635)(238,175)$ 1.748 trillions
	= \$742,470,390.81
Population	= $(286,870)(1.034)^2$
	= 304,991
City product per capita	= \$2,434.00

4.2 Employment by industry

1995 NSO Survey

4.3 Household expenditure

1997 FIES, Vol.2 Provincial/Key City Final Report, Integrated Survey of Household Bulletin Series, November 1998, NSO

Expenditure	1998	1997	1994
Food	45.5	42.8	43.5
Shelter	19.2	19.4	19.9
Travel	6.6	5.8	6.6
Others	28.7	32.0	30.0

"Other" expenditures comprise: fuel, light, and water; personal care and effects; taxes paid; clothing, footwear, and other wear; household operations; education; furniture and equipment; medical care; tobacco ;alcoholic beverages; and recreation.

Capital Investment Report, Business Permit and License Office, Mandaluyong City, 10 March 2000

"Other Investments": amusement place, amusement device, advertising, ambulant stores, producer/importer, pawnshops/moneyshops, and subdivisions.

4.4 Investment by sector

Sector	1989 (\$)	1994 (\$)	1999 (\$)
Physical infrastructure	27.62	1,488.23	971.84
Housing	14.08	8.83	4.55
Manufacturing	1,204.74	1,129.75	487.22
Services	2,955.79	3,959.94	3,925.95
Others	2,613.92	1,872.79	2,743.09

Mandaluyong

4.5	Tourism	Official communications with Office of Tourism Development Planning; Department of Tourism for 1997 data, 8 February 2000 Using 1997 figures: Number of tourists = 140,038 Average stay = 2 nights Cost per day = \$172.42 (including hotel and living expenses) Total amount spent by tourists = (172.42)(140,038) (2) (0.984) 29.471) = \$48,289,858.05
4.6	Major projects	Official communications with City Engineering Department (CED), 15 February 2000, and Department of Transportations and Communications (DOTC), 10 February 2000
4.7	Cost of stay	CDB estimate
4.8	Corporate headquarters	1999 City Business Permit and License Office (CBPLO), Mandaluyong City, 16 February 2000 The city has two corporate headquarters with an annual turnover of at least \$100 million, and eight between \$26 million and \$100 million.
5	NEW TECHNOLOGY	
5.1	R&D expenditure	NAV
5.2	Telephone traffic (million calls per year)	NAV
5.3	Internet hosts per thousand population	NAV
6	URBAN LAND	
6.1	Urban Land	Department Order No. 71-96, Revised Zonal Values of Real Properties in the City of Mandaluyong, 29 April 1996 - As the city is highly urbanized, the consultant used the prevailing market price based on the Bureau of Internal Revenue (BIR) Zonal Valuation (Department Order No. 71-96) reference to compute the price of land. Mandaluyong has three types of residential zones: low-medium-and high-density zones. Low density zones have the highest zonal valuation while high-density zones have the lowest. - The consultant used the prevailing market price based on the BIR Zonal Valuation (Department Order No. 71-96) to compute the price of land.
6.2	Land developer multiplier	Ibid.
6.3	Developer contributions	Presidential Decree (PD) No. 1216, City of Manila, 14 October 1977 PD 1216 requires subdivision owners or developers to allocate 30% of the gross area of the subdivision for roads, parks, playgrounds, and recreational use. When the project is completed, these areas are donated by the owner/developer to the city or municipality concerned.
6.4	Median time for planning permission	Official communications with Housing and Urban Land Use Regulatory Board (HLURB), Quezon City, 15 February 2000 The City of Mandaluyong processes and approves subdivision plans for residential, commercial, or industrial purposes. On the other hand, HLURB, a national agency, processes and approves development permits for residential and commercial condominium projects. Assuming that all requirements are met, a development permit takes about 14 working days to process while the Certificate of Registration (CR) and the License to Sell (LS) take 40 working days. For the CR to be issued, a notice of filing of registration must be published in two newspapers of general circulation once a week for two consecutive weeks. The CR is issued once the prescribed fees are paid.
6.5	Vacant land with planning permission	1997/98 SEPP, Mandaluyong City Open spaces, which are mostly green and recreation areas, are unevenly distributed. A large portion of open space is in Wack-Wack Golf and Country Club, which is a private property; the definition provided in the Urban Indicators list excludes this property as public open space. The city has about 1.5 percent of remaining open spaces reserved for sport facilities, community parks, and landscaped areas.
6.6	Public open space	1997/1998 SEPP, Mandaluyong City Significantly, a large portion of open space is occupied and owned by Wack-Wack Golf and Country Club.
6.7	Vacant government land	1999 Declaration of Real Property, Mandaluyong City
6.8	Price of prime commercial land	4th Revision of Zonal Values of Real Properties, City of Mandaluyong, 1996
6.9	Rental and occupancy costs of prime commercial land	Survey of Commercial Establishments, Mandaluyong City, February 2000
6.10	Expenditure on development	Official communications CED, 15 February 2000; Official communications DPWH Manila, 10 February 2000;

Certified Statement of Income and Expenditure, Mandaluyong City.

Year	Expenditure per Person (\$)
1998	08.70
1997	15.86
1996	21.26
1995	75.17

- Expenditure on development per capita has decreased over the years due to the following reasons:
 - Existing facilities and utilities are still in good condition and needs little repair.
 - Required equipment/facilities were already acquired/developed during the previous years.
 - Demand for new outlay is less since existing facilities and utilities are designed to serve projected population for next few years

7 HOUSING

7.1 Dwelling type

Metro Manila Urban Area, Environmental Karte, Main Text, Vol. 1, Metro Manila Authority (MMUA-MMA), March 1994

Type	Number	% of Total
Single family houses	27,957.	56.17
Medium density	17,522.	35.20
Apartments	3,761.	7.56
Temporary dwellings	302.	0.61
Others	232.	0.46
Total	49,774.	100.00

7.2 Tenure type

Ibid.; Official communications with MHDA, February 2000

Total houses	= 49,774
Owned by occupant	= 25,981
Ratio	= (25,981/49,774) (100) = 52.19 %

7.3 Ratio of house price to income

Official communications with consultant, 26 June 2000

7.4 Ratio of house rent to income

Official communications with consultant, based on 1997 FIES-NSO, 17 August 2000

7.5 Floor area per person

MMUA-MMA, March 1994

Given (1998 figures): Average area	= 50.30 m ²
Household size	= 4.6 persons
Floor area per person (sq ²)	= 50.3 / 4.6
	= 10.93 m ²

7.6 Housing in Compliance

Official communications with City building official, 9 February 2000

7.7 Ratio of mortgage to credit

7.8 Mortgaged houses

1990 Census of Population and Housing, National Capital Region, National Statistics Office, Manila, August 1992

7.9 Mortgage loans to women

Official communications with MHDA, March 2000

7.10 Housing production

Ibid., 11 February 2000; Office of the Building Official, actual counting of building permits, 9 March 2000

- a. Dwellings produced on vacant land population = (286,870) (1.0311)⁴ = 324,256
dwellings produced per thousand population = (94) (1,000)/324,256 = 0.29
- b. Dwellings produced as infill (no. of units)

private	= 94
government	= 169
San Miguel	= 64
row house	= 105
Total	= 263

 Dwellings produced per thousand population = (263) (1,000)/324,256 = 0.81

7.11 Squatter resettlement or normalization

Official communications with MHDA, 11 February 2000

7.12 Net housing outlays by government

Ibid.

- Ave. cost of government housing per unit (1999) = \$12,277
Squatter population (1999):

Mandaluyong

7.13 Homeless People

Official communications with CSWD, 28 February 2000

- Average = 45 street children
- No. of street people = (45) (1,000)
- per thousand = 314,476
- = 0.14

8 MUNICIPAL SERVICES

8.1 Water supply

Official communications with Manila Water Company, Quezon City, 15 February 2000; Interview with Arnaldo Palo, Unit Head, Customer Assistance, San Juan/Mandaluyong Branch, 9 March 2000; Ayala Corporation 1998 Annual Report

- 8.1.1 Household connections
 - The remaining 17% of unconnected households get their supply of water from communal water systems, own use/shared deep wells, shallow wells, peddlers, or rainwater.

8.1.2 Investment per capita

- Assumptions:
 - Revenue = Direct cost + Indirect cost
 - where Direct cost = Investment cost
 - Indirect cost = 25 % of Direct cost
 - \$23.40M = Investment cost + 0.25 x Investment cost
 - Investment cost = \$23.40M/1.25
 - = \$18.72M
 - Investment share of the city = (\$18.72 M) 25,000
 - 300,000
 - = \$1.54 M
 - Investment per capita = \$1.54 M
 - (314,476)
 - = \$ 4.90

8.1.3 Operations and maintenance expenditure

- Expenditure = \$14,672.44
- (110) (30)
- = \$4.45

8.1.4 Cost recovery

NAV

8.1.5 Output per staff: water supplied per employee

CDB estimates based on Second Water Utilities Data Book, ADB 1997

- Water supplied = (1 m³ per capita) (314,476) (1.41)
- = 443,411.16 m³
- Output per employee = 443,411.16/110
- = 4,031 m³

8.1.6 List of providers

NAV

8.1.7 Nonrevenue water

NAV

8.1.8 Consumption of water per capita

NAV

8.1.9 Median price of water, scarce season

- Price of water = \$0.057/m³

8.2 Electricity

Official communications with Manila Electric Company (MERALCO), 9 February 2000

MERALCO 1998 Annual Report

8.2.1 Household connections

8.2.2 Investment per capita

- Given (1998 figures): Capital investment (thousands) = \$192,739.86
- Population = 17,680,815
- Capital Investment per capita = (\$192,739.86x10³)/(17,680,815)

8.2.3 Operations and maintenance expenditure

Official communications with City Budget Office (CBO), 3 February 2000

- Given (1998 figures): O&M expenditure (thousands) = \$1,689,499.82
- Expenditure per capita = (\$1,689,499x10³)/(17,680,815)
- = \$95.56
- = \$10.90

8.2.4 Cost recovery

NAV

8.2.5 Output per staff: megawatt hours supplied per employee

- Given (1998 figures): Electricity sales ('000 kWh) = 20,306,091
- Total no. of employees = 7,211
- kWh per employee = 2,815,988

8.2.6 List of providers

MERALCO

8.2.7 Nonrevenue electricity

NAV

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8.3	Sewage/Wastewater										
8.3.1	Household connections	NAV									
8.3.2	Investment per capita	NAV									
8.3.3	Operations and maintenance expenditure	NAv									
8.3.4	Cost recovery	NAV									
8.3.5	Output per staff: wastewater discharged or treated per employee	NAV									
8.3.6	List of providers	NAV									
8.4	Telephone	National Telecommunication Commission (NTC); Official communication with Department of Transportation and Communications, 7 February 2000									
8.4.1	Household connections	- Given: No. of households = 69,082 - Telephone connections = 60,215 % of households with telephone connections = $(60,215/69,082) (100)$ = 87 %									
8.4.2	Investment per capita	NAV									
8.4.3	Operations and maintenance expenditure	NAV									
8.4.4	Cost recovery	NAV									
8.4.5	Output per staff: thousands of calls per employee	NAV									
8.4.6	List of providers	<table> <tr> <th>Provider</th><th>Service Type</th><th>% Supplied</th></tr> <tr> <td>Phil. Long Distance Co. Ayala Ave., Makati City</td><td>Telephone</td><td>NAV</td></tr> <tr> <td>Globe Telecom Pioneer St., Mandaluyong</td><td>Telephone</td><td>NAV</td></tr> </table>	Provider	Service Type	% Supplied	Phil. Long Distance Co. Ayala Ave., Makati City	Telephone	NAV	Globe Telecom Pioneer St., Mandaluyong	Telephone	NAV
Provider	Service Type	% Supplied									
Phil. Long Distance Co. Ayala Ave., Makati City	Telephone	NAV									
Globe Telecom Pioneer St., Mandaluyong	Telephone	NAV									
8.5	Solid Waste Collection	Official communications with Environmental Sanitation Center (ESC), 21 February 2000									
8.5.1	Households with regular service	NAV									
8.5.2	Investment per capita	- Given: Cost per truckload = \$83.58 - Total trips = 23,025 - Total cost = $(\\$83.58 (23,025))$ = \$ 1,924,504.00 - Investment per capita = \$ 5.94 - Population served = $(286,870) (1.034)^4$ = 324,256									
8.5.3	Operations and maintenance expenditure	- Given: O&M expenditure = \$996,776.34 - Population served = 324,256 - Expenditure per capita = $\\$996,776.34 (324,256)$ = \$3.07									
8.5.4	Cost recovery	- Given: Total recurrent expenditure = \$2,877,307.14 - Total revenue = \$238,809.21 - Percentage of recovery = 8.29 %									
8.5.5	Output per staff: collected per employee	- Given: Collection and transport personnel = 300 - Total waste collected = 345,375 m³ - Annual output per employee = 1,151 m³ - Daily output per employee = 3.15 m³									
8.5.6	List of providers	City Government of Mandaluyong									

Mandaluyong

9 URBAN ENVIRONMENT

9.1 Solid waste generated

Official communications with Environmental Sanitation Center (ESC), 21 February 2000; 1997/98 SEPP

- Given (1998 figure): Total household waste generated = 373,500 m³
 Waste in tons = 373,500 x 450 kg/m³ x 2.2 lbs/kg x 0.9072 tons/2,000 lbs
 = 167,702 tons
 Tons per person per year = 167,702 / 314,476
 = 0.53

9.2 Household sewage disposal

1990–1993 SEP

- Total no. of households (HHs): 49,774

Type of disposal	HHs with Type of Disposal	Percent to Total
Sewerage type	0	0
Septic Tank	43,190	86.77
Underground pit	4,694	9.43
Underground commercial	322	0.65
Pan collection	973	1.95
Open ground or touch	143	0.29
Others	452	0.91

9.3 Wastewater treated

1990–1993 SEPP; Official communications with Sanitation Division, City Health Office (SD-CHO), 9 March 2000

- % of wastewater treated = Vol. of wastewater treated / Total vol. of wastewater
 = 76,600/93,564 m³
 = 81.87%

9.4 Percent BOD removed from wastewater

River Rehabilitation Secretariat, Pasig River Rehabilitation Program (RRS-PRRP), 1997 Year-End Report, April 1998

9.5 Air pollution concentrations

Official communication with Department of Environment and Natural Resources (DENR), National Capital Region, 16 February 2000

- Since there are no monitoring stations in the city, the DENR could not provide the data requested, but gave the air quality monitoring data for Makati and Pasig stations:

Year	1998	1997	1996	1995	1994	1993
Makati	33–417	109–474	118–591	41–485	47–324	63–286
	218	302	279	210	188	179
Pasig		77–390	139–219			27–314
		201	191			154

- To provide a measurement of the extent of pollution from other pollutants, the results of the study made by Asian Development Bank during 1990–1994 are shown in the following three tables.

THE DENR-NCR Air Quality Monitoring Project 1997 Summary of Ambient Lead Monitoring (24-hour averaging time /ug /Ncm)

Station	Month	3-Months Ave.	Minimum	Maximum
Viejo	Feb-April	0.31	0.249	0.488
Quezon Ave.	Jan-Mar	0.700	0.300	0.925
Las Piñas	Jan-Mar	0.191	0.107	0.370
Araneta	Feb-Mar	0.456	0.113	0.747
East Ave.	Jan-Mar	0.509	0.334	0.890
Valenzuela	Jan-Mar	0.800	0.449	1.736
Pag-Asa	Jan-Mar	0.378	0.159	0.656

Guideline = 1.5 ug / Ncm

- TSP concentration (pg/m³) measured on sites located on or near streets

Station	Street	TSP concentration		Period	No. of
		Average	Max. 24 h	1991/92	Observations
Ermita, Manila	Taft	256	549	Aug-Feb	49
ADB, EDSA	EDSA	497	843	Aug-Feb	47
Monumento	EDSA	400	489	Feb. 92	5

Mandaluyong

- Lead, TSP and PM₁₀ (ug/m³) from ADB/EMB study, 1991/92

	Lead			PM ₁₀			TSP	
	Mean	No. of Measurement	Mean/Max.	No. of Measurement	Mean/Max	No. of Measurement	Mean/Max	No. of Measurement
Ermita	1.07	(36)	144/258	(62)	256/549	(49)		
ADB	2.30	(34)	219/321	(47)	497/843	(47)		
Monumento	1.00	(4)	198/241	(5)	400/489	(5)		

- In the absence of established air monitoring equipment in the area, the consultant used the measurement readings to determine if standards were exceeded. Readings from stations that may approximate that for Mandaluyong (e.g., Makati station) were also considered.

9.6 Energy used per person

Official communications with MERALCO, 22 March 2000

- Total energy used per person per year, in metric tons (mt) of coal equivalent (1998 figures):

Total electricity sales ('000 kWh)	= 20,306,091
Coal equivalent (mt)	= 8,592,169
Population	= 17,680,815
Energy use per person (mt/person)	= 0.4860

9.7 Noise complaints

Official communications with the Pollution Control Officer, Mandaluyong City, 8 February 2000

9.8 Disasters in last 10 years

Official communications with City Social Welfare and Development, 11 February 2000; Official communications with Bureau of Fire Protection, Dept. of Interior and Local Government, 17 February 2000; 1996–1998 SEPP

- Fifteen typhoons caused flooding in the city, displacing 460 families.
- More than 4,700 families were affected and rendered homeless by fires. Property damage was estimated at P403,355,950 (\$10,077,062). Fourteen people died and 67 were injured.

9.9 Methods of solid waste disposal

ESC; 1997/1998 SEPP

- Solid waste collected = 179,373 tons
- Total waste generated = 199,303 tons
- Percent disposed in sanitary landfill = 90%

10 URBAN TRANSPORT

10.1 Mode of travel

Official communications with consultant, 26 June 2000

10.2 Median travel time

Ibid.

10.3 Expenditure on road infrastructure

Official communications with City Engineering Department, 15 February 2000; Official communications with Department of Public Works and Highways, Main Office, Manila, 10 February 2000

- Road infrastructure gained priority in 1995 and 1998 when the city government paved secondary roads with concrete and rehabilitated the flood control system particularly for low-lying areas.
- Given (1998 figures): Expenditure on city roads = \$953,708.46

Expenditure on national roads	= \$145,139.09
Total expenditure on roads	= \$1,098,847.55
Expenditure per capita	= \$1,098,847.55
	(314,476)
	= \$3.49

10.4 Road congestion

1995 Traffic Volume Data, Traffic Engineering Center, Manila (TEC); "Course Notes on Transportation and Traffic Technology 1983," Transport Training Center, UP Diliman, Quezon City 1990–1993

- Volume/Capacity ratio:

AM	= 1,263/1,125 = 1.12 > 0.8
PM	= 1,054/1,125 = 0.94 > 0.8

10.5 Car ownership

Official communications with Land Transportation Office, National Capital Region

- No. of Vehicles = 48,518

Population, 1995	= 178,260
Population, 1990	= 149,910
Population, 1998	= (178,260) (1.0311) ³ = 195,414
Ratio per thousand	= (48,518) (1,000)
	195,414
	= 248

Mandaluyong

- 10.6 Cost recovery from fares
- 10.7 Port/Air activity
- 10.8 Goods carried
- 10.9 Transport facilities

- 10.9.1 Transport-related deaths

- 10.9.2 Pedestrian deaths

NAV

1998 Philippine Statistical Yearbook

Official communications with Business Permit and License Office (BPLO), 3 March 2000

Official communications with Traffic Enforcement Group, NCR, Philippine National Police (TEG-NCR-PNP), Mandaluyong City, 21 February 2000

1998 = (12) (100) = 0.04
314,476

1998 = (12) (1,000) = 0.04
314,476

11 CULTURAL

- 11.1 Attendance at public events

Official communications with Executive Secretary, 14 February 2000; Official communications with the City Administrator, 15 February 2000; Official communication with Cultural Affairs Office (CAO), 10 February 2000

Event	Attendance				
	1995	1996	1997	1998	1999
Liberation Day Festivities	15,000	10,000	10,000	10,000	10,000
EDSA People's Revolution Anniv.	2,000	2,000			
Alay Lakad	8,000	8,000	8,000	8,000	8,000
Christmas Gift Giving	15,000	15,000	15,000	20,000	20,000
Turnover of Mayoralty Post			5,000		
City Address	1,500	2,000	2,000	4,000	4,000
Manila Social Forum					1,500
Cinemanila Festival					5,000

- 11.2 Attendance at galleries and museums

Official communications with CAO, 10 February 2000; Survey, March 2000

Gallery/Museum	Attendance
Contreras Sculpture	5,520
Galleria Duemila 2000	36,000
Gallery Genesis	7,200
Pacheco Art Gallery	11,040
West Gallery	36,000
Gallery Y	21,600
Nemiranda Art Homes	11,040
The Crucible	7,680
The Museum Shop	11,040

- Listed galleries have an attendance of at least 5,000. All are located at the SM Megamall.

- 11.3 Participation in sports

Official communications with Division of City Schools, 10 February 2000

12 LOCAL GOVERNMENT FINANCE

- 12.1 Sources of revenue

Official communications with CBO, 3 February 2000, Statement of Income and Expenditure, 1998

• Total income	=	\$20,456,702.30
Taxes	=	\$13,467,681.32 x 100% = 65.84%
		\$20,456,702.30
User charges	=	\$119,100.96 x 100% = 5.86%
		\$20,456,702.30
Other own source	=	\$174,889.21 x 100% = 0.85%
		\$20,456,702.30
Transfers	=	\$5,615,030.81 x 100% = 27.45%
Loans	=	0%
Other income	=	0%

- 12.2 Capital and recurrent expenditure

Official communications with CBO, 3 February 2000

• Capital expenditure	
Given 1999: Population	= 314,476
Expenditure	= \$2,187,790.97
Expenditure per person	= \$2,187,790.97
	314,476
	= \$6.96

- Recurrent expenditure
Given 1999: Expenditure = \$4,349,148.16
Expenditure per person = \$4,349,148.16
314,476
= \$13.83

- 12.3 Collection efficiency, property taxes
- 12.4 Debt service charge
- 12.5 Employees

Official communications with CBO, 3 February 2000

Ibid.

Official communications with Human Resource Management Department, 16 February 2000

- Given 1999: Total number of employees = 3,485
Employees per 1,000 population = 3,485 (1,000)
314,476
= 11
- Given 1999: Wages = \$7,196,884.87
Budget = \$20,357,825.67
Ratio of wages to budget = \$7,196,884.87 (100)
\$20,357,825.67
= 35%

- 12.6 Wages in budget

- 12.7 Ratio of contracted to recurrent expenditures

Official communications with ESC, 21 February 2000

- Given 1999: Contracted expenditures = \$1,861,207.34
Recurrent expenditures = \$20,357,825.67
Ratio of contracted to recurrent expenditures = \$1,861,207.34 (100)
\$20,357,825.67
= 9%

- 12.8 Business permits
- 12.9 Enterprise revenues

Official communications, BPLO, 16 February 2000

Official communications with BIR, Revenue District Office No. 41, 14 March 2000; BPLO, 10 March 2000

- BIR is barred from divulging such data by Republic Act No. 8424 (Tax Reform Act of 1997), Section 270, and Republic Act No. 6388, Section 26. Instead, a summary list of the top 10 enterprises with their annual gross sales revenues was provided.
- The consultant computed the net income on the basis of the BIR formula, using the amount of tax paid.
- Taxes paid = Net taxable amount x 33 %
\$1,596,138.47 = Net income x 0.33
Net income = \$5,060,006.06

- 12.10 Computerization of functions

Official communications with City Information Technology, 21 February 2000

- 12.10.1 Land registration
- 12.10.2 Rates of collection
- 12.10.3 Salaries
- 12.10.4 General finance
- 12.10.5 Business permit

- This function is fully automated and integrated with the City Management Information System (CMIS), which includes automated records tracking, tax order of payments billing, recording, auditing, and reports operation.
- The Electronic Data Processing Department devised a Financial Management Information System, which is not fully implemented.
- Payroll is fully automated and integrated with the CMIS together with the PMIS.
- The Financial Management Information System, of which this General Finance System is a part, has not yet been implemented.
- It is fully automated under the fully functional Business Permit and License Tax Administration System.

13 URBAN GOVERNANCE

- 13.1 Local government functions
- 13.2 Delivery of annual plan
- 13.3 Voter participation rates, by sex
- 13.4 Independence from higher government
- 13.5 Elected and nominated councilors
- 13.6 Representation of minorities

2000, 1996 SEPP; Official communications with CED, 15 February 2000; Official communications with the City Administrator, 16 February 2000

Official communications with CED, 15 February 2000; Official communications with City Accounting Department (CAD), 15 February 2000

Official communications with Commission on Election (COMELEC) Field Office, 3 February 2000
NAV

Official communications with COMELEC, 3 February 2000

Local Government Code of 1991, Annotated, First Edition, 1992

- The Local Government Code of 1991 states that local governments and people's organizations may enter into mutual arrangements to promote basic rights and enhance the economic and social well-being of the people, especially the cultural minorities.

Mandaluyong

13.7 Planning applications refused (%)

Official communications with City Building Official, 15 February 2000; Official communications with City Council, 7 February 2000

13.8 Business satisfaction

13.9 Consumer satisfaction

13.10 Perception as place to live

13.11 Reported crimes

Official communications with Mandaluyong City Police Station, PNP, Eastern Police District, 24 February 2000

	Nature of Crime	Cases Filed
	1999	1998
Murder	8	5
Drug-related	493	174
Theft	306	171
Others	245	
Total	807	595

Population 324,256 314,476

Crimes per thousand 2.48 1.89

13.12 Access to information

Official communications with the City Administrator, 15 February 2000

- Significant publications
 - Supplements every 9th of February
 - Oplan Lingap-Bulletin – a quarterly on the Anti-Drugs Campaign
 - City Magazine – optional, as ordered by the Mayor

13.13 Contact with the public

Official communications with Epifanio De Guzman, Executive Secretary, 14 February 2000;

Official communications with Victor Victoria, City Administrator, 15 February 2000

- The City Mayor uses different media of communication like news coverage to report on major infrastructure; development activities; the Ulat sa Bayan (Report to Constituents); the Mayor's State of the City Address, which outlines ongoing and proposed projects; and public forums to consult constituents or to get information about the city's problems; and barangay meetings through which the Mayor oversees the implementation of health care programs and other barangay projects and printed forms.

Official communications with Barangay Operations Center, 23 February 2000;

Local Government Code of 1991, Annotated, First Edition, 1992

- Mandaluyong City has 27 barangays, divided into two districts for political purposes.

Each district elects six city councilors. Each barangay elects a chairman, seven barangay councilors, and one youth representative.

13.14 Decentralized district units

- The barangay implements government policies, plans, programs, projects, and activities at the community level, and serves as a forum instead for minor disputes outside formal judicial processes.

Medan

Indicators

1 POPULATION

1.1	Urbanization	United Nations Centre for Human Settlements (UNCHS) Report 1993										
1.2	City population	Statistical Board, City of Medan, Medan in Figures 1998 (SBCM) 1999 Population of Medan between 1994 and 1998 <table><tr><th>1994</th><th>1995</th><th>1996</th><th>1997</th><th>1998</th></tr><tr><td>1,876,100</td><td>1,909,700</td><td>1,942,000</td><td>1,974,300</td><td>2,005,000</td></tr></table>	1994	1995	1996	1997	1998	1,876,100	1,909,700	1,942,000	1,974,300	2,005,000
1994	1995	1996	1997	1998								
1,876,100	1,909,700	1,942,000	1,974,300	2,005,000								
1.3	Migration	SBCM, Survey of Population Inter Census 1995 Total net migration = Immigrants – Emigrants										
1.4	Population net density	CDB estimates										
1.5	Age pyramid	SBCM										
1.6	Average household size	Ibid. Number of households in Medan <table><tr><th>1994</th><th>1995</th><th>1996</th><th>1997</th><th>1998</th></tr><tr><td>300,626</td><td>302,408</td><td>313,142</td><td>316,090</td><td>320,834</td></tr></table>	1994	1995	1996	1997	1998	300,626	302,408	313,142	316,090	320,834
1994	1995	1996	1997	1998								
300,626	302,408	313,142	316,090	320,834								
1.7	Household formation rate	Ibid.										
1.8	Women-headed households	Social Economics Survey (SES) conducted by SBCM (SES-SBCM) 1998										
1.9	Minority groups	Social Politics Affairs of Medan (SPAM) Ethnic classification of population was based on Demographic Statistics System in Medan.										
1.10	Household types	SBCM										
1.11	Informal settlements	Regional Development Planning Board of Medan—Evaluation of Landscape of Medan (RDPBM-ELM) 1997										
1.11.1	Population	December 1996 data										
1.11.2	Households	December 1996 data										

2 EQUITY

2.1	Income distribution	CDB estimates
2.2	Households below poverty line	SES-SBCM 1998; Survey of Village Potential, Central Bureau of Statistics, (SVP-CBS) 1999
2.3	Women-headed households in poverty	RDPBM 1997; SES 1998
2.4	Child labor	University of North Sumatra, Marginal People in Medan 1997 According to the Labour Ordinance in Medan, it is illegal to employ children as workers.
2.5	Informal employment	SES-CBS 1998
2.6	Unemployment	Census of Population, Social Economics Survey by CBS (CP-SES-CBS)
2.7	Expenditure on poverty reduction (per poor person)	RDPBM; Family Planning Coordination Board of Medan (FPCBM)

3 HEALTH AND EDUCATION

3.1	Persons per hospital bed	Survey of Gross Regional Domestic Product of Medan Sector Services by CBS (SGRDPM-CBS) 1999
3.2	Child mortality	Population Registration, Mid-Year and End of Year, CBS
3.3	Life expectancy at birth	SBCM, Survey of Population Inter Census 1995
3.4	Infectious diseases mortality	Health Affairs of Medan; SES
3.5	Family planning	FPCBM
3.6	Adult literacy rate	SES-CBS 1998 The rate reflects the percentage of population aged 10 and over.
3.7	School enrollment rates	CP 1990; SES 1998 In Medan, secondary school education can be divided into two groups: aged 12-14 equals years 1-3 in secondary school education while aged 15-17 equals years 4-6.
3.8	Tertiary graduates	SES 1998
3.9	Median years of education	The Indonesian Government provides 9 years compulsory education free to all Indonesian citizens.
3.10	School children per classroom	SBCM 1999

4 URBAN PRODUCTIVITY

4.1	City product per capita	CDB estimates
4.2	Employment by industry	
4.3	Household expenditure	SES-CBS 1998 Survey conducted by SBCM

Medan

- 4.3.1 Food
- 4.3.2 Shelter
- 4.3.3 Travel
- 4.3.4 Others

This is an aggregate of fuel and light, alcoholic drinks and tobacco, clothing and footwear, durable goods, miscellaneous goods, and miscellaneous services.

- 4.4 Investment by sector
- 4.5 Tourism
- 4.6 Major projects
- 4.7 Cost of stay
- 4.8 Corporate headquarters

Tourism Affairs of Medan and North Sumatra Province (TAMANSP); Statistical Board City of Medan of North Sumatra Province (SBCMNSP)
TAMANSP
Tourism Affairs of North Sumatra Province (TANSP)

5 NEW TECHNOLOGY

- 5.1 R&D expenditure
- 5.2 Telephone traffic
(million calls per year)
- 5.3 Internet hosts per thousand
population

CDB estimates based on the Local Government of Medan, Regional Development Budget (LGM-RDB)
CDB estimates based on the Office of the Telecommunication Authority, Medan (OTAM)

OTAM

6 URBAN LAND

- 6.1 Urban land
- 6.2 Land developer multiplier
- 6.3 Developer contributions
- 6.4 Median time for planning
permission
- 6.5 Vacant land with planning
permission
- 6.6 Public open space
- 6.7 Vacant government land
- 6.8 Prime commercial land price
- 6.9 Prime rental and occupancy
cost
 - 6.9.1 Prime rental per month
 - 6.9.2 Operating costs per month
 - 6.9.3 Statutory charges per month
- 6.10 Expenditure on development

RDPBM

Associates of Real Estate Indonesia, Branch Medan

Ibid.

- Developer contributions must follow Housing and Estate Laws which provide that open space, roads, a social building and other infrastructure be included in the development of the area.

Land National Board, Building Affairs City of Medan (LNB-BACM)

NAV

RDPBM

LGM, Secretariat and Administration Section

NAV

- In Medan, offices are classified into three grades. Grade A offices are of the highest quality in facilities and estate management while Grade C offices provide only basic finishes, restricted layout, and average estate management.

This represents the average rent per square meter per month in Central, the CBD of Medan, for private grade A offices in 1998.

7 HOUSING

- 7.1 Dwelling type
- 7.2 Tenure type
- 7.3 House price to income ratio
- 7.4 House rent to income ratio
- 7.5 Floor area per person
- 7.6 Housing in compliance
- 7.7 Mortgage to credit ratio
- 7.8 Houses with mortgages
- 7.9 Mortgage loans for women
- 7.10 Housing production

Housing Affairs of Medan (HAM)

SES-CBS 1998

National Housing Company branch, City of Medan; SBCM, "Gross Regional Domestic Product of Medan City, 1993-1998"

- As shown in Note 7.5, the average house price was collected by the National Housing Company branch, City of Medan.

- It is based on the average income per capita from GRDP of Medan City.

SBCM, "Gross Regional Domestic Product of Medan City, 1993-1998"

HAM; SES-SBCM 1998

Ibid.

Bank of Indonesia branch City of Medan, "Quarterly Report"

- The figure reflects the mortgage to credit ratio for all types of banks.

HAM; SES-SBCM 1998

Ibid.

UNCHS Report 1993

Medan

7.11	Squatter resettlement or normalization	RDPBM
7.12	Net housing outlays by government (per person)	People resettled were fishermen at "Fishermen Village". HAM
7.13	Homeless people	RDPBM; CP 1990
8 MUNICIPAL SERVICES		
8.1	Water	
8.1.1	Household connections	CDB estimates based on the Second Water Utilities Data Book, Asian Development Bank (SWUDB) 1997
8.1.2	Investment per capita	Water Supplies Corporation of Medan City (WSCMC)
8.1.3	Operations and maintenance expenditure	WSCMC
8.1.4	Cost recovery	
8.1.5	Output per staff: water supplied per employee	CDB estimates based from SWUDB
8.1.6	List of providers	
8.1.7	Nonrevenue water	Ibid.
	a. Percentage unaccounted for water	
	b. Interruptions in water service	
8.1.8	Consumption of water per capita	CDB estimates based from SWUDB
8.1.9	Median price of water, scarce season	WSCMC; Perusahaan Daerah Air Minum Tirtanadi Annual Report 1999
8.2	Electricity	
8.2.1	Household connections	National Electric Corporation, Regional (NEC-R)
8.2.2	Investment per capita	Ibid., Annual Report 1999
8.2.3	Operations and maintenance expenditure	Ibid.
8.2.4	Cost recovery	Ibid.
8.2.5	Output per staff: megawatt hours of electricity supplied per employee	Ibid.
8.2.6	List of providers	
8.2.7	Nonrevenue electricity	
	a. Nonrevenue/line loss	Ibid.
	b. Interruptions in power supply	CDB estimates based on SWUDB
8.3	Sewerage/wastewater	
8.3.1	Household connections	UNCHS Report 1993
8.3.2	Investment per capita	WSCMC
8.3.3	Operations and maintenance expenditure	Ibid.
8.3.4	Cost recovery	Ibid.
8.3.5	Output per staff: wastewater discharged or treated per employee	
8.3.6	List of providers	
8.4	Telephone	
8.4.1	Household connections	Telecommunication Corporation branch, City of Medan (TCB-CM)
8.4.2	Investment per capita	Ibid.
8.4.3	Operations and maintenance expenditure	Ibid.
8.4.4	Cost recovery	

Medan

- 8.4.5 Output per staff: thousands of calls per employee
- 8.4.6 List of providers

TCB-CM

- There are three cellular telecommunication network services licensees in Medan. They are Cable & Wireless Telkomsel Limited, Satelindo Limited, and Komselindo Limited.
- At present, only TCB-CM provides fixed-line telephone services in Medan.

- 8.5 Solid waste collection
 - 8.5.1 Households with regular service
 - 8.5.2 Investment per capita
 - 8.5.3 Operations and maintenance expenditure
 - 8.5.4 Cost recovery
 - 8.5.5 Output per staff: collected per employee
 - 8.5.6 List of providers

Cleaning Affairs, City of Medan (CA-CM)

CA-CM
Ibid.

Ibid.

- The main provider is CA-CM, but every building has its own cleaning service.

9 URBAN ENVIRONMENT

- 9.1 Solid waste generated
- 9.2 Household sewage disposal
- 9.3 Wastewater treated
- 9.4 Percent BOD removed from wastewater
- 9.5 Air pollution concentrations
- 9.6 Energy usage per person
- 9.7 Noise complaints
- 9.8 Disasters in the last 10 years
- 9.9 Solid waste collection

Survey of Potential Village by Statistical Board, City of Medan 1999

Ibid.

Drainage Affairs City of Medan

Ibid.

NAV

NAV

- There were no natural disasters in the last five years in Medan based on CDB's definition.
- UNCHS Report 1993

10 URBAN TRANSPORT

- 10.1 Mode of travel
- 10.2 Median travel time
- 10.3 Expenditure on road infrastructure
- 10.4 Road congestion
- 10.5 Automobile ownership
- 10.6 Cost recovery from fares
- 10.7 Port/air activity
- 10.8 Goods carried
- 10.9 Transport fatalities

Transport Department, Sumatera Utara, Annual Reports 1997

Transport Study conducted by University of North Sumatera (UNS) 1995

CDB estimates based on 1998/1999 Local Government City of Medan—Budget Report

Transport Study conducted by UNS 1995

Statistical Board of North Sumatera Province, "North Sumatra in Figures 1998" (SBNSP)

Transport Department, North Sumatera Province; Road Authority Affairs, City of Medan

- The port of Belawan is one of the international ports in Indonesia. It has two container terminals now.
- Medan has one international airport, the Polonia International Airport.

SBCM

RAACM; Police Department of Medan City

11 CULTURAL

- 11.1 Attendance at public events
- 11.2 Attendance at galleries and museums
- 11.3 Participation in sports

Tourism and Cultural Services City of Medan

12 LOCAL GOVERNMENT FINANCE

- 12.1 Sources of revenue
- 12.2 Capital and recurrent expenditure per person
- 12.3 Collection efficiency, property taxes
- 12.4 Debt service charge
- 12.5 Employees

Local Government City of Medan, Budget Annual Report (LGCM) 1998/1999

UNCHS Report 1993

Bank of Indonesia branch of Medan

UNCHS Report 1993

Medan

12.6	Wages in budget	LGCM, Budget Annual Report 1998/1999
12.7	Contracted recurrent expenditure ratio	NAV
12.8	Business permits	
12.9	Enterprise revenues	
12.10	Computerization of functions	

13 URBAN GOVERNANCE

13.1	Functions of local government	RDPBM
13.2	Delivery of annual plan	
13.3	Voter participation by sex	SPAM Information on the proportion of adult males/females voters who voted in 1997.
13.4	Independence from higher government	
13.5	Elected and nominated councilors	The Legislative Council of Medan City
13.6	Representation of minorities	
13.7	Planning applications refused	
13.8	Business satisfaction	NAV
13.9	Consumer satisfaction	All government affairs in Medan have their own performance pledge, which indicates the level and state of services delivered, the performance standards and targets met, monitoring system and customer satisfaction level.
13.10	Perception as to place to live	
13.11	Reported crimes	SBCM 1998, Crime Statistics
13.12	Access to information	
13.13	Contact with the public	
13.14	Decentralized district units	

Melbourne

Indicators

1 POPULATION

1.1	Urbanization	Australian Bureau of Statistics (ABS) website “Australia Now – A Statistical Profile of Population Distribution” - Figure used in CDB is for Australia in 1996. - Data for other years: <table><tr><th>Year</th><th>Urban Population (%)</th></tr><tr><td>1911</td><td>57</td></tr><tr><td>1928</td><td>63</td></tr><tr><td>1945</td><td>68</td></tr><tr><td>1962</td><td>81</td></tr><tr><td>1979</td><td>86</td></tr><tr><td>1996</td><td>86</td></tr></table>	Year	Urban Population (%)	1911	57	1928	63	1945	68	1962	81	1979	86	1996	86
Year	Urban Population (%)															
1911	57															
1928	63															
1945	68															
1962	81															
1979	86															
1996	86															
1.2	City population	ABS Cat. 3218.0, Regional Population Growth Official communications with Dr. J. Flood, 25 August 2000 Department of Infrastructure (DOI) from ABS data - Figure used in CDB is the estimated resident population for the City of Melbourne in 1999. - Estimated resident population for the City of Melbourne since 1976: <table><tr><th>Year</th><th>Resident Population</th></tr><tr><td>1976</td><td>39,275</td></tr><tr><td>1981</td><td>38,582</td></tr><tr><td>1986</td><td>35,889</td></tr><tr><td>1991</td><td>34,659</td></tr><tr><td>1996</td><td>39,716</td></tr></table>	Year	Resident Population	1976	39,275	1981	38,582	1986	35,889	1991	34,659	1996	39,716		
Year	Resident Population															
1976	39,275															
1981	38,582															
1986	35,889															
1991	34,659															
1996	39,716															
	1.2.1	Resident population														
	1.2.2	Daytime population														
	1.2.3	Population increase														
1.3	Migration	- Since the request was for data at 5- or 10-year intervals, data at 5-year intervals from 1976 have been provided. These years are all census years, and the data are therefore more reliable than estimates made for noncensus years. City Plan, Municipal Strategic Statement, City of Melbourne 1999 - This is the daytime business, working, and visiting population in the City of Melbourne.														
1.4	Net population density	ABS Cat. 3218.0, Regional Population Growth Official communications with Dr. J. Flood, 25 August 2000 This figure is the annual growth rate from 1991 to 1999. The city’s population grew by 12,841 over this period, at an average rate of 1,606, or 4.6%, each year.														
1.5	Age pyramid	Official communications with Dr. J. Flood, 7 August 2000 CDB estimates Current land zoning information on the City of Melbourne was obtained from the City Council (through their geographic information system). Residential zones and areas devoted to roads and open space were then selected and added to 90% of the total of mixed-use zones to yield the net residential figure of 1,366,53 hectares. This figure was then divided by the city’s 1999 estimated resident population of 47,500.														
1.6	Average household size	ABS Census 1996 - Data provided are from the 1996 census for the City of Melbourne, and include all people who were in Melbourne (except international visitors) on census night. The total population on census night was 45,253, higher than the estimated resident population of 39,716 at that time. The first three figures from DOI “Victoria in Time: 1981, 1986, 1991 Census Statistics for Victoria’s New Local Government Areas.” 1996. Figure for 1996 from DOI “Melbourne in Fact” 1998. - Data for the City of Melbourne: <table><tr><th>Year</th><th>Persons per Household</th></tr><tr><td>1981</td><td>2.19</td></tr><tr><td>1986</td><td>2.15</td></tr><tr><td>1991</td><td>2.12</td></tr><tr><td>1996</td><td>2.02</td></tr></table>	Year	Persons per Household	1981	2.19	1986	2.15	1991	2.12	1996	2.02				
Year	Persons per Household															
1981	2.19															
1986	2.15															
1991	2.12															
1996	2.02															
1.7	Household formation rate	DOI, “Melbourne in Fact” 1995 and 1998 editions Figures provided in CDB is for the City of Melbourne for 1991–1996. In 1991 there were 11,677 households in the city; by 1996 this figure had increased to 14,423, an average annual increase of 4.7% or a compounded rate of 4.3%.														
1.8	Women-headed households	NAV														

Melbourne

1.9 Minority Groups

ABS Census 1996

- No single minority group in the city has at least 10% of the population. More than 130 countries are represented among the birthplaces of the city's residents.

Top 10 foreign birthplaces of residents:

Country	% of Melbourne Residents Born There
UK	4.8
Malaysia	3.1
Viet Nam	2.9
People's Republic of China	1.8
New Zealand	1.7
Singapore	1.5
Indonesia	1.4
Italy	1.3
Hong Kong, China	1.3

1.10 Household types

ABS Cat. 4130, Survey of Housing Occupancy and Costs

Official communications with Dr. J. Flood, 25 August 2000

1.11 Informal settlements

NAP

2 EQUITY

2.1 Income distribution

ABS Cat. 6530, 1998/99 Household Expenditure Survey (HES)

Official communications with Dr. J. Flood, 25 August 2000

2.2 Households below poverty line

NAV

2.3 Women-headed households in poverty

NAV

2.4 Child labor

Negligible, as it is illegal to employ children in Australia.

2.5 Informal employment

NAV

2.6 Unemployment

Department of Employment, Workplace Relations and Small Businesses, "Small Area Labor Markets"

- The figure quoted is for December 1999 2nd quarter and is for the inner part of the City of Melbourne, which is approximately the CBD. The figure for the rest of the city, which includes the bulk of the city's residential areas, is 6.7%.

- Unemployment figures for the December quarter in the previous two years:

	1997	1998
	(%)	(%)
Inner Melbourne	4.4	4.4
Rest of Melbourne	6.0	6.2

2.7 Expenditure on poverty reduction (per poor person)

ABS Cat. 5512.0, Government Finance Statistics Australia; Commonwealth Department of Health, Government Budget Estimates; Australian Institute of Health and Welfare (AIHW), Australia's Welfare 1999; Commonwealth Department of Family and Community Services Annual Report 1998/99; Victorian Department of Human Services (VDHS), Government Budget Estimates
Official communications with Dr. J. Flood, 25 August 2000

3 HEALTH AND EDUCATION

3.1 Persons per hospital bed

VDHS

- The figure in the CDB refers to the number of beds in public and private hospitals in the city in 1999. The number includes only acute beds in public hospitals (general and psychiatric) and overnight beds in private hospitals.
- Public hospitals in the city are the Royal Melbourne Hospital, Royal Children's Hospital, Royal Women's Hospital, Royal Victorian Eye and Ear Hospital, North West Hospital, The Alfred Hospital, Mercy Public Hospital East Melbourne Campus, St. Vincent's Hospital, Peter MacCullum Cancer Institute, and Dental Health Services Victoria. (These hospitals have 2,946 acute beds.)
- Private hospitals in the city are the Cliveden Private Hospital, Frances Perry House (Royal Women's Hospital), Freemason's Hospital, Mercy Private Hospital, and St. Vincent's Private Hospital. (These hospitals have 757 overnight beds.)
- The total number of beds per person is calculated as follows: 2,946 + 757/47,500 (1999 population of the city).

3.2 Child mortality

Official communications with Dr. J. Flood, 25 August 2000

3.3	Life expectancy at birth	ABS Cat. 4101-2, Social Indicators Victoria No. 1 for 1971–1982 figures; 1993 figures from same source as for 1996 figures CDB estimates are the average of figures given by the consultant.
3.4	Mortality from infectious diseases	ABS Cat. 2302.2 Official communications with Dr. J. Flood, 25 August 2000 CDB estimates are the average of figures given by the consultant.
3.5	Family planning CDB estimates	ABS Cat. 4228.0, "Aspects of Literacy: Assessed Skill Levels," 1996
3.6	Adult literacy rate	- The Aspects of Literacy survey focused on the skills that Australian adults need to understand and use information from printed materials in English and encountered in everyday life. Literacy skills were assessed by using tasks of varying degrees of difficulty and posing questions that required open-ended answers. The tasks were based on common examples of printed materials. - Three types of literacy skills were assessed: Prose literacy—the ability to understand and use information from various kinds of prose texts, including texts from newspapers, magazines, and brochures Document literacy—the ability to locate and use information contained in materials such as tables schedules, charts, graphs, and maps Quantitative literacy—the ability to perform arithmetic operations using numbers contained in printed texts or documents - Proficiency in each of the three types of literacy was ranked according to the following levels: - Level 1 – very poor skills - Level 2 – some difficulties in using many of the printed materials encountered in daily life and at work - Level 3 – ability to cope with a variety of material - Levels 4 and 5 – good to very good literacy skills - The figure presented in the CDB is the proportion of adult Australians aged 15–74 with at least level 2 prose literacy, as defined in this survey. This level seems to best fit the CDB definition of literacy ("able to read and understand a simple paragraph in their first written language").
3.7	School enrollment rates	ABS Schools Australia Cat. 4221.0 and advice from the Victorian Education Department - Participation in education in Victoria is compulsory between the ages of 6 and 15. School enrollment rates are not collected for children aged 6–14, but participation is estimated to be close to 100% for these years. - Participation rates are collected for 15-year-old students. The average participation rate for all students of this age at all schools in Victoria in 1997 and 1998 was 94.15%. - Among 15-year-olds participation was slightly higher for females (average of 95.1%) than for males (average of 93.25%) in 1997 and 1998 in all schools in Victoria. - Students can leave school once they turn 15 years. Since the statistics collected are as of 1 July each year, those students who turn 15 before that date, but after the start of the school year, can leave, thus accounting for some of the decline from 100%. - Even when schooling is no longer compulsory, participation rates are still high. For example, at age 16 the average participation rate for all schools in Victoria in 1997 and 1998 was 86.75%.
3.8	Tertiary graduates	ABS Census 1996 - The figures in the CDB are for residents of the city in 1996. They relate to people with the following qualifications: - Higher degree Postgraduate diploma; Bachelor's degree; Undergraduate diploma - In 1996 Melbourne had 12,116 people with these qualifications, out of a total population of 45,253.
3.9	Median years of education	Consultant's assessment of census data published in DOI "Melbourne in Fact" 1998 - The education system in Australia is the responsibility of state education departments, which look after primary and secondary education, and the Federal Government, which is responsible for tertiary education. These bodies seem to have no interest in median years of education; the level of education attained is the more important indicator, as shown by the type of questions asked in the national census carried out by the ABS. - A basic estimate of median years of education can be gleaned from the 1996 census, in which nearly 54% of Melbourne residents 15 years and over who answered the question relating to "highest level of educational qualification obtained" had no qualifications. If it is assumed that these people had at least the compulsory years of education—six years of primary school and three years of secondary school—then the median years of education for Melbourne residents aged 15 years or more was nine years. This is the figure used in the CDB.
3.10	School children per classroom	UNCHS Report 1993

Melbourne

4 URBAN PRODUCTIVITY

4.1 City product per capita

ABS Cat. 5220.0
Official communications with Dr. J. Flood, 23 September 2000
CDB estimates

4.2 Employment by industry

DOI "Melbourne in Fact" 1998

- Figures quoted are for the city from the 1996 census.
- Census categories were merged into the ADB categories as follows:
Secondary and Infrastructure—Census categories "Manufacturing," "Electricity, Gas and Water," and "Construction"; Consumer Services—Census categories "Communication Services," "Transport and Storage," "Accommodation, cafes and restaurants," "Cultural and Recreation Services," "Personal and Other Services," "Wholesale Trade," and "Retail Trade"; Product Services—Census categories "Finance and Insurance" and "Property and Business Services"; Social Services—Census categories "Government Administration and Defence," "Education," and "Health and Community Services"; Others—Census categories "Agriculture, Forestry and Fishing," "Mining," and "Non-classifiable and not stated".

ABS Cat. 6533.0, "Household Expenditure Survey Australia"

4.3 Household expenditure

- Figures quoted are for the city, which equates with the broader Melbourne metropolitan area (Melbourne Statistical Division). They are taken from the 1993/94 Household Expenditure Survey (HES).
- HES categories have been merged into the four ADB expenditure categories as follows:
Shelter—HES categories "Current Housing Costs (selected dwelling)," "Fuel and Power," "Household Furnishings and Equipment," "Household Services and Operation," "Mortgage Payments Principal," and "Other Capital Housing Costs"; Food—HES category "Food and Non-Alcoholic Beverages"; Transport—HES category "Transport"; Others—all other HES categories, e.g., "Alcoholic Beverages," "Tobacco," "Clothing and Footwear," "Medical Care and Health Expenses," "Recreation," "Personal Care," "Miscellaneous Commodities and Services," "Income Tax," "Superannuation and Life Insurance".
- Comparable data for previous years are as follows:

	% of Household Expenditures	
	1984	1988/89
Shelter	26.1	24.6
Food	14.7	13.9
Transport	11.8	10.9
Others	47.4	50.5

4.4 Investment by sector

CDB estimates are based on State of Victoria Accounts, ABS Cat. 5220.0
Official communications with Dr. J. Flood, 25 August 2000

4.5 Tourism

Bureau of Tourism research: international visitor survey and national visitor survey cited in "2000 Victorian Year Book," ABS Cat. 1301.2

- Provided by City of Melbourne, Strategic Research Branch
- Tourism expenditure data are available only for international visitors and are for the whole of Australia.
- Tourism numbers quoted are for visitors aged 15 years and over to the state of Victoria in 1998.

The total comprises :
Domestic visitors to Victoria: 18,995,000 (55,718,000 visitor nights)
International visitors to Victoria: 1,015,000 (19,915,000 visitor nights)

4.6 Major projects

Advertisement (Central Equity), The Age, Saturday, 19 February 2000, p. 7

Project	\$ million
Crown Entertainment Precinct	1,380
City Link Tollway	1,173
New Residential Apartments, Southbank	414
Southgate and Yarra Promenade Redevelopment	345
Docklands Stadium	276
Redevelopment of Flinders Street Railway Station	90
Redevelopment of National Gallery of Victoria	90
Melbourne Exhibition Center	90
Federation Square	90
Jolimont Railyards Redevelopment	90

4.7 Cost of stay

CDB estimates based on ADB and UN

4.8 Corporate headquarters

Kompass Australia, "Australian Business Information" 1999

- The figure used in the CDB is for all companies with headquarters in the City of Melbourne with annual turnover of at least \$158.88.

Melbourne

5 NEW TECHNOLOGY

5.1 R&D expenditure

ABS Cat. 8112.0

- The figure is for Victoria for 1996/97.
- The 1996/97 gross expenditure on research and development for Victoria was \$3,173,821,688.59 including expenditure by business, Government, higher education, and private nonprofit organizations.
- The estimated resident population of Victoria in June 1997 was 4,605,100.

Expenditure per person was therefore \$725.13.

5.2 Telephone traffic (million calls per year)

Paul Budde Communications, "Telecommunications Strategies in Australia 1999/2000," 12th edition 1999 and ABS

- Call statistics are for Australia in 1998. Figures for other years are

	No. of Calls/Person	
	1996	1994
Local calls	576	558
STD calls	131	119
IDD calls	11	8
Mobile calls	80	61

5.3 Internet hosts per thousand population

Official communications with Dr. J. Flood, 14 August 2000

6 URBAN LAND

6.1 Urban land

Planning zones in the city were aggregated to form ADB categories.

6.2 Land development multiplier

- The Urban Development Institute of Australia analyzed the costs of bringing residential lots into the market in major growth corridors in five capital cities of Australia, including Melbourne. The costs were based on a hypothetical subdivision of 10 hectares yielding 10 lots to the hectare. The costs in the Melbourne example were:

	(\$)
Acquisition costs (raw land + legal fees)	13,266.60
Selling price of serviced allotment	63,552.59

(Note: These costs reflect market conditions around the end of 1991.)

Therefore, the land development multiplier is $40,000/8,350 = 4.79$ ($63,552.59/13,266.60 = 4.79$).

CDB estimates

6.3 Developer contributions

6.4 Median time for planning permission

- The city has no land that could be classified as "typical subdivision." The figure quoted is quoted for a typical subdivision on the urban fringe of metropolitan Melbourne in a priority growth corridor (as defined by the State Government) on land that has already undergone urban zoning (and can therefore be subdivided).

6.5 Vacant land with planning permission

DOI 1999

- The figure quoted is as of January 1999 and is for the City of Melbourne. The total area of 50 hectares is expected to yield a total of 12,454 dwellings. Of these, 14 percent (1,749 dwellings) are mooted, 40 percent (5,013) are in the planning stage, and 46 percent (5,692) are under construction.

6.6 Public open space

- This is based on the amount of land reserved as public open space in the Melbourne planning scheme.

6.7 Vacant government land

NAV

6.8 Price of prime commercial land

City of Melbourne

6.9 Prime rental and occupancy costs

- Figure quoted is for land in the center of the city, i.e., in the "Golden Mile," as of 1 January 2000. Special report for the city of Melbourne by Jones Lang LaSalle Consulting, published in City Index No. 10, October 1999, by the City of Melbourne

- Original figures per square meter per year were:

	(\$)
Prime rental	244.81
Operating costs	108.04
Statutory charges	26.35

- The figures were divided by 12 to get monthly rates, rounded off to the nearest whole dollar.
- The figures used in the worksheet are quoted in US dollars, but are per annum figures. They have now been converted into monthly figures to meet the requirement.

6.10 Expenditure on development

Development expenditures were obtained from Ratio Consultants, "Property Development in Metropolitan Melbourne: A Comparative Analysis with other Australian Cities and Regions," which was prepared for the City of Melbourne, June 1998.

Melbourne

7 HOUSING

- 7.1 Dwelling type
- This is based on both occupied and unoccupied dwellings, in the 1996 census. Dwelling-type categories in the census were merged with ADB categories as follows:
 - Separate house = no change
 - Semi-detached, row, etc. = "medium density"
 - Flat, unit, apartment = "apartment"
 - Attached shop/office, etc., and others, and not stated = "others"
- 7.2 Tenure type
- ABS tenure categories were regrouped into ADB categories as follows:
 - Owned or purchased – ABS categories of "owned" and "being purchased"
 - Private rental – ABS categories of "buy/rent," "rented - others"
 - Social housing – ABS categories of "rented – state or territory housing"
 - Others – ABS categories of "others," "rented – not stated," and "not stated"
- 7.3 Ratio of house price to income
- Survey of Housing Occupancy and Costs, ABS Cat. 4160.0, Greater Melbourne
Official communications with Dr. J. Flood, 25 August 2000
- 7.4 Ratio of house rent to income
- Survey of Housing Occupancy and Costs, ABS Cat. No. 4160.0, Greater Melbourne, weekly AUD
Official communications with Dr. J. Flood, 25 August 2000
- 7.5 Floor area per person
- CDB estimates
- 7.6 Housing in compliance
- Ibid.
- 7.7 Ratio of mortgage to credit
- NAV
- 7.8 Mortgaged houses
- ABS Census 1996 (proportion of households purchasing own home)
- The figure provided is for the city in 1996.
- NAV (not collected by lending institutions)
City of Melbourne Strategic Research Branch (Housing Monitor and ABS)
- Figures provided here are for the city between 1992 and 1997 (averaged over those years).
- | No. of Housing Units | |
|----------------------|--------|
| New | 3,192 |
| Converted | 2,400 |
| Total | 5,592 |
| Population (average) | 37,745 |
- 7.11 Squatter resettlement or normalization
- NAP
- 7.12 Net housing outlays by government (per person)
- CDB estimates based on AIHW, Australia's Welfare 1999
Official communications with Dr. J. Flood, 25 August 2000
- 7.13 Homeless people
- "A Public Life," a report to the city by the Department of Social Science and Social Work, Royal Melbourne Institute of Technology (RMIT), May 1998; Thomson Goodall Associates Pty. Ltd., "Understanding Demand for Crisis Accommodation," a snapshot analysis of current demand for major crisis accommodation services in inner urban Melbourne, a report prepared for the Inter Agency Working Party, November 1999
- The figure used in the CDB is the midpoint of an estimate derived from a study that identified 1,005 to 4,533 people who were homeless or at risk of homelessness in the city in 1998.
- This is believed to be a conservative figure.
- Another study that investigated the level of demand for crisis accommodation services in inner Melbourne showed that 1,617 individuals or families (a total of 1,800 adults and 400 children) sought accommodation on one or more occasions during the four-week period of the study.

8 MUNICIPAL SERVICES

- 8.1 Water
- City West Water Limited (CWWL), Annual Reports for 1996/97, 1997/98, and 1998/99 and Melbourne Water (MW) Annual Report 1998/99
Official communications with Dr. J. Flood, 13 August 2000
- 8.1.1 Household connections
- Estimates provided by CWWL.
- 8.1.2 Investment per capita
- MW Annual Report 1998/99
Official communications with Dr. J. Flood, 13 August 2000
- 8.1.3 Operations and maintenance expenditure
- MW Annual Report 1998/99
- 8.1.4 Cost recovery
- Ibid.
- 8.1.5 Output per staff: Water supplied per employee
- Ibid.
- 8.1.6 List of providers
- CWWL is the sole retailer of water to properties in the City of Melbourne.

Melbourne

8.1.7	Nonrevenue water	
	a. Percentage unaccounted for water	Figure supplied is for the whole of City West Water Limited's supply area in 1998/99.
	b. Interruptions in water service	- Data required are not available. The company does not report on interruptions on a time basis. This measure would be meaningless because of the wide area served, i.e., an interruption may affect only a small part of the region. - The company does report that over the last three years more than 90% of water supply interruptions were rectified within five hours. Therefore, the interruptions are estimated to be negligible per month. Figures were converted to liters on the basis of the MW Annual Report 1998/99.
8.1.8	Consumption of water per capita	Official communications with Dr. J. Flood, 13 August 2000
8.1.9	Median price of water, scarce season	CDB estimates
8.2	Electricity	
8.2.1	Household connections	Estimates by the consultant recognize that the City of Melbourne is a fully developed city with a well-established electricity supply.
8.2.2	Investment per capita	CDB estimates Official communications with Dr. J. Flood, 13 August 2000
8.2.3	Operations and maintenance expenditure	Ibid.
8.2.4	Cost recovery	Ibid.
8.2.5	Output per staff: megawatt hours of electricity supplied per employee	
8.2.6	List of providers	- Citipower is the main provider of electricity to properties in the City of Melbourne. - Some customers with very high electricity needs can choose to be supplied by another distributor, but details of this are unknown.
8.2.7	Nonrevenue electricity	Official communications with Dr. J. Flood, 13 August 2000
	a. Nonrevenue/line loss	NAV
	b. Interruptions in power supply	CDB estimates Official communications with Dr. J. Flood, 13 August 2000
8.3	Sewage/Wastewater	
8.3.1	Household connections	Estimates by the consultant recognize that the city is a fully developed city with a well-established sewerage system.
8.3.2	Investment per capita	CDB estimates Official communications with Dr. J. Flood, 13 August 2000
8.3.3	Operations and maintenance expenditure	Ibid.
8.3.4	Cost recovery	Ibid.
8.3.5	Output per staff: wastewater discharged or treated per employee	
8.3.6	List of providers	City West Water Limited is the only organization that accepts sewage from properties and businesses in the city.
8.4	Telephone	
8.4.1	Household connections	- The percentage of households connected to a telephone service is unknown. However, the following data indicate the level of coverage. - Throughout Australia, Telstra Corporation (TC) (the nation's largest provider of telephone services) had 6.93 million basic access lines in service for residences and 2.83 million access lines for businesses in 1998/99, giving a total of 9.76 million access lines. The national population in 1998 was 18,751,000.
8.4.2	Investment per capita	CDB estimates based on TC Annual Report 1998 Official communications with Dr. J. Flood, 13 August 2000
8.4.3	Operations and maintenance expenditure	TC Annual Report 1998
8.4.4	Cost recovery	Ibid.
8.4.5	Output per staff: thousands of calls per employee	NAV
8.4.6	List of providers	Productivity Commission, "International Benchmarking of Telecommunications Prices and Price Changes" December 1999

- This indicator cannot be provided, as market participants and their share of telecommunications services vary, as the following table shows:

	Market Participants and Share of Selected Telecommunications Services, Australia, 1998		
	Local PSTN*	Long-Distance and International PSTN	Mobile
	(%)	(%)	(%)
Telstra Corp.	97.0	80.0	52.0
Optus	2.5	15.0	31.0
AAPT	0.1		
Vodafone			17.0
Others		5.0	

*PSTN: publicly switched telephone network

- 8.5 Solid waste collection
 - 8.5.1 Households with regular service
 - 8.5.2 Investment per capita
 - 8.5.3 Operations and maintenance expenditure
 - 8.5.4 Cost recovery
 - 8.5.5 Output per staff: Collected per employee
 - 8.5.6 List of providers

- Estimates by the consultant recognize that the City of Melbourne is a fully developed city with a well-established waste collection service.
- NAV
- Garbage collection in the city is contracted to CityWide, a contract services company providing diverse environmental services and infrastructure management to a wide range of clients. The company does not report on separate contracts with specific clients.
- NAV
- Refer to 8.5.2 above
- NAV
- NAV, Refer to 8.5.2 above.
- CityWide is the sole contractor for the City of Melbourne.

9 URBAN ENVIRONMENT

- 9.1 Solid waste generated
- 9.2 Household sewage disposal
- 9.3 Wastewater treated
- 9.4 Percent BOD removed from wastewater
- 9.5 Air pollution concentrations

- City of Melbourne, Services Department
- Figures shown in CDB are for residential properties in the City of Melbourne, 1998/99. Total garbage collected from residential properties includes kerbside collection (8,800 tons), recyclable material (6,000 tons), and green waste (40 tons).
- Estimate provided by CWVWL (provider of sewage services to the City of Melbourne).
- Melbourne Water (the operator of metropolitan sewage treatment plants) says that all wastewater and effluent received through the sewerage system in Melbourne is treated at metropolitan sewage treatment plants.
- Melbourne Water says that 96–99% of all BOD is removed from wastewater. Melbourne Water's current environmental license specifies a median BOD of 50 (carbonaceous) for discharge of wastewater after treatment.
- Environment Protection Authority Air Monitoring Data 1990 (undated, publication 311); 1991 (November 1993, publication 402); 1992–1995 (October 1997, publication 584); 1996 (May 1998, publication 614); 1997 (February 2000, publication 683)
- Victoria's Environment Protection Authority monitors air quality in Melbourne according to adopted air quality standards (known as Air State Environment Protection Policies). The Authority says that its air quality standards are more stringent than those of the World Health Organization.
- The following data are based on Victoria's air quality standards:

	No. of Breaches of Air Quality Objectives						
	1991	1992	1993	1994	1995	1996	1997
Ozone							
1-hour	0	1	3	1	0	0	1
8-hour	23	14	21	31	12	11	19
Carbon monoxide	(no breaches of either the 1-hour or 8-hour objectives)						
Visibility (particles)							
1-hour	50	37	25	38	35	34	23
Nitrogen dioxide	(no breaches of either the 1-hour or 8-hour objectives)						
Lead	(no breaches of the objectives)						
Sulfur dioxide	(no breaches of either the 1-hour or 24-hour objectives)						

Melbourne

9.6 Energy use per person

For the city this is based on data generated for the Cities for Climate Protection Campaign of The International Council for Local Environment Initiatives

- Total energy use for all sectors (residential, commercial, industrial, transportation, waste, and others) in the municipality of Melbourne in 1996 was 17,477,320 gigajoules. This figure divided by the 1996 population (45,253) yields 386.2 GJ per person.

- Conversion from GJ to ton coal equivalent:

1 ton coal equivalent = 29,308 GJ

Therefore $386.2/29308 = 0.013$ metric tons coal equivalent.

9.7 Noise complaints

City of Melbourne, Health Department

- Figures quoted in CDB are the number of complaints generated in the municipality of Melbourne in 1999.

- Noise complaints were recorded in the following categories:

General, e.g., alarms, street noise

Industrial/Factory

Mechanical/Machinery/Motors

Music or Entertainment

9.8 Disasters in last 10 years

NAP

No major disasters in the last decade.

9.9 Method of solid waste disposal

- Waste is from residential properties (see 9.1). Waste collected in kerbside collection (8,800 tons) is dumped in landfill sites; recyclable material (6,000 tons) is recycled. It is not known how the green waste collected (40 tons) is disposed of, but it may be composted, mulched, or dumped in landfills.

10 URBAN TRANSPORT

10.1 Mode of travel

ABS 1999; Government of Victoria, Victoria in Time: 1981, 1986, 1991- Census Statistics for Victoria's New Local Government Areas; DOI 1996

- Figures quoted are for the City of Melbourne, 1996, and refer to residents' mode of travel to work.
- Comparable data for residents of the City of Melbourne in other years are as follows:

Percent of Modes Used for Journey to Work

	Public transport (train/bus/tram)	Car	Others (walk/cycle, etc.)
1981	23.0	42.6	34.5
1986	27.7	41.2	31.1
1991	26.3	43.3	30.4

10.2 Median travel time

Transport Research Center, RMIT, based on Victorian Activity Travel Survey 1998

- Figures quoted in CDB are for all work trips within the Melbourne Statistical Division (the wider Melbourne metropolitan area) in 1998.

- In comparison, a work trip to the Melbourne CBD takes only 25 minutes (median length).

10.3 Expenditure on road infrastructure

City of Melbourne, Engineering Department and VicRoads, Western Region Office

- Figures used in the CDB are for the average road expenditure over the last two years (1998/99 and 1999/2000). They cover expenditure by the city for roads under its responsibility and expenditure by VicRoads, the State road authority responsible for state highways and freeways.

The average for the two years is \$12.36 million. This figure, when divided by the city's 1999 population (47,500), gives \$106 per person.

10.4 Road congestion

10.5 Automobile ownership

- Figures are an estimate only for the City of Melbourne.

- Figure are based on 1996 census data. An estimated 13,609 cars were garaged at houses in the city. Since the population aged 18 years and over in 1996 was 39,896, there were 341 cars for every 1,000 persons.

10.6 Cost recovery from fares

NAV

Victoria's public transport network has recently been divided and the components have been leased to various private operators, e.g., trains to Hillside Trains and Bayside Trains; trams to Yarra Trams. Other arrangements have been made for the operation of stations.

10.7 Port/air activity

- Shipping information is for the port of Melbourne (1998/99 data) and flight information is for Melbourne Airport (1997/98 data).

10.8 Goods carried

Melbourne Port Corporation, Trade and Transport Review 1998/1999; Federal Department of Transport website www.dot.gov.au

Melbourne

	(tons)
Air	
International	159,902
Domestic	74,497
Regional	122
Mail	
International	5,423
Domestic	16,152
Sea	42,108,000 revenue tons

10.9 Transport fatalities

VicRoads "Road Accident Facts Victoria 1999"

- Figure used in CDB is for fatalities in the state of Victoria in 1998. There were 390 transport fatalities (motorists, passengers, pedestrians, motorcyclists, and cyclists).

11 CULTURAL

11.1 Attendance at public events

City of Melbourne Strategic Research Branch

- The following events are held in Melbourne each year:

Event	Attendance	Duration	Year
Comedy Festival	400,000	over 4 weeks	1999
Melbourne Festival	500,000	over 3 weeks	1999
Moomba	213,000	over 10 days	1999
Midsumma Festival	213,000	over 3 weeks	2000
Australian Formula One Grand Prix	345,300	over 4 days	1999
Australian Tennis Open	501,251	over 14 days	2000
Lygon Street Fiesta	about 100,000	over 2 days	2000
Antipodean Festival	about 100,000	over 2 days	2000
Chinese New Year	about 100,000	over 2 days	2000
AFL Grand Final	94,431		1998
Spring Racing Carnival (including the Melbourne Cup)	432,533		

11.2 Attendance at galleries and museums

Ibid.

- Major venues in metropolitan Melbourne:

National Gallery of Victoria (includes attendance at paid exhibitions)	765,327
Scienceworks Museum	284,000
Immigration Museum	58,016
Hellenic Antiquities Museum	11,347

11.3 Participation in sports

ABS Cat. 4177.0

- The best available data are as follows:

Participation in Organized Sports in Victoria among People 15 Years of Age and Over, 1998/99 (in descending order of popularity)

Sports	(%)
Aerobics	4.5
Tennis	3.6
Golf	2.4
Basketball	2.4
Netball	2.2
Australian Rules Football	2.0
Swimming	2.0
Cricket	1.6
Cycling	1.0

12 LOCAL GOVERNMENT FINANCE

12.1 Sources of revenue

City of Melbourne, Finance Department

- Figures used in CDB are the average over the last 3 years.

12.2 Capital and recurrent expenditure per person

Ibid.

- Figures used in CDB are for the year 1999/2000.

Melbourne

- 12.3 Collection efficiency, property taxes
- 12.4 Debt service charge
- 12.5 Employees
- 12.6 Wages in budget
- 12.7 Contracted to recurrent expenditure ratio
- 12.8 Business permits
- 12.9 Enterprise revenues
- 12.10 Computerization of functions

- Ibid.
- Figures used in CDB are the average over the last 3 years.
- Ibid.
- The city of Melbourne is debt-free.
- Ibid.
- Figures used in CDB are for the year 1999/2000.
- Ibid.
- Figures used in CDB are the average over the last 3 years.
- Ibid.
- Figures used in CDB are for the year 1999/2000.
- NAP
- The city does not issue business permits.
- CityWide Services
- All functions listed are computerized.

13 URBAN GOVERNANCE

- 13.1 Functions of local government

- These include aged and disability services, family and children's services, youth services, environmental health services (including health inspections), animal management services, libraries, visitor services, waste management, city cleaning, parks and recreation management, traffic management, statutory and strategic planning, strategic research, engineering services (including road and footpath maintenance), parking management and enforcement, and civic and ceremonial roles for the capital city.

- 13.2 Delivery of annual plan
- 13.3 Voter participation rates, by sex
- 13.4 Independence from higher government

- CDB estimates
- Ibid.
- NAV

- 13.5 Elected and nominated councilors

- City of Melbourne, Governance Projects (CMGP)
- At the last Council election in 1999, 14 women and 29 men were nominated to the Council. Of these, 2 women and 7 men were elected.

- 13.6 Representation of minorities

- Ibid.
- NAV

There are no special arrangements for minority groups to be represented on the Council.

- 13.7 Planning applications refused

- Ibid.
- In 1999, the City Council received 1,400 planning applications. Of this total, 978 were determined in that year and 25 of those determined were refused. This gives a rate of refusal of 2.6%.
- The main reason for refusal was noncompliance with the City of Melbourne Planning Scheme.

- 13.8 Business satisfaction
- 13.9 Consumer satisfaction

- Refer to 13.9 below
- City of Melbourne Annual Report 1998/99 and Council officers
- The city carries out a biannual broad customer satisfaction survey. It covers a wide range of issues such as what people like about the city and how they view the services provided by the Council. This survey covers both businesses and residents.
- Other Council departments also regularly undertake survey of internal and external customers as part of the Council's "Best Value" program. This program aims to ensure that all services and activities of the Council are relevant and are delivered effectively, and that this is clearly demonstrated to the community. (Note: Not all departments of the Council have been through the Best Value process.)
- The State's Department of Infrastructure also conducts an annual survey that measures customer satisfaction, on behalf of all Councils in Victoria. The results are forwarded to the Councils and are reported in their annual reports. The 1999 survey involved interviews with 350 Melbourne residents.

Community satisfaction is measured for

- Overall performance of the Council
- Key service areas and responsibilities
- Local roads and footpaths
- Health and human services
- Recreational facilities
- Waste management services
- Enforcement of local laws
- Economic development
- Town planning policy and approvals
- Council's interaction and responsiveness
- Advocacy and community representation on key local issues

- 13.10 Perception as place to live

City of Melbourne Capital City Index July 1997

- A survey commissioned by the City of Melbourne in 1997 revealed that residents believe the city is an attractive city with a rich and diverse culture and a great place to live and visit.
- Some of the residents' responses to the survey were:

	% Who Agreed
Parks and gardens are among the city's greatest attractions	96
Melbourne has a rich and diverse culture	92
Melbourne is a very attractive city	88
Melbourne is a good place to live	76
Melbourne is the best Australian capital city to live in	68
Melbourne is a cosmopolitan city	65

- The survey also checked the views of metropolitan residents (nonresidents of the city) and found that 89% agreed the city is highly accessible and 60% believed that public transport to, from, and around the city is adequate, safe, and clean. Only 2% found it difficult to find a parking spot around the city. Victoria Police "Crime Statistics 1997/98" 1998

13.11 Reported crimes

- The figures provided are an estimate, as police records and population records do not coincide.
- The data are based on the records of Victoria Police Crime District A, which comprises the city of Melbourne and the adjoining city of Yarra. However, the boundaries do not coincide with municipal boundaries. The estimated residential population in Police District A was 110,648 in 1998. The police district has a small resident population compared with the working-hour population and will therefore have a higher number of offenses recorded per resident.

13.12 Access to information

City of Melbourne Annual Report 1998/99 and Council officers

- Generally there is a high level of public access to Council documents and reports.
- The Council is required to advertise its annual budget before adopting it, and to publish an annual report. Minutes of Council meetings are publicly available. The Council's vision and strategies for the city's economic, environmental, and social development are set out in its City Plan and there are many other strategic documents that spell out the Council's directions or actions for specific issues or geographic areas. These documents are all in the public domain. The Council also has its own website, www.melbourne.vic.gov.au.
- Recognizing that the success of modern organizations depends in part on good marketing and communications, the Council established a Marketing and Communications Division in 1999 to improve communications with stakeholders and the community.

13.13 Contact with the public

- The Council established a hotline to service telephone inquiries by internal and external customers.
- Neighborhood Officers and Safe City Neighborhood Officers provide on-the-street service to the community.

13.14 Decentralized district units

CMGP

- All services in the city are centralized.

Indicators

1 POPULATION

1.1 Urbanization

Based on Table 3 of the National Urban Development and Housing Framework, 1993-1998, which places Philippine urbanization levels at

1950 – 27.1%; 1970 – 33%; 1990 – 42.7%; 2010 – 55.7%

- The above levels are based on the integration of three definitions of an “urban area”:
 1. The National Statistics Office (NSO) definition which covers
 - a. cities and municipalities having a population density of at least 1,000 persons per km²;
 - b. poblaciones or central districts of municipalities and cities which have a population density of at least 500 persons per km²;
 - c. poblaciones or central districts not included in (a) and (b) which have street pattern, at least six establishments, and at least three of the following: (i) a town hall, church or chapel with religious service at least once a month; (ii) a public plaza, park or cemetery; (iii) a market place or building where trading activities are carried on at least once a week; and (iv) a public building like a school, hospital, puericulture and health center or library; and
 - d. barangays having at least 1,000 habitants that meet the conditions set forth in (c) and where the occupation of the inhabitants is predominantly nonfarming or nonfishing.
 2. Republic Act No. 7279 definition which covers all cities regardless of their population density and municipalities with a population density of at least 500 persons per km².
 3. The Housing and Land Use Regulatory Board Model Zoning Ordinance definition which covers all barangays or portions of which include the poblacion and/or the CBD and the built-up area including the urbanizable land in and adjacent to the CBD; and where at least more than 50% of the population is engaged in nonagricultural activities.

1.2 City Population

1995 Census on Population (Camarines Sur), NSO

- The city’s resident population for 1999 (estimated at 137,546) was based on a 2.02% annual rate of population increase.

Table 1 of the Naga City Land Use Plan, 2000-2004 presents the historical growth of Naga’s population as follows:

Year	Population
1975	83,337
1980	90,712
1990	115,329
1995	126,972

- The city’s resident population for 1999 (estimated at 137,546) was based on a 2.02% annual rate of population increase. The growth rate was computed using the formula $G = (B/A)^{1/t} - 1$, where $B = 126,972$, $A = 115,329$ and $t = 5$.
- The city’s incremental daytime population was estimated at 15%. This was based on traffic count data generated by the Department of Public Works and Highways (DPWH) 2nd Engineering District (for national highways) and the University of Nueva Caceres Engineering Department (traffic engineering class) for city streets. A net inflow of 16% was derived after factoring in capacity and assuming load factors of 75% and 50% for inbound and outbound traffic, respectively.
- This level also lies between the projected medium (10%) and high (25%) levels of incremental daytime population made by the League of Cities of the Philippines. (See “Why Philippine Cities Deserve a Bigger IRA Share—The Real IRA Per Capita as an Alternative Reference Measure,” 1995.)

1990 Census on Population and Housing, Report No. 3-24 E. Socio-economic and Demographic Characteristics (Camarines Sur), NSO

- The 1990 Census on Population and Housing revealed that 22.32% of the household population in Naga had been staying in their present residence only within the last five years. This represents the magnitude of migration that occurred within the city during the same period.
- The same census also showed that 37.6% of the total population (or 30,700) was born elsewhere; the balance (62.94%) was born in Naga. Applying this proportion to the migrant population, migration levels within the city (14.05%) and into the city (8.27%) can be derived for the five years. The annual migration rates (2.81% within and 1.65% from without) can be generated by dividing these levels by 5. Applying this to the 1999 population, the magnitude of migration can be derived for the year (3,865 within and 2,275 from outside Naga).
- Migration into the city can further be classified into domestic and international migration, which can be generated by applying the proportion of migrants from other Philippine provinces (99.68%) and from foreign lands (0.32%) to the total number of migrants who moved into Naga in 1999.

1.3 Migration

Naga

1.4 Population net density

Data for net residential land are from the Naga City Land Use Plan, 2000-2004, which presents actual land use for 1977 (Table 126) and 1999 (Table 127).

The city's comparative population net density is presented below:

Year	Population	Residential Land	Population Net Density
1999	137,546	1,098.62	115.57
1977	87,218	696.96	125.14

- Populations for 1977 and 1999 were computed using the city's historical population data described under 1.2 above.
- If vacant land (146.76 ha) and informal settlement land (30.51 ha) are factored in, population net density increases to 129.25. (Unfortunately, the city has no data on mixed-use land, which should drive the net density higher.)

1.5 Age pyramid

1995 Census on Population, Basic Data, NSO

1.6 Average household size

1995 Census on Population and 1990 Census on Population and Housing, NSO

The comparative population, number of households, and household size are as follows:

Year	Population	Number of Households	Household Size
1995	126,972	23,632	5.4
1990	114,898	20,488	5.6

1.7 Household formation rate

Household formation rate was computed using the formula $G = (B/A)^{1/t} - 1$, where B = 23,632, A = 20,488 and t = 5.

1.8 Women-headed households

1990 Census of Population and Housing (Marital Status of Household Population Ten Years Old and Over by Age Group), Basic Data, NSO

- The figure assumes widowed and divorced/separated women from the age range 10-44 are likely to become household heads. In 1990, widowed females in Naga belonging to these age groups totaled 403 for widowed and 231 for divorced/separated.

1.9 Minority groups

1990 Census on Population and Housing, Report No. 3-24 E. Socio-economic and Demographic Characteristics (Camarines Sur), NSO

- Tagalog-speaking group – 6.585%. Otherwise, more than 95% of Naga's population is Bikolano by ethnicity and Roman Catholic by faith.

1.10 Household types

Ibid.

- "Adults only" households (1,349) were derived from the number of married women without children. "Single parent" families (656) were derived from the total widowed population in the 10-44 age group (497) and half of the total divorced/separated population in the same age group (159). Households consisting of adults and children (18,483) represent the balance after deducting the "adults only" and "single parent" households from the total.

1.11 Informal settlements

Urban Poor Affairs Office Report, Naga City, 28 February 2000

2 EQUITY

2.1 Income distribution

1997 Family Income and Expenditure Survey (FIES) NSO, Basic Data

"Shelter Strategies for Region V" (December 1992) prepared by the Housing and Urban Development Coordinating Committee (HUDCC) and the UN Centre for Human Settlements (UNCHS-Habitat), supplementary information

- In the absence of aggregated results for Naga City in the FIES, it was assumed that the income levels of Naga residents lie between the income levels of Urban Philippines and Urban Bicol. An approximation is provided under Table 2.13 of the Shelter Strategies study (shown below), which rates median monthly income of Metro Naga households highest among Bicol households at all quintile levels.

Income Group	Median Monthly Incomes by Income Group			
	Urban Metro Naga (A) (PhP)	Urban Metro Legazpi (B) (PhP)	Other Urban (C) (PhP)	Rural (D) (PhP)
Lowest 20%	1,075	650	800	470
Next 20%	2,910	1,500	1,500	978
Next 20%	4,000	2,400	2,100	1,500
Next 20%	6,667	3,225	3,167	2,250
Highest 20%	13,900	5,100	6,000	4,425

- From the table, the ratio (R) of Urban Metro Naga households' median monthly income to that of the average Urban Bicol households can be derived, using the formula $R = A/[(A + B + C)/3]$.

Lowest 20%	=	1.2772
Next 20%	=	1.4772
Next 20%	=	1.4118
Next 20%	=	1.5316
Highest 20%	=	1.6680

- Because the FIES survey expresses annual income levels in deciles, these were converted into quintiles by getting the mean between the 1st and 2nd median income deciles to derive the median income for the 1st quintile; the 3rd and the 4th deciles for the 2nd quintile; the 5th and the 6th for the middle quintile; the 7th and the 8th deciles for the 4th quintile; and the 9th and 10th deciles for the 5th quintile.
- The ratios derived in step 2 were then applied to the relevant median income quintiles generated under step 3 to generate the median annual income of Naga residents.
- The income ranges were derived by expressing annual into monthly incomes and computing the mean between quintile monthly incomes. Rounded off to the nearest thousands, these are deducted from a quintile income level to derive the lower limit, and added to that same income level to derive the upper limit. These were then converted back into annual equivalents.
- The resulting median quintile income levels were inflated to their 1998 value by multiplying each by 1.083 (based on the 1998 inflation rate of 8.3%).

2.2 Households below poverty line

1994 and 1997 FIES, NSO, Basic Data

"Shelter Strategies for Region V," HUDCC, UNCHS-Habitat, December 1992

- The annual per capita poverty thresholds for Bicol for 1994 and 1997 were taken from sectoral statistics published by the National Statistics and Coordination Board, Region V at www.nscb.gov.ph/ru5/secstats.htm. These were found to be

	(\$)
1994	364.44
1997	361.97

- The median income quintiles were generated for 1994 and 1997 using the procedure described under 2.1. Each quintile was then divided by 5.4, the average household size, to generate the annual per capita income. The results are summarized in the following table.

**Annual Household and Per Capita Income
by Income Group, 1994 & 1997**

Income Group	Annual Household Income		Annual Household Income per Capita	
	1994 (PhP)	1997 (PhP)	1994 (PhP)	1997 (PhP)
Lowest 20% (G1)	34,236	40,757	6,340	7,548
Next 20% (G2)	64,354	75,988	11,917	14,072
Next 20%	74,424	103,998	13,782	19,259
Next 20%	117,179	190,213	21,700	35,225
Highest 20%	288,165	461,223	53,364	85,412

- By ratio and proportion, the 1994 poverty incidence (P_{94}) in Naga was derived using the formula $P_{94} = 20\% + r$, where $r = (8,319 - G1_{94}) \div [(G2_{94} - G1_{94}) \div 20\%]$. Simplifying, $P_{94} = 27.1\%$. Using the same formula, the 1997 poverty incidence (P_{97}) in Naga would be $P_{97} = 20\% + r$, where $r = (10,497 - G1_{97}) \div [(G2_{97} - G1_{97}) \div 20\%]$. Simplifying, $P_{97} = 29.04\%$.

2.3 Women-headed households in poverty line

- The figure assumes that the income of a woman-headed household would be diminished by at least 40%, the contribution of the male household head. This would generate the following per capita income values for the five income groups, which would already allow the application of the formula in 2.2.

	(PhP)
Lowest 20%	4,529
Next 20% (G1)	8,443
Next 20% (G2)	11,555
Next 20%	21,135
Highest 20%	51,247

2.4 Child labor

1999 Survey on Street Children and Homeless People, City Social Welfare and Development Office, Naga City

- The survey identified a total of 978 urban working children in Naga, which represents 1.88% of the 52,083 projected for under-15 population in 1999.

Naga

- 2.5 Informal employment 1999 Survey of Local Business Establishments, City Treasurer's Office, Naga City.
- The survey covered a total of 1,554 existing establishments in seven barangays in the urban district of the city. Of the total, 498 were found to be unregistered.
- 2.6 Unemployment 1990 Census on Population and Housing, Report No. 3-24 E. Socio-economic and Demographic Characteristics (Camarines Sur), NSO
- 2.7 Expenditure on poverty reduction (per poor person) 1998 and 1999 Budgets, City Government of Naga
Urban Poor Affairs Office (UPAO) report, Naga City, 28 February 2000.
- Kaantabay sa Kauswagan program budget was from the UPAO report, which presented total program spending over the last 10 years, amounting to \$2.58 million.
 - The magnitude of poor people in the city was computed by applying the 1997 poverty incidence derived in 2.2 to the projected city populations for 1998 and 1999.
 - A 10% provision was made to cover spending on poverty reduction by national government agencies (NGAs) and nongovernment organizations (NGOs) in the city.

Spending for the Poor, Naga City

Program/Office	1998 (\$)	1999 (\$)
Kaantabay sa Kauswagan Program	278,981.84	278,981.84
Urban Poor Affairs Office	29,341.20	42,406.49
Metro PESO Office	47,456.33	99,026.58
City Livelihood Programs	91,702.73	146,724.37
Naga City Hospital	297,159.36	297,891.76
City Social Welfare and Development Office	124,739.83	149,597.48
Other Social Development Projects	97,816.25	97,816.25
Subtotal	967,197.56	1,112,444.80
Plus 10% for NGAs, NGOs	3,955,161.05	4,549,120.55
Total	1,063,917.34	1,223,689.29
Poor People Per Capita	27.17	30.64

3 HEALTH AND EDUCATION

- 3.1 Persons per hospital bed Naga City Land Use Plan 2000-2004, Health Sector Report
- The total number of hospital beds in the city (943) was taken from the above source and the population used is the 1999 projected population of the city.
- 3.2 Child mortality 1998 Annual Report, City Government of Naga, data on births and deaths
- Child mortality data were taken from figures provided by the City Health Officer.
 - From the table below, the five-year average annual births can be computed (4,250.80), yielding a 1.67% child mortality rate for 1999 and 2.42% for 1998.

Year	Births	Deaths	Child Mortality
1995	3,902	731	
1996	3,795	717	
1997	4,378	638	
1998	4,733	759	71
1999	4,446	668	103

- 3.3 Life expectancy at birth 1995 Census-Based National, Regional and Provincial Population Projection, NSO
- The figure represents the average of the projected life expectancy for the male (66.94) and female (71.98) population in the province of Camarines Sur for 1995-2000.
- 3.4 Infectious diseases mortality Data on deaths from infectious diseases were taken from figures provided by the City Health Officer. Population projections were based on a 2.02% annual rate of population increase.

Infectious Disease Mortality

Year	No. of Cases	Mortality Rate
1998	135	1.001
1999	160	1.163

- 3.5 Family planning 1999 Annual Report, City Population and Nutrition Office, Naga City
- 3.6 Adult literacy rate 1990 Census on Population and Housing, Report No. 3-24 E. Socio-economic and Demographic Characteristics (Camarines Sur), NSO
- Most planning in the city is dependent on the NSO data conducted every 10 years. The land use plan, for instance, also uses the same figure for lack of more recent ones.
- 3.7 School enrollment rates SY 1999-2000 School Enrollment Data, Division of City Schools, Naga City

3.8 Tertiary graduates

1990 Census on Population and Housing, Report No. 3-24 E. Socio-economic and Demographic Characteristics (Camarines Sur), NSO

- Tertiary graduates (“academic degree holders”) were placed at 12,683, which is 16.076% of the 78,893 population 20 years old and above.

• Most planning in the city depends on the NSO data conducted every 10 years. The land use plan, for instance, also uses the same figure for lack of more recent ones.

3.9 Median years of education

Ibid., basic data

- The figure was recomputed using 1990 census figures.

• Basic data was from the 1990 Census on Population and Housing, specifically household population 7 years old and over by school attendance. Effectively, seven would be the lower limit of the school-going years.

• To determine the upper limit, the ratio of the household population attending school to the total household population in every age level starting from seven was generated and averaged (an average of 32.3% are attending school for all age levels under consideration). The same procedure was applied for those not attending school (average of 67.7% for all age levels under consideration).

• The average ratios were compared with the resulting ratios under status of school attendance to identify the age level nearest to them. This yielded the age level of 22 (32% attending, 68% not attending school) as the upper limit.

• The difference between these two limits (15 years) would represent the median years of education in the city.

3.10 School children per classroom

- Data show total elementary enrollment at 27,927 spread over 716 classrooms; and total high school enrollment at 16,398 spread over 339 classrooms.

4 URBAN PRODUCTIVITY

4.1 City product per capita

- Data requirements are from the following:

a. Gross national product (GNP) at current 1998 prices was derived by multiplying the 1998 GNP per capita of 37,175 with the estimated population of 75.16 million. These figures were taken from estimates by the National Statistics Coordination Board published at www.nscb.gov.ph/sna/1999/4th99/1999sna41.htm.

b. GNP sectoral share at current 1998 prices was derived after generating sectoral percentages to GNP at constant 1985 prices—whose respective contributions to the total (\$22.821 billion) are available from the same webpage—and applying them to the GNP at current 1998 prices (\$68.482 billion).

c. National employment figures for sectors (a) to (e) were derived from employment figures published quarterly by the National Statistics Office, specifically for October 1998. The national Government employment figure was sourced from the profile of government personnel maintained by the Civil Service Commission (CSC) at www.csc.gov.ph/statisti.htm.

d. The city’s employment figures were generated through these steps:

i. results of the 1999 updating of the List of Establishments in Naga conducted by the Camarines Sur provincial office of the NSO (the survey listed 3,213 establishments in the city employing a total of 20,498 workers);

ii. these NSO figures were adjusted, by ratio and proportion, to the level of 4,912 establishments that registered with the City Treasurer’s Office in 1998;

iii. consistent with city treasury findings that 32.05% of local establishments are unregistered (see 2.5), the figures under (ii) were further adjusted to include informal employment, generating a better approximation of the local employment situation; and

iv. in the absence of official figures on government employment in the city, it was estimated to be 30% of the 23,362 government personnel inventoried by the Civil Service Commission Regional Office for Bicol.

- The city product was derived using method A.

• The resulting 1998 city product of \$0.274 billion was divided by the city’s projected population for the same year, yielding a city product per capita of \$2,033.11.

• Applying the same methodology and procedures to 1993 data gathered from the same sources, the city product for that year was likewise generated.

• The resulting 1993 city product of \$2,247.27 was divided by the city’s projected population for the same year (121,894), yielding a city product per capita of \$1,490. It translates to a city product per capita of \$2,247.27 at current 1993 prices or to \$2,488.67 at constant 1998 prices.

4.2 Employment by industry

Employing the basic data used in 4.1, the city's labor force can be classified as follows:

Sector/Year	1998	1993
Secondary and Infrastructure	6,774	4,130
Manufacturing	4,907	3,046
Electricity, Gas & Water	868	839
Construction	999	245
Consumer Services	22,897	13,547
Wholesale and Retail Trade	15,378	8,310
Hotel & Restaurant	5,906	4,821
Transportation, Storage & Communication	1,613	416
Product Services	4,316	2,836
Financial Intermediation	2,150	1,364
Real Estate and Business	2,166	1,472
Social Services	7,120	5,071
Education	3,969	2,557
Health and Social Work	1,502	1,288
Other Community and Personal Services	1,649	1,225
Others	7,279	6,273
Agriculture and Forestry	270	196
Government	7,009	6,077
Total	48,386	31,857

4.3 Household expenditure

Basic data are from 1997 FIES (for Urban Philippines) and 1990 Census on Population and Housing, Report No. 3-24 E. Socioeconomic and Demographic Characteristics (Camarines Sur). Both were published by NSO.

4.4 Investment by sector

1999 State of the City address of Mayor Sulpicio S. Roco, Jr.

Office records, 2nd Engineering District, Province of Camarines Sur

1998 Business Name registration records for Naga, Department of Trade and Industry Regional Office

- In the absence of aggregated data for the city, it was assumed that household spending in Naga would be the mean between the household expenditure patterns of a typical urban Philippine household and a household in the province of Camarines Sur.

- Their comparative spending by major items are shown below in percent.

Item	Camarines Sur	Urban Philippines	Average
Food	53.2	40.3	46.8
Shelter	14.6	23.2	18.9
Travel	4.3	6.4	5.4
Others	27.9	30.1	29.0

- Basic data for investments in physical infrastructure for 1998 were taken from the 1999 State of the City address of Mayor Sulpicio S. Roco, Jr., augmented by data provided by the 2nd Engineering District of Camarines Sur.

- Investment data for housing was estimated based on the combined area of five housing projects approved by the city government in 1998. The development cost factor was from the feasibility study of a typical housing project in Naga.

- Data for investments in services and other sectors were taken from the 1998 Business Name registration records for the city, courtesy of the Department of Trade and Industry Regional Office.

Naga City Resorts and Tourists Inns (1998), Naga City Tourism Council

Department of Tourism website at www.tourism.gov.ph.

- Data on tourists visiting the city were sourced from the publication Naga City Resorts and Tourist Inns (1998), Naga City Tourism Council.

Year	Domestic Visitors	Foreign Visitors	Total
1998	45,842	4,564	50,406
1997	32,217	1,399	33,616

- Data on average daily expenditures (\$127.44) is sourced from the Department of Tourism homepage at www.tourism.gov.ph/tourism/stat.htm

4.6 Major projects

Basic data were from the DPWH (Regional Office V and 2nd Engineering District), the Air Transportation Office (Naga Airport), the 1999 State of the City address of Mayor Roco, and the City Engineer's Office.

Name of Project	Project Cost (\$)
Rehabilitation of Maharlika Highway, Sipocot-Naga-Daraga	2,869,276.73
Various community infrastructure development projects	1,101,576.63
Improvement of Naga Airport Facilities	293,448.76
Magsaysay Bridge Rehabilitation	733,621.89
Malabsay Falls Development	733,621.89
School Building Program	586,897.51
Access Road to Central Bus Terminal	183,405.47
Naga River Flood Control Project	171,178.44
Water System Improvement	97,816.25
Rural Roads Development Project	48,908.13
Urban Renewal Projects	48,908.13

- 4.7 Cost of stay • Cost of stay was estimated based on the weighted average of room rates being offered by the city's top six hotels according to type of room (approximately \$29.00), and an \$11.00 allowance for food, beverages, and other incidental expenses.
- 4.8 Corporate headquarters NAP

5 NEW TECHNOLOGY

- 5.1 R&D expenditure 1997-2000 Research Budgets, Naga College Foundation, Ateneo de Naga University and University of Nueva Caceres
- Basic data were sourced mainly from three of the four local academic institutions that offer graduate studies and conduct research and development. (See table below.)
 - Multipliers of 1.25 (to account for Colegio de Sta. Isabel that failed to submit data) and 1.1 (to account for R&D spending by other local NGOs) were applied to the annual total.

Institution	S/Y1997/98	S/Y1998/99	S/Y1999/2000
	(\$)		
Naga College Foundation	84,500.00	95,500.00	93,500.00
Ateneo de Naga University	521,057.38	566,976.23	997,115.21
University of Nueva Caceres	165,763.00	339,838.00	450,232.93

- 5.2 Telephone traffic (million calls per year)
- Basic data are from 1998 National Direct Dialing (NDD) and International Direct Dialing (IDD) Traffic, Bayan Telecommunications Corporation (Bayantel) & Smart Communications, Inc. communications, 13 April 2000
- Because of stiff competition between two landline telecommunication companies (telcos) and among three mobile telcos in Naga, the respondent companies (except for Smart Communications, Inc.) would not share data with the project, allegedly because of confidentiality.
 - Data on telephone traffic is also not available at the National Telecommunications Commission (NTC) regional office in Legazpi City and incomplete at the NTC central office in Quezon City—limited to Bayan Telecommunications Corporation's (Bayantel) 1998 NDD and IDD traffic. Bayantel entered Naga by buying out Nagatel.
 - The data presented, therefore, was derived exclusively from the data provided by Bayantel and Smart.
 - Figures for NDD and IDD were augmented by extrapolated NDD and IDD traffic for Digitel Telecommunications Philippines, Inc. (Digitel) based on the following ratios:
 - Bayantel-Naga's share in the total number of Bayantel subscribers nationwide allowed calculation of Bayantel-Naga's share of the company's total NDD and IDD traffic.
 - Digitel-Naga's subscriber ratio vs. Bayantel-Naga allowed calculation of Digitel-Naga's proportionate NDD and IDD traffic against Bayantel-Naga.
 - Taken together, they represent Naga's total NDD and IDD traffic.
- | Telephone Companies | Bayantel Total | Bayantel-Naga | Digitel-Naga | Total Naga |
|---------------------|----------------|---------------|--------------|------------|
| No. of Subscribers | 253,324 | 10,097 | 3,326 | 13,423 |
| Ratio (%) | | 3.99 (A) | 32.94 (B) | |
| NDD Traffic (mins) | 42,969,000 | 1,712,660 | 564,159 | 2,276,819 |
| IDD Traffic (mins) | 1,108,000 | 44,163 | 14,547 | 58,710 |
- Figures from Smart showed an estimated annual mobile traffic of 4,271,181 minutes for 11,598 subscribers within Camarines Sur. Average traffic per subscriber can be computed (368.27 minutes) and applied to the total mobile subscribers in Naga to derive the total annual traffic.
 - The traffic per person is derived by dividing these totals by Naga's projected 1998 population (134,823).

5.3 Internet hosts per thousand population

March 2000 Survey of five local Internet service providers, with adjustments

- The figure for 1999 is based on a survey of five local internet service providers (ISPs)—two school-based and three commercial—with adjustments, factoring in inputs from key industry informants. These are broken down into the following type of internet users:

Type of Subscriber	Number
Dial-up – Home or office-based user with own PC	585
Institutional users – School-based users	17,975
Prepaid walk-in – Non-PC-owning subscriber that prepaays Internet service; walk-in with subscription	400
Walk-in without subscription – Internet café-type users	800
Total	19,760

- The total was divided by the city's projected 1999 population and multiplied by 1,000 to generate the number of internet connections per 1,000 residents.
- Annual growth rate in connections was based on the average growth in 1999 registered by respondent ISPs.

6 URBAN LAND

6.1 Urban land

Table 127, City Land Use Plan, 2000-2004, Naga City

- Table 127 presents existing land use (reproduced below). Another table (129) presents proposed land use. Also, urban land as reckoned under the indicators focused on the built-up area, excluding water bodies.

Land Use	Area (in hectares)	Percent (%)
Total Land Area	8,448.00	100.00
Arable Land/Agricultural Area	6,939.97	82.15
Agricultural	6,325.28	74.87
Forest Parks & Reserves	611.14	7.23
Dumpsite	3.55	0.04
Water Bodies	43.72	0.52
Built-Up Area	1,464.31	17.33
Residential	1,098.62	13.01
Commercial	161.13	1.91
Institutional	150.29	1.78
Parks/Plaza/Open Space	2.49	0.03
Cemetery	13.11	0.20
Industrial	30.20	0.36
Transport Terminal	4.47	0.05

6.2 Land developer multiplier

Office communications, City Assessor's Office, Naga City, 3 March 2000

- This represents the multiplier for medium-class residential subdivisions and is corroborated by key informants from the local real estate industry.

6.3 Developer contributions

- This is based on inputs from key informants from the local real estate industry and corroborated by City Planning and Development Office (CPDO) staff.

6.4 Median time for planning permission

Data are from the Sangguniang Panlungsod, Naga City approved Resolutions for 1997/98.

- The definition in the Indicators Reference specified a typical subdivision. Therefore, computations were made based on subdivision projects submitted to the Sangguniang Panlungsod.
- CPDO data show that on the average, individual housing or business permits average three days to process (assuming complete documentation). This would however bring the median time drastically beyond the scope of the definition.
- The list of planning applications, together with the time elapsed between filing and approval/disapproval of application, are summarized below:

Applicant	Days Elapsed	Equivalent in Months
1998		
UPAO San Rafael Resettlement Site	6	0.20
Aeroville Housing Subdivision	83	2.77
Firm Builders, Inc.	9	0.30
Naga City Employees Low-Cost Housing	8	0.27
Villa San Felipe Subd.	233	7.77
Sitio Capilihan Land Acquisition Project	68	2.27

Capilihan/Lerma/Sapang Laon HOA	60	2.00
Average		2.22

1997

Sabang Resettlement Site	23	0.77
Laura Villages Subd.	51	1.70
Monte Cielo de Naga IV	71	2.37
Sabang Resettlement Site	22	0.73
Sapang Laon Resettlement	51	1.70
San Francisco Village I	63	2.10
San Francisco Village I	56	1.87
Cokeville	5	0.17
DENIAL – BF Homes	222	7.40
Monte Cielo de Naga III	48	1.60
Ruby Shelters	58	1.93
Acacia Homeowners	10	0.33
Li Seng Giap	12	0.40
Average		1.65

6.5 Vacant land with planning permission

City Land Use Plan, 2000-2004, Naga City, page 44

6.6 Public open space

- In Table 127, City Land Use Plan, 2000-2004, Naga City, the data represents the total of 3(d) and 3(e). Official communications, City Assessor's Office, Naga City, 3 March 2000

6.7 Vacant government land

Ibid.

6.8 Prime commercial land price

Communications with the consultant, 4 September 2000

- Data provided by the City Assessor's Office were based on the high end of the going rate of commercial lot purchases (placed between \$978.16 and \$1,222.70), particularly the purchase by Jollibee of its adjacent property, which lies at the heart of the CBD at \$1,223 per m².

6.9 Prime rental and occupancy costs

Official communications, City Assessor's Office, Naga City 3 March 2000

- The figure was corroborated by key informants from the local real estate industry.
- Data on operating costs per month represent the average within the CBD, including a number of commercial buildings with almost zero operating cost, having been built on long-term lease arrangement and whose ownership have already reverted to lessors.

6.10 Expenditure on development

- Data on statutory cost represent taxes and other government charges.

- Basic data for 1998 were taken from the State of the City address Mayor Sulpicio S. Roco, Jr., augmented by data provided by the DPWH Regional and 2nd Engineering District Offices.

- 1996/97 data were mainly from the 1997 State of the City report on Mayor Jesse M. Robredo.

- The various development projects from 1996 to 1998 are summarized below:

Project	1998 (\$)	1997 (\$)	1996 (\$)
Rehabilitation of Maharlika Highway, Sipocot-Naga-Daraga	2,869,276.73		
Various community infrastructure development projects	1,101,576.63	1,398,029.15	1,448,301.19
Improvement of Naga Airport Facilities	293,448.76	43,800.75	
Magsaysay Bridge Rehabilitation	733,621.89		
Malabsay Falls Development	733,621.89		
School Building Program	586,897.51		
Access Road to Central Bus Terminal	183,405.47		
Naga River Flood Control Project	171,178.44		
Water System Improvement	97,816.25		
Rural Roads Development Project	48,908.13		
Urban Renewal Projects	48,908.13		
Central Bus Terminal Project		1,413,819.23	
Metro Naga Coliseum		1,810,378.29	2,083,864.55
Palaro Road Concreting Project		801,738.96	922,854.30
Streetslights Improvement		206,900.38	
Tabuco-Sabang Bridge		517,250.94	595,389.87
Naga-Carolina		241,383.77	277,848.61
Del-Rosario-Carayan-Balatas		275,867.17	317,541.27
Naga City Coliseum		775,867.41	893,084.81
Total	6,868,659.83	7,855,045.04	6,538,884.60

Per capita expenditure (\$)	50.95	54.89	48.51
Three-year average (\$)	52.65		

- Per capita spending was derived by dividing annual totals by the projected city population for the corresponding year.

7 HOUSING

7.1 Dwelling type

1990 Census on Population and Housing, Report No. 3-24 E. Socio-economic and Demographic Characteristics (Camarines Sur), NSO

7.2 Tenure type

Ibid.

Urban Poor Affairs Office report, Naga City, 28 February 2000

- Two adjustments were made to the NSO data on housing tenure: (1) Total number of households was inflated to the 1998 level by dividing the projected 1998 city population by 5.4, the average household size. (2) The 72.30% owning/amortizing their housing units was broken down to reflect beneficiaries of social housing projects of the city government (39.33%).
- The data were based largely on the 1990 NSO. But it was adjusted to factor in accomplishments made under the Kaantabay Program.

7.3 House price to income

- Median household income \$2,754.27 was based on data generated under 2.1 and 2.2. It represents the annual household income of the middle 20% of Naga residents inflated to its 1998 value.
- Median house price was generated using Method 2.
- A survey of housing projects in the city yielded the following, taken from ongoing informal (Habitat for Humanity) and formal (Villa Karangahan for low and middle and San Francisco Village for high end) housing projects.

Type of housing	Price (\$)
Informal housing (Habitat for Humanity)	2,328
Townhouse 500	6,372
Townhouse 600	7,598
Single attached	10,171
Single attached-low-end	14,779
Luxury	17,524
Average Price	9,777
Median Price	6,859

- The median house price was assumed to be 70% of the average. This was validated by Table 4.1 ("Affordability for New Housing by Income Group") of the Shelter Strategies study by HUDCC and UNCHS-Habitat, which determined a rowhouse to be the most affordable housing option for the middle 20% in Metro Naga. The resultant median price also lies in between the Townhouse 500 and 600 rowhouse options being offered by Villa Karangahan.

7.4 House rent to income ratio

1990 Census on Population and Housing, Report No. 3-24 E. Socio-economic and Demographic Characteristics (Camarines Sur), NSO, Basic Data

- The median rent was assumed to be the upper limit in the median monthly rental of housing units \$21.25 in 1990. The figure was inflated to its 1998 level on a year-to-year basis, as shown in the following table:

Year	Inflation Rate (Camarines Sur) (%)	Monthly Rental (\$)
1991	16.1	22.80
1992	7.7	27.36
1993	7.9	27.49
1994	8.3	30.36
1995	9.2	33.08
1996	5.5	33.34
1997	2.6	29.72
1998	8.3	22.82

- Median household income of \$2,754.27 was based on data generated under 2.1 and 2.2. It represents the annual household income of the middle 20% of Naga residents inflated to its 1998 value.

7.5 Floor area per person

Ibid., basic data

"Shelter Strategies for Region V" by HUDCC and UNCHS-Habitat

7.6 Housing in compliance

- The Shelter Strategies study set the median house floor area for Metro Naga households at 48 m². The 1990 Census, on the other hand, set the household population to occupied housing units at 5.865. 1990 Census on Population and Housing, Report No. 3-24 E. Socio-economic and Demographic Characteristics (Camarines Sur), NSO, Basic Data
- The establishment of regulatory building units in the Department of Public Works and Highways in 1977 was recognized to have improved compliance to around 80%. Its devolution to the city government as a separate office has sustained the same compliance level. The obstacle to attaining full compliance rests on a number of new houses being built without permits (particularly in informal settlements), which the office cannot monitor due to limited staffing.
- The figure represents an average of the estimated level of compliance with local building regulations as perceived by the City Building Office. Before the establishment of local building offices in the late 1970s, compliance was estimated to be at 50%. With the operational building units by 1980, compliance was estimated to have risen to 80%.
- The resulting compliance level is therefore estimated as follows:

Period	Total Housing Units	Housing Units in Compliance	Compliance Level (%)
1980 or earlier	10,793	5,397	50.00
1981 and beyond	8,799	7,039	80.00
Total	19,592	12,436	63.47

7.7 Mortgage to credit ratio

Survey of Local Financial Institutions, Naga City March 2000

- Data on mortgage credit presented below were taken from results of a survey among local financial institutions relative to the CDB project.
- Data from banks were derived from the average of responses generated from three of the 11 local banks surveyed through the Camarines Sur Bankers Association (CSBA)

Source of Loan	Loan Amount (\$)	Total Number of Mortgage Loans	Mortgage Loans to Women
Banks	156,699.50	143	26
Home Development Mutual Fund (HDMF)	2,749,600.36	795	424
Government Service Insurance System (GSIS)	3,325,364.14	819	532
Social Security System (SSS)	384,511.65	228	70
Total	6,616,175.65	1,985	1,052

- Data on total outstanding credit were provided by the CSBA (\$0.076 billion) and the national agencies engaged in housing (HDMF, GSIS, SSS—\$0.006 billion).

7.8 Houses with mortgages

7.9 Mortgage loans for women

7.10 Housing production

Survey of Local Financial Institutions, Naga City March 2000

Ibid.

City Building Office (CBuO) Report, Naga City, March 2000

Communications with the consultant, 4 September 2000

- CBuO staff place production of new units at 90% of the total.
- Total housing production was derived by applying the household-to-occupied housing unit ratio of 1.046. This results in 24,351 housing units, which is 4,759 more than the 1990 figure (19,592). The difference translates to an average annual housing production of 595 over the 8-year period, which yields the above indicators using the city's estimated 1998 population.

7.11 Squatter resettlement or normalization

Urban Poor Affairs Office Report, Naga City, 28 February 2000

- On-site projects are aimed at regularization, off-site at normalization.
- The magnitude of poor people in the city was computed by applying the 1997 poverty incidence derived in 2.2 to the projected city populations for 1999. The total number of urban poor households (7,397) was derived by dividing the urban poor population by 5.4, the average household size.

7.12 Net housing outlays by government (per person)

Survey of Local Financial Institutions, Naga City March 2000. Urban Poor Affairs Office report, Naga City, 28 February 2000.

- Data for formal housing were taken from housing expenditures of national government agencies that finance housing projects. Informal housing represent city government expenditures for its on-site and off-site projects for the urban poor. Details are provided in the table below.

Formal housing	264,147,358.55
Informal housing	114,084,045.43
Total	378,231,403.98
Per Capita (\$)	67.24

7.13 Homeless people

1999 Survey on Street Children and Homeless People, City Social Welfare and Development Office, Naga City

8 MUNICIPAL SERVICES

8.1 Water

8.1.1 Household connections

Naga City Water Supply Profile, As of December 1999, Metro Naga Water District (MNWD), Naga City

Service Provider	MNWD
Total households	26,491
Total households served	19,523
% of households being served	73.70
Total capital investment (\$)	1,931,424.05
Investment per capita (\$)	14.38
Total maintenance and other operating expenses (MOOE)	55,847,936.17
MOOE per capita (\$)	0.24
Total revenues (\$)	1,701,024.71
Cost recovery (%)	1.2754
Volume of water supplied (m ³)	16,145,410.00
Total number of staff	147.00
Output per staff (m ³)	109,832.72

- The profile does not reflect three other smaller waterworks systems independent of the MNWD—a smaller Level III system in Barangay Cararayan serving a total of 102 households; and much smaller Level II systems in Del Rosario and at Pacol-Carolina-Panicuason area serving an undetermined number of families (Water Sector Report, Naga City Land Use Plan, 2000-2004).

8.1.2 Investment per capita

Naga City Water Supply Profile, As of December 1999, Metro Naga Water District, Naga City

8.1.3 Operations and maintenance expenditures

Ibid.

8.1.4 Cost recovery

Ibid.

8.1.5 Output per staff: water supplied per employee

Ibid.

8.1.6 List of providers

MNWD – 99%

Three community-based waterworks systems – 1%

8.1.7 Nonrevenue water

Naga City Water Supply Profile, As of December 1999, Metro Naga Water District, Naga City.

a. Percentage unaccounted for water

Ibid.

- There are two main reasons: (a) Leaks from the 80-year old water pipes in the city and (b) Illegal connections that tap both transmission and distribution service lines.
- Offhand, the impact is not being felt directly by consumers in service quality (except for cost of service) because of overcapacity.
- Between 1994 and 1999, actual production increased by 247% as additional pumping stations went online. But actual consumption increased by only 87% during the same period, negating the increased system loss from 20 to 57%.

b. Interruptions in water service

Ibid.

8.1.8 Consumption of water per capita

Ibid.

8.1.9 Median price of water, scarce season

Ibid.

8.2 Electricity

8.2.1 Household connections

Official documents, Camarines Sur II Electric Cooperative, Naga City

1998 Annual Report, Camarines Sur II Electric Cooperative, Naga City

- Data on the number of staff taken from the 1999 List of Establishments were updated by the provincial office of the NSO.

Electric Power Service Profile	Camarines Sur II Electric Cooperative
Total households, 1999	26,491
Total households served, 1999	25,008
% of households being served	94.40
Total capital investment, 1998 (\$)	2,150,009.05
Investment per capita, 1998 (\$)	15.63

Total MOOE, 1998 (\$)	101,085,519.00
MOOE per capita, 1998 (\$)	18.33
MOOE per capita, (\$)	18.33
Total revenues, 1998 (\$)	12,238,124.15
Cost recovery, 1998 (%)	1.0086
Total power sales, 1998 (MWh)	110,795.63
Total number of staff	335
Output per staff (MWh)	330.73

8.2.2	Investment per capita	1998 Annual Report, Camarines Sur II Electric Cooperative (Casureco II), Naga City
8.2.3	Operations and maintenance expenditure	Ibid.
8.2.4	Cost recovery	Ibid.
8.2.5	Output per staff: megawatt hours of electricity supplied per employee	Ibid. Data on number of staff taken from the 1999 List of Establishments updating conducted by the provincial office of the NSO.
8.2.6	List of providers	Casureco II – 100%
8.2.7	Nonrevenue electricity	Office documents, Camarines Sur II Electric Cooperative, Naga City
	a. Line loss for electricity	Data covers 1999.
	b. Interruptions in power supply	- Ibid. - Interruption in power service can be classified into two types: a. Interruptions at the level of National Power Corporation, the national utility that generates and transmits power to area distributors like Casureco II; and b. Interruptions owing to Casureco II system trip-offs.

8.3 Sewerage/wastewater

NAP

8.4 Telephone

8.4.1 Household connections

Basic data are from the Bicol regional office (Legazpi City) and central office (Quezon City) of the National Telecommunications Commission.

- These were augmented by published data at the respective websites of Digital Telecommunications Philippines, Inc. (Digitel), Bayan Telecommunications, Inc. (Bayantel), Smart Communications, Inc. (Smart), Pilipino Telephone, Inc. (Piltel) and Globe Telecommunications, Inc. (Globe).
- The city's telephone service profile is summarized below. Some notes on the computations:
 - Data for landline subscribers were sourced from the NTC regional office.
 - Mobile subscribers were estimated, because of the companies' reluctance to share data, allegedly to protect confidential information (see 5.2). Estimates were based on their published national subscribers base as of end 1998—assuming that the ratio of their combined subscribers base in Naga to the national total would be proportional to the ratio of Naga's population vis-à-vis the total population of Philippine cities.
 - Financial data of each telco were sourced from their 1998 annual report submitted to the NTC central office. Similar to the procedure in estimating local mobile subscribers base, figures for local capital investment and MOOE were derived as a proportion of their respective subscribers to total installed lines (for landline operators) and national subscribers (for mobile operators). Per capita expenditure and MOOE were derived by dividing local capital investment and MOOE by the projected 1998 city population.
 - Cost recovery was based on the telephone companies' total revenues and MOOE nationwide.
 - Market share for landline operators were based on actual performance at yearend 1998. For mobile operators, national market shares were assumed to be the same as their respective local shares.

Telephone Service Profile 1998

Service providers	Landline		Mobile		
	Digitel	Bayantel	Smart	Piltel	Globe
Total households	25,008				
Total subscribers	3,326	10,097	5,679	2,461	5,780
% of households served	13.30	40.38	22.71	9.84	23.11
Market Share (%)	24.78	75.22	40.80	17.68	41.52

8.4.2	Investment per capita	Basic data are from the NTC Bicol regional office (Legazpi City) and central office (Quezon City), augmented by published data at the respective websites of Digitel, Bayantel, Smart, Piltel, and Globe.
8.4.3	Operations and maintenance expenditure	Ibid.
8.4.4	Cost recovery	Ibid.

8.4.5	Output per staff: thousands of calls per employee	Ibid.	
8.4.6	List of providers	Landline Digital Telecommunications Philippines, Inc. Bayan Telecommunications, Inc. Mobile Smart Communications, Inc. Pilipino Telephone, Inc. Globe Telecommunications, Inc.	(%) 24.78 75.22 40.80 17.68 41.52

8.5	Solid waste collection	
8.5.1	Households with regular service	Office document, City Environment and Natural Resources Office (ENRO), Naga City
8.5.2	Investment per capita	Ibid.
8.5.3	Operations and maintenance expenditure	Ibid.
8.5.4	Cost recovery	Ibid.
8.5.5	Output per staff: collected per employee	Ibid.
8.5.6	List of providers	City ENRO - 100% output

9 URBAN ENVIRONMENT

9.1	Solid waste generated	Office document, City ENRO, Naga City																										
		Solid Waste Collection Profile, 1999																										
		<table><tr><th>Service Provider</th><th>ENRO</th></tr><tr><td>Total households</td><td>26,491</td></tr><tr><td>Total households served</td><td>22,782</td></tr><tr><td>% of households being served</td><td>86.00</td></tr><tr><td>Total capital investment (\$)</td><td>61,982.94</td></tr><tr><td>Investment per capita (\$)</td><td>0.4614</td></tr><tr><td>Total MOOE (\$)</td><td>29,366.96</td></tr><tr><td>MOOE per capita (\$)</td><td>0.22</td></tr><tr><td>Total revenues (\$)</td><td>9,911.19</td></tr><tr><td>Cost recovery (%)</td><td>0.3375</td></tr><tr><td>Volume of solid waste collected (tons)</td><td>13,708.8</td></tr><tr><td>Total number of staff</td><td>68</td></tr><tr><td>Output per staff (tons)</td><td>201.60</td></tr></table>	Service Provider	ENRO	Total households	26,491	Total households served	22,782	% of households being served	86.00	Total capital investment (\$)	61,982.94	Investment per capita (\$)	0.4614	Total MOOE (\$)	29,366.96	MOOE per capita (\$)	0.22	Total revenues (\$)	9,911.19	Cost recovery (%)	0.3375	Volume of solid waste collected (tons)	13,708.8	Total number of staff	68	Output per staff (tons)	201.60
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9.2	Household sewage disposal	1990 Census on Population and Housing, Report No. 3-24 E. Socio-economic and Demographic Characteristics (Camarines Sur), NSO																										
9.3	Waste water treated	NAV																										
9.4	Percent BOD removed from wastewater	NAP																										
9.5	Air pollution concentrations	1999 Air Quality Monitoring Report, City ENRO, Naga City According to the regional unit of the Environmental Management Bureau of the DENR, its current monitoring capability is limited only to one (suspended particulate) of the six pollutant types mentioned due to equipment limitation.																										
9.6	Energy usage per person	1995 Household Energy Consumption Survey, NSO The computation of energy usage per person was based on data for urban Bicol lifted from the NSO survey. The conversion of various energy types into their equivalent tons of coal per annum is shown in the following table. In the absence of conversion factors for biomass residue and LPG, the conversion factors for fuel, wood and natural gas, respectively were used.																										

Type of energy	Annual Consumption per Person	Conversion Factor	Tons per Annum
Gas & Diesel	0.19821 kiloliter	1.179	0.2337
Kerosene	0.01365 kiloliter	1.23	0.0168
Fuelwood	0.42288 ton	0.333	0.1408
Electricity	119.56 kWh	0.000123	0.0147
Biomass residue	0.1342 ton	0.333	0.0447

Charcoal	0.06306 ton	0.986	0.0622
LPG	0.02513 ton	1.328	0.0334
Total			0.5462

- 9.7 Noise complaints Based on interview with staff of the City Planning and Development Office (CPDO), Naga City
- Noise pollution may arise from noise being generated by commercial activities like metal works, and automobile repair shops within or near residential areas.

9.8 Disasters in the last 10 years

Office records, Office of Civil Defense, Naga City

Typhoon	Dwellings Destroyed	Lives Lost
Typhoon Loleng, 21 October 1998	1,391 total, 7,242 partial dwellings damaged	10 dead, 14 injured
Typhoon Rosing, 1-2 November 1995	2,339 total, 7,743 partial dwellings damaged	11 dead
Typhoon Monang, 05 December 1993	591 total, 6,433 partial dwellings damaged	7 dead, 27 injured, 7 missing

9.9 Solid Waste Collection

Integrated Solid Waste Management Program in Naga City, City ENRO, Naga City

- With adjustments based on the figures contained in another City ENRO office document.

10 URBAN TRANSPORT

10.1 Mode of travel

Basic data are from 1999 daily traffic counts conducted by the Camarines Sur 2nd Engineering District for the Maharlika Highway and the University of Nueva Caceres Traffic Engineering classes under Engr. Rodolfo Z. Fortuno for four city streets. The traffic counts were conducted over one week.

- These were supplemented by 1999 vehicle registration figures from the local unit of the Land Transportation Office and the City Treasurer's Office.
- To generate a comprehensive profile of various modes of transport in the city, the following steps were taken:
 - Traffic count data for one week on four city streets were averaged to generate a single profile for city streets traffic.
 - Factoring in results of the Engineering District traffic count, a city traffic profile was derived by generating a weighted average of traffic in city streets (which accounted for 61.34%) and the national highway (which accounted for 38.66%).
 - Total passenger capacity was generated by factoring in the average capacity per type of vehicle.
 - Percentage share of each vehicle type was computed by dividing total vehicle-specific capacity by the total passenger capacity. Results are summarized below:

	Private	Jeepney	Bus	3-Wheeled Vehicles	Total
National highway	10,169	4,327	2,391	4,347	21,234
City streets	14,694	9,320	88	29,334	53,436
Total traffic	24,863	13,647	2,479	40,418	81,406
Average capacity per vehicle type	4	15	40	3	
Total passenger capacity	99,451	204,703	99,154	121,253	524,561
Percentage share	18.96	39.02	18.90	23.12	100.00

- The percentage share of 3-wheeled vehicles was further broken down into pedal-powered or motorized vehicles by taking the proportion of registered pedal-powered (1,639 in 1999 based on City Treasurer's Office records) to the total motorized trimobiles (8,576 according to LTO records) and applying this to the total 3-wheeled percentage share.
- Jeepney falls under the "other vehicles" category. CDB has re-categorized this and placed it in the "Bus or Mini-Bus" category.
- In computing the percent of work trips by mode of travel, trucks and trailers were excluded factoring in LTO's explanation that these are used for cargo, not for passenger transport.

10.2 Median travel time

This is based on the median travel time for sample trips undertaken during 20-26 February 2000 from three points of origin near city boundaries.

10.3 Expenditure on road infrastructure

Basic data are from road projects comprising the total expenditure on development from 1996 to 1998 detailed in 6.10, augmented by maintenance expenditures by the national Government through the 2nd Engineering District of Camarines Sur.

The computations are shown below in US dollars.

	1997	1998	1996
Road construction projects	4,202,404.42	2,302,250.55	1,673,546.82
Maintenance expenditures	308,121.19	434,490.78	500,127.49
Total	4,510,525.61	2,736,741.34	2,173,674.31
Per capita spending	33.46	20.38	16.13
Average (in constant 1998 values)	23.65		

10.4 Road Congestion

- This information is not currently available from the Engineering and Traffic units of the City Government and the local Philippine National Police station. An application using the geographic information system capability of the local government is being considered as a result of the CDB project.
- Unfortunately, we are still having difficulty with this indicator. Traffic management in the city is mostly based on perception and accumulated experience. The differentiation as regards entities responsible for national (DPWH) and city roads (City Engineers Office) also comes into play.
- In addition, traffic management is beyond the consultant's current specialization. A team approach (to pool the expertise of DPWH, the chief executive officer, local schools and the PNP) might address the problem.

10.5 Automobile ownership

Basic data are from the 1999 vehicles registration report of the local unit of the Land Transportation Office.

- The total number of automobiles (6,587) was divided by the estimated population of driving age (18 years old and above, projected to be 75,377 in 1999). The quotient was multiplied by 1000 to generate automobile ownership per 1,000 population.
- The proportion of population owning more than two cars is not currently available. LTO records have yet to be computerized to allow retrieval of this specific information.

10.6 Cost recovery from fares

This is not applicable to Naga City where public transportation is provided by the private sector subject to government regulation.

- A 12% cap return from the authorized asset base is in place, according to the regional office of the Land Transportation Franchising and Regulatory Board.

10.7 Port/air activity

1999 Report on Take-Offs and Landings, Air Transportation Office, Naga Airport

Carrier	No. of Takeoffs & Landings
Air Philippines	404
Philippine Airlines	590
Asian Spirit	832
Total	1,826
Average Takeoffs and Landings per Month	152.17
Average Takeoffs per Month	76.08

10.8 Goods carried

Ibid.

Official communications, Philippine National Railways (PNR) Area VI, 03 March 2000
1995-97 Passenger and Cargo Performance Report, Philippine Airlines

- The PNR communication provided data on the tonnage of cargo shipped out of Bicol region. It estimates that 30% of the total is accounted for by its Naga station.
- In the absence of published data for the movement of cargoes by road, the volume is assumed to be in between the air and rail volume. This is based on the tri-modal interregional transportation prevalent in the city.

Mode of Transport/Provider	Volume of Cargo Carried (kg)
By Air	
Air Philippines	32,171.00
Philippine Airlines	123,754.00
Asian Spirit	254,237.45
Total	410,162.45
By Rail	
Philippine National Railways	508,752.67
By Road	
Various land forwarders and bus companies	459,457.56

- Factoring in data from Philippine Airlines operations from 1995 to 1997 when it monopolized the air transportation industry, the growth of air cargo out of Naga is shown below:

	(kg)
1999	410,162.45
1997	354,903.00
1996	157,320.00
1995	171,739.00

10.9 Transport fatalities

Official communications, Philippine National Police (March 2000), Naga City

- The ratio of transport-related deaths was derived by dividing the cases of deaths by the projected city population for the given year. The quotient was multiplied by 1,000 to generate the ratio per 1,000 population. These are detailed in the table below:

Year	Transport-Related deaths	Ratio per 1,000 pop.
1995	12	0.0945
1996	11	0.0849
1997	11	0.0832
1998	11	0.0816
1999	5	0.0364
Average		0.0761

- Pedestrian deaths were placed at 10% of the total cases annually.

11 CULTURAL

11.1 Attendance at public events

Estimates based on expected space occupied by attendees were generated using the geographic information system of the City Government.

- The major public events in 1998, with their respective estimated attendance, are presented below.

Event	Attendance
Religious processions in honor of the Virgin of Peñafrancia every September	750,000
Civic and military parades, Peñafrancia fiesta celebrations	250,000
Candidates forum series, 1998 local elections	60,000
Palarong Bicol regional sports meet	20,000
City charter celebration parades	10,000
School torch parades for local achievers	5,000

- Peñafrancia fiesta activities dominate the major public events in Naga. The feast is celebrated every third week of September, to honor Nuestra Señora de Peñafrancia, the Patroness of Bicol. It is the only regional festivity of its kind in the Philippines today and perhaps, the biggest Marian devotion there is in Asia. (City Land Use Plan, 2000-2004, Naga City)

March 2000 Survey of Local Museum, Naga City

- The major galleries and museums in the city, with their respective attendance in 1998, are presented below:

Gallery/Museum	Attendance
Bicol Science and Technology Centrum	38,469
Museo Conciliar Seminario, Holy Rosary Minor Seminary	6,300
University of Nueva Caceres Museum	3,378

- The Bicol Science and Technology Centrum (BSTC) was established in 1993 in partnership with the Department of Science and Technology (DOST) to cater to the continuing education of the young, professionals, teachers and sci-tech enthusiasts. It features interactive sci-tech gadgets, a skywatch gallery, a sci-cubby hole for the kids, an audio-visual room, and a cyber café for Internet lovers.
- The Museo Conciliar Seminario at the Holy Rosary Minor Seminary showcases Bicol ancient relics and artifacts like burial jars, chinaware, rare stones and ritual objects. Featured as well is the local church history where old Roman Catholic Church vestiges and sacred objects are displayed.
- Located inside the University of Nueva Caceres campus, the UNC museum is one of the oldest museums outside Manila and recognized by the International Association of Museums. It houses historical artifacts of ancient Bicol, its people, and its culture. (City Land Use Plan, 2000-2004, Naga City). Based on estimates by the Naga City Sports Council
- People participate in sports, according to sports council officials-at the village and city levels. At the village level, participation ranges from 60 to 80% of the total population. At the city level, this ranges from 20 to 40%.

11.3 Participation in sports

- The most popular sports remains basketball, which is also the Philippines' favorite sports pastime. It is followed by swimming and chess.

12 LOCAL GOVERNMENT FINANCE

12.1 Sources of revenue

Annual City Budgets, 1993-1999, City Budget Office, Naga City

- Taxes mainly come from real property and local business taxes being levied by the city government.
- User charges refer to regulatory fees and other charges being levied by the city government.
- Other own sources take the form of interest income from bank deposits and treasury bills placement of the city government, as well as rental of government properties.
- Transfers refer mainly to the Internal Revenue allotment share of the city, augmented recently by minimal share from lotto operations.

Basic data provided by the City Accountant's Office, Naga City

12.2 Capital and recurrent expenditure per person

12.3 Collection efficiency, property taxes

Official document, City Treasurer's Office, Naga City

12.4 Debt service charge

Basic data provided by the City Accountant's Office, Naga City

12.5 Employees

Naga City Government Personnel Positions Inventory, (As of 31 December 1999) City Human Resource Management Office, Naga City

- Comparatively, the city government had 785 employees as of 31 December 1994 (Political and Administrative Sector Report, 1994 City Land Use Plan.) This translates to a ratio of 6.307 local government employees per 1,000 population.
- If casuals (539) and contractual (37) are further excluded, this brings down the total employees to 458, which yields a ratio of 3.33 per 1,000 population.

Basic data provided by the City Accountant's Office, Naga City (see 12.2)

- The ratio of personal service to recurrent expenditures from 1997 to 1999 is shown below:

	1999	1998	1997
Personal Service-to-Recurrent Exp.	0.4869	0.3917	0.3549

12.7 Contracted recurrent expenditure ratio

Basic data sources from the City Accountant's Office, Naga City and the city's expenditures on development (see 6.10)

- The city government's locally funded infrastructure projects are contracted wholly to the private sector. In addition, the newly constructed Central Bus Terminal was privatized; its operations would have cost the city an estimated \$71,642.76 million annually had it not been privatized.

12.8 Business permits

- Official records, City Treasurer's Office, Naga City

- An inventory of the city's registered business establishments from 1995 to 1999 is shown below:

Year	No. of Registered Business Establishments
1995	4,581
1996	4,710
1997	4,898
1998	4,962
1999	4,937
Average	4,818

12.9 Enterprise revenues

Basic data provided by the City Accountant's Office, Naga City

12.10 Computerization functions

Draft Naga City Information Systems Plan, Electronic Data Processing Unit, Naga City

Application Description, Financial Management System (FMIS), Electronic Data Processing Unit, Naga City

- Notwithstanding its size relative to other Philippine cities, the city government has been doing very well in its computerization efforts. This is indicated by a national award (1996 Galing Pook Award as one of the Philippines' 10 most outstanding local government programs) for its computerization efforts using mostly local resources. The government focused on land registration, financial and business progress.

13 URBAN GOVERNANCE

13.1 Functions of local government

Local Government Code of 1991, Department of the Interior and Local Governments (DILG)

City Land Use Plan, 2000-2004, Naga City

- The Local Government Code of 1991 (specifically Section 17, Chapter II, Book I) granted Philippine local government wide-ranging authorities and functions, including
 - a. **Water** – This covers providing infrastructure facilities that are funded out of local funds, including water supply systems. In Naga, this is being carried out through the three smaller waterworks system not being served by the MNWD (see 8.1.)

- b. **Refuse collection** – This covers providing solid waste disposal or environmental management system and services or facilities. Locally, this is being carried out by the City ENRO.
- c. **Electricity** – This is being carried out by Casureco II (see 8.2.)
- d. **Public or mass transport** – This is being carried out by the private sector subject to government regulation (3-wheeled vehicles by the city government, 4-wheeled and above by the national government).
- e. **Emergency** – This is being carried out through the Emergency Rescue Naga program based at the Naga City Primary Hospital.
- f. **Road maintenance** – This is limited to city streets and bridges funded out of local funds.
- g. **Education** – This is being carried out primarily by the Division of City Schools, the local unit of the Department of Education, Culture and Sports (elementary and secondary); and state colleges and privately owned colleges and universities (college and post-graduate). The city government, however, is mandated to provide support for education services, which is being facilitated through the City School Board. At the preschool level, preparatory education is being provided under the Naga Early Education and Development Program through its citywide network of Montessori-based day care centers.
- h. **Health care** – This is being provided primarily through the City Health Office, the Naga City Primary Hospital, the City Population and Nutrition Office, and other health-related agencies of the city government, coordinated through the City Health Board.
- i. **Public housing** – This covers providing low-cost housing and other mass dwellings funded out of local funds. The Urban Poor Affairs Office, the city's main shelter agency, is coordinating this.
- j. **Recreation/sports facilities** – The operations and maintenance of these facilities is being handled by various agencies of the city government, including the City Engineer's Office and the Bicol Science and Technology Centrum, coordinated through the Naga City Sports Council.
- k. **Police/Fire** – This is being carried out by local units of two national agencies, the Philippine National Police and the Bureau of Fire Protection. The city government, however, is mandated to provide support for police and fire services.
- l. **Drainage/flood control** – The provision of drainage, flood control and other infrastructure projects is funded out of local funds. This is being provided through the City Engineer's Office.
- m. **Livelihood assistance** – This is being provided through the Metro PESO (which stands for Public Employment Services Office).
- n. Others - Including
 - Economic enterprises. This covers the operation of public markets, slaughterhouses, and other municipal enterprises.
 - Information services. This includes research and development support (through the City Planning and Development Office), job placement, and worker development services (through the Metro PESO), civil registration (through the City Civil Registrar's Office), and maintenance of a public library (through the Naga City Public Library).
 - Investment support services. These include investment promotion and granting of incentives, which is being carried out by the Naga City Investment Board.
 - Environmental management. This includes the rehabilitation and protection of the Naga River and its watershed at Mt. Isarog, among other natural resources of the city. This is being undertaken by the City ENRO.
 - Social welfare services. This includes care, protection and rehabilitation of persons with disability, street children, the homeless and other socially disadvantage citizens; of assistance to disaster victims in times of calamities; and capability building of women, children and youth. The City Social Welfare and Development Office is the lead agency for the provision of these services.
 - Integrated area development. This includes leadership, resources, and staff support for the Metro Naga Development Council, an IAD partnership between Naga and its 15 neighboring towns.

- 13.2 Delivery of annual plan
- 13.3 Voter participation by sex

Based on evaluation of the City Budget Office for 1999

Basic data were sourced from the Commission on Elections, Naga City for the 1998 elections and the Provincial Office of the National Statistics Office for the 1995 elections.

Voting by Gender, 1998 & 1995

	Registered	Actually Voted	Turnout (%)
Total	59,210	52,663	88.94
Male	28,360	25,103	88.52
Female	30,850	27,560	89.34

- 13.4 Independence from higher government

DILG Local Government Code (LGC) of 1991

- LGC 1991 has revolutionized governance by granting greater autonomy to local government units and decentralizing power authority from the national to local levels of government. This high degree of independence from the national government is manifested in:

Closing down the council or removing councilors from office
 Setting local tax level
 Setting user charges for services
 Borrowing funds
 Choosing contractors for projects

13.5 Elected and nominated councilors

Ibid.

- The Sangguniang Panlungsod (or the City Council) of Naga City has 10 regular members, who are elected directly by voters during regular elections every three years.

13.6 Representation of minorities

- While Naga does not have minority groups of significant size, it has gained some recognition for promoting greater people participation in local governance, particularly by the nongovernment sector. A landmark legislation known as the “Empowerment Ordinance of Naga City” was crafted, mandating the city to implement a revolutionary concept on participation.

- Under the Ordinance, a “People’s Council” consisting of duly accredited NGOs and people’s organizations in the city was established. This Council appoints NGO representatives to local special bodies of the city government; observes, votes, and participates in the deliberation, conceptualization, implementation and evaluation of projects, programs, and activities of the city government; proposes legislation, participates and votes at the committee level of the Sangguniang Panlungsod, and acts as the people’s representatives in the exercise of their constitutional rights to information on matters of public concern and of access to official records and documents.

- This novel partnership became the main engine of the Naga City Participatory Planning and Development Initiatives (NCPPI). In 1998, this program was adjudged one of the 10 best practices worldwide by the UN Centre for Human Settlements (UNCHS) and awarded the Dubai International Award. As pointed out in 1.9, Naga does not have minority groups of significant size.

13.7 Planning applications refused

Data was sourced from resolutions adopted by the Sangguniang Panlungsod, Naga City for 1997/98.

- Under 6.4, only one out of 20 applications was denied in 1997/98. Annually, this translated to a two-year average of 3.33%. The reason behind disapproval was the failure to meet the basic requirements of the city government.

13.8 Business satisfaction

Based on interview with the Metro Naga Chamber of Commerce and Industry (MNCCI) Secretariat

- Presently, an existing mechanism for gauging business satisfaction is found in the annual Business Indicators Survey being conducted by the MNCCI. It is, however, limited to its members’ assessment of business performance for the year and their outlook for the next year. For instance, in 1998 when the survey was last conducted, the MNCCI Update (the chamber publication) reported that “approximately 60% of local enterprises surveyed were confident about their prospects in 1999. Fifteen percent did not see any improvement. “Eighty-eight percent of them rated business in 1998 as bad, citing peso devaluation, high interest rates and bad weather conditions as major contributory factors.” There are no questions that ask respondents about their satisfaction with local government.

13.9 Consumer satisfaction

A mechanism that may be strengthened and institutionalized is the public opinion survey conducted early in the year by the Ateneo Social Science Research Center of the Ateneo de Naga University.

- Inspired by the national surveys being conducted by the Social Weather Station, the Ateneo survey tried to measure the people’s satisfaction with the performance of the city government and local city officials through rider questions to the Rapid Field Appraisal Surveys commissioned by the Associates in Rural Development, Inc., main implementor of the Governance and Local Democracy (GOLD) Project. The survey became controversial with disclosure of results, the methodology adopted, and the manner of implementation. If these are resolved properly, the survey is an opportunity that the city may take advantage of to gauge consumer satisfaction.

13.10 Perception as to place to live

“Investing in People—Business buzzwords work in the Philippines,” Asiaweek, 17 December 1999
 1999 City Exhibit, GOLD Project Rollout, Naga City

- Over the last 10 years, Naga has developed a positive perception as a good place to live in, a confirmation of what city residents feel about a city they call “maogmang lugar” (literally, a “happy place”).
- Most recently, it was cited by Asiaweek as one of four most improved cities in Asia for 1999 in recognition of its participative processes, strong democratic traditions, and commitment to excellence.
- Its positive points, lifted from a city exhibit for the GOLD Project, include
 - being recognized as a center of local innovations. Naga has built a reputation for being a model local government unit, and a center for innovations in local governance. This is attested to by more than 40 national and international recognitions it has received from prestigious award-giving bodies on diverse fields of governance, including the 1998 Dubai International Award for having one of the Top 10 Best Practices worldwide.
 - being a livable city. Naga, likewise, is considered one of the Philippines’ most livable cities, says Interface, the newsmagazine of the League of Cities of the Philippines.

- being a strong nongovernment sector. Another outstanding feature of Naga is the strong presence of a nongovernment sector, in the form of civic, business, and people's organizations.
- being locally autonomous. The state policy to promote local autonomy and decentralization has helped Naga mainly because it has helped itself, crafting a number of innovations that even antedated the 1991 LGC.

13.11 Reported crimes

Official communications, Philippine National Police, Naga City. With adjustments. Population base used was the 1999 projected city population.

Type of Crime	Incidence	Ratio per 1,000 Population
Murder	5	0.0364
Drug-related	21	0.1527
Theft	49	0.3562

13.12 Access to information

Basic data sourced from office documents, City Planning and Development Office and City Information Office, Naga City

- The following documents are available from the city government for reference:
 - Annual report and budget:** An annual report integrating accomplishments of the various departments and offices of the city government is prepared by the CPDO for submission to the DILG. The city mayor also delivers a State of the City Report before the Sangguniang Panglunsod every year, highlighting key accomplishments and laying out planned strategies, programs, and projects of his administration. Copies of the annual budget are also available from the City Budget Office and are given to departments and offices of the city government.
 - City strategy, vision:** The city's medium-term development plans prepared every six years under the supervision of the CPDO spell out the city's overall development and sectoral strategies, including the economic and social sectors. These strategies are always consistent with and guided by the city's corporate vision—"Maogmang Lugar"—which was shaped and periodically refined through a participative process involving the various sectors of the community. These are further amplified through derivative sectoral plans prepared by the six clusters of departments and offices organized for governance.
 - Other communications media:** The city government, through its Information Office, also regularly publishes the Naga City Journal, its official publication, which updates the community about its ongoing and planned programs, projects and activities. This information is published electronically in the city government website www.naga.gov.ph.
 - Public consultations:** Access to elected and appointed city officials is also aided through community based regular consultations, held under the auspices of the NCPPDI program.

Important decisions that would have a long-term impact on the city can involve a citywide referendum. In 1996, the city government conducted the first referendum of three development issues in the Philippines, whose results continue to affect the city up to now.

13.13 Contact with the public

Based on estimates by the Secretary to the Mayor and the Office of the Secretary to the Sangguniang Panglunsod (SP), Naga City

- The annual public meetings of the city government are summarized below, with their estimated attendance.

Official/Office/Activity	Meetings per Week	Meetings per Annum	Attendance per Week	Attendance per Annum
City Mayor	25	1,300	289	15,028
Urban Poor Affairs Office	2	104	30	3,120
City ENRO	1 per month	12	100	1,200
Ladies in Green	1 per month	12	95	1,140
SP – Regular Session	1	52	50	2,600
SP – Committee Hearings	12	624	10	6,240
Workshops	2	104	30	3,120
Totals		2,208		32,448

13.14 Decentralized district units

Official documents, Metro Naga Development Council (MNDC) Secretariat, Naga City

- If the MNDC qualifies as a metropolitan unit, then with Naga as the core urban center, there are a total of 16 local government units within the program area.
- As a footnote, the MNDC is a partnership forged in October 1992. Worried by the growing economic disparity between Naga and its neighbors, these 16 local governments banded together for accelerated, equitable, and sustainable growth and development within the program area.
- The MNDC is a unique entity. Unlike other Philippine metro bodies, this began as a local initiative, a pioneering exercise of the expanded powers and prerogatives of LGUs under the 1991 Local Government Code. On 18 June 1993, it was affirmed by President Fidel V. Ramos through Executive Order 102.

Phnom Penh

Indicators

1

POPULATION

1.1 Urbanization

Bureau of Statistics, Department of Planning, Statistics Yearbook; National Institute of Statistics (NIS), Ministry of Planning (MOP), Demographic Survey of Cambodia, below October 1996

- Following is the proportion of the national population living in the urban areas of Phnom Penh over the past decade:

Year	Urban Population of Phnom Penh	% of National Population
1999	570,155	57.02
1998	561,196	57.07
1997	520,789	61.32
1996	467,390	58.19
1995	433,738	52.65
1994	402,509	49.44
1993	373,528	52.00
1992	346,634	51.40
1991	321,676	51.00
1990	298,515	48.47

- Phnom Penh municipality has four districts.
- In-migration has largely been responsible for the increase in population.
- Migration slowed in 1995–1999 consistent when refugees and soldiers moved to camps near the border with Thailand.
- In 1998 the second round of national elections was held, resulting in a political crisis that kept international migration low.

1.2 City population

NIS, MOP, Demographic Survey and Socioeconomic Survey of Cambodia 1995, 1996, 1997

- The following table shows the resident population of the Phnom Penh municipal area between 1989 and 1998:

Year	Total Population	Male	Female
1998	999,804	481,911	517,893
1997	849,262	412,027	437,235
1996	833,291	413,104	420,187
1995	823,743	405,883	417,860
1994	814,171	402,569	411,602
1993	718,365	340,388	377,977
1992	674,509	323,237	351,236
1991	631,172	299,596	331,576
1990	615,867	293,046	322,821
1989	606,820	283,413	323,407

- Population increase, 1989-1998

Year	City Population	% Increase over Previous Year
1998	999,804	15.10
1997	849,262	1.90
1996	833,291	1.10
1995	823,743	1.20
1994	814,171	11.80
1993	718,365	6.10
1992	674,509	6.40
1991	631,172	2.40
1990	615,867	1.50
1989	606,820	1.04

- A population census was conducted in 1996, 1997, and 1998.

Bureau of Police Department, Migration Yearbook; NIS, MOP, Demographic Survey of Cambodia 1996

- The number of migrants that arrived in the Phnom Penh municipal area between 1996 and 1999 was as follows:

1.3 Migration

Phnom Penh

Year	No. of Migrants (thousands)
1999	121,213
1998	134,677
1997	139,153
1996	143,630

1.4 Net population density

Department of Construction and Urbanization

- The net population density of the Phnom Penh municipal area is as follows:

Year	Net Population Density (persons per ha)
1998	69
1997	58
1996	57

- Density in settlements was not considered in computing the above figures.

1.5 Age pyramid

NIS, MOP Socioeconomic Survey of Cambodia 1993/1994; Demographic Survey of Cambodia 1996,

- The age pyramid of residents in the Phnom Penh municipal area is as follows:

Year	Total	(thousands)					
		Ages 0–14		Ages 15–59		Ages 60 and over	
		Male	Female	Male	Female	Male	Female
1998	996	169	161	293	328	18	27
1997	846	169	157	225	234	24	37
1996	831	170	155	215	223	27	41
1995	821	170	153	205	217	30	46
1994	811	170	150	195	212	33	51
1993	715	148	131	174	188	29	45

1.6 Average household size

Ibid.

- The average household size in the Phnom Penh municipal area is as follows:

Year	City Population	No. of Households	Ave. Household Size
1998	999,804	173,678	5.70
1997	849,262	179,000	4.70
1996	833,291	140,030	5.95
1995	823,743	121,134	6.80

1.7 Household formation rate

Ibid.

Year	No. of Households	% Increase over Previous Year
1999	199,987	15.14
1998	173,678	3.00
1997	179,000	27.83
1996	140,030	15.59
1995	121,134	15.59

1.8 Women-headed households

Ibid.

Year	Total Households	% of Households Headed by Women
1998	173,678	28.70
1997	179,000	29.20
1996	140,030	30.10
1995	121,134	27.95
1994	121,000	25.80

1.9 Minority groups

- The proportion of women-headed households was high because of the war.

Migration Bureau, Department of Police, Ministry of Interior, February 1999

- The minority groups are mostly Vietnamese (3%), ethnic Chinese (1%), and Christians and refugees (less than 1%).

Phnom Penh

1.10 Household types

CDB estimates; NIS, MOP, Socioeconomic Survey of Cambodia 1993/94; NIS, MOP, DeMographic Survey of Cambodia 1996

Year	Household Categories			
	1–Person	2–5 Persons	6–9 Persons	10 or More Persons
1994	1.90	44.30	45.40	8.40
1996	2.30	49.60	42.20	5.90

1.11 Informal settlements

Draft Final Report, Cambodia Development Strategy Study, March 1996

- In 1993/1994 the city had about 120,000 to 170,000 squatters. They were studied in some detail and were provided community support by several NGOs. Squatters are mostly food sellers, small traders, cyclo drivers, construction workers, etc. Most settle close to their work. Squatters occupy government-owned land. Their ownership of land was contested in many areas like Toul Kork and Chamcar Morn districts.

- Squatter settlements are found in these areas:
 - Chamcar Morn district
 - Boeng Salaang catchment areas
 - Steung Mean Chey catchment areas
 - Char Amp Riverside in Tonal Basic River, Khan Mean Hey

These areas have no water supply and electricity.

Household size is similar to that in the regular settlements.

2 EQUITY

2.1 Income distribution

CDB estimates

Income Range (\$)	Average Household Income (\$)
Q1–0 to 51	38.40
Q2–52 to 115	84.50
Q3–116 to 174	147.50
Q5–over 228	639.50

- Household incomes fell by 20 percent in 1999 with the devaluation of the Cambodian currency.

2.2 Households below the poverty line

NIS, MOP, Socioeconomic Survey of Cambodia 1993/94; First Five-Year Socio-economic Development Plan 1996–2000

- In 1993 94 percent of households were below the poverty line.
- The poverty line in 1997 was about 1,578 riels per capita per day. The first food poverty line was calculated on the estimated cost of a reference food bundle of 2,100 calories per day (the average calorie consumption of the middle-income quintile of Cambodia in 1993–1994)
- The daily per capita cost of this reference food bundle was calculated separately for three distinct population strata. A second poverty line includes a modest nonfood allowance (based on the amount of nonfood items consumed by those with per capita total expenditure just equal to the food poverty line).

2.3 Women-headed households in poverty

General Directorate of Planning, MOP, Poverty profile of Cambodia, 1997; NIS, MOP, Socio-Economic Survey of Cambodia, 1993/1994

Year	Percentage
1997	20.70
1996	19.64
1995	19.12
1994	18.60

- Women-headed households in poverty generally suffer from poor nutrition and lack of skills.
- The number of women-headed households in poverty is estimated to be more than half the number of men-headed households in poverty.

2.4 Child labor

NIS, MOP, Labor Force Survey of Phnom Penh, Second Quarter 1998; NIS, MOP, Demographic Survey of Cambodia, 22 October 1996

- In 1996, about 5 percent of children under 15 were in the labor force and more than half of them were boys.
- In 1998, about 1.92 percent of children below 15 were in the labor force and 67.56 percent of them were girls.

Year	Children Under 15 Years of Age			
	Total	Child Laborer	Female	% of Total
1996	126,660	6,333	2,959	5.00
1998	117,637	2,263	1,529	1.92

Phnom Penh

- The number of children under 15 years of age in the labor force decreased by 64.26 percent from 1996 to 1998.
 - Laws against child labor should be strengthened.
 - The Government pledged its support for programs against child exploitation in 1996–2000 in coordination with various NGOs.
- 2.5 Informal employment After the second election in 1998 employment opportunities overseas opened up for Cambodians; as a result, informal employment in Phnom Penh decreased.
- 2.6 Unemployment NIS, MOP, Socioeconomic Survey of Cambodia, 1993–1994, 1997; NIS, MOP, Labor Force Survey of Phnom Penh, Second Quarter 1998; NIS, MOP, Demographic Survey of Cambodia 1996
- Unemployed people in Cambodia are those above 10 years old without work, currently available for work, and seeking work as a percentage of the full-time work force (employed + unemployed).

Year	Labor Force Participation			% Employed			% Unemployed		
	Male	Female	Both	Male	Female	Both	Male	Female	Both
1998	48.60	54.00	43.80	97.90	98.30	97.50	2.10	1.70	2.50
1997	51.90	58.60	46.00	96.90	97.90	95.70	3.10	2.10	4.30
1996	55.10	58.80	51.90	93.50	96.70	90.30	6.50	3.30	9.70
1995	46.50	53.40	39.90	93.90	93.60	94.10	6.10	6.40	5.90

- From the table above, the rate of unemployment decreased from 5.90% in 1995 to 2.50% in 1998.
 - The 1997 Socioeconomic Survey of Cambodia defined employment according to the international standard definition; thus, a person who worked for even one hour during the reference week was accepted as employed. This explains the low unemployment rate in Cambodia.
- 2.7 Expenditure on poverty reduction MOP, Report of the Committee on Poverty Reduction 1998
- In 1997, a survey was made of 379 urban poor settlements comprising 171,730 people, or 30,150 families. Another survey in 1998 covered 370 urban poor settlements with 170,000 people, or 30,000 families.
 - The Government and the Phnom Penh Governor coordinated with UNDP, UK DFID, UNCHS, and the Japanese Government on two major urban poverty reduction projects in Phnom Penh. The projects cost more than \$3 million and were to be implemented over three years.
 - The biggest project on poverty reduction, CMB/00/03/01/56 Phnom Penh, was to be implemented from February 2000 to January 2001 for \$2,361,729.

3 HEALTH AND EDUCATION

- 3.1 Persons per hospital bed MOP, Draft Report on the Results of Government Activities from 1993 to 1998, July 1998

Year	Persons per Hospital Bed
1997	227
1996	216
1995	259
1994	581
1993	309

- 3.2 Child mortality NIS, MOP, Socioeconomic Survey of Cambodia 1997
- 3.3 Life expectancy at birth First Five-Year Socioeconomic Development Plan 1996–2000, January 1997
- Life expectancy improved by 51.60% between 1960 and 1994.
- 3.4 Mortality from infectious diseases First Five-Year Socioeconomic Development Plan 1996–2000; Department of Public Health, Phnom Penh, Yearbook Report, January 1997; Ministry of Health, Annual Health Bulletin, 1998

Year	Mortality per 1,000 Population
1999	16.00
1997	15.94
1996	15.87
1995	15.75
1994	15.72
1993	15.63
1992	15.54
1991	15.52

- The main killer diseases are diarrhea, acute respiratory infection, dengue, hemorrhagic fever, malaria, and HIV.

Phnom Penh

3.5	Family planning	From 1995 to 1999, the percentage of married couples with females in the fertile age group increased to 80 percent.				
3.6	Adult literacy rate	NIS, MOP, Socioeconomic Survey of Cambodia 1993/1994, 1996/1997				
		Year	Adult Population	% of Literate Adults		
		1994	492,573	82.00		
		1996	474,976	67.00		
		1997	558,390	82.20		
		1998	710,233	82.70		
3.7	School enrollment rates (primary,secondary)	Department of Youth, Culture and Sports, Phnom Penh, Yearbook Report; First Five-Year Socioeconomic Development Plan 1996–2000, January 1997				
		Year	Enrolled Males	% School Enrollment	Enrolled Males	% School Enrollment
		Primary School				
		1989/90	65,445	73.47	35,535	75.30
		1990/91	71,919	76.09	39,050	77.42
		1991/92	75,183	78.71	40,822	79.54
		1992/93	81,416	81.33	44,207	81.66
		1993/94	88,495	83.95	48,050	83.78
		1994/95	93,211	86.57	50,610	85.90
		1995/96	95,066	89.19	51,618	87.77
		1996/97	89,927	91.50	48,828	85.00
		1997/98	98,292	94.50	53,369	87.60
		1998/99	100,714	93.00	54,685	89.24
		Secondary School				
		1989/90	23,257	88.15	9,741	75.30
		1990/91	22,401	89.11	9,384	77.42
		1991/92	23,810	90.07	9,972	79.54
		1992/93	28,022	91.03	11,737	81.66
		1993/94	32,419	91.99	13,578	83.78
		1994/95	33,684	92.95	14,108	85.90
		1995/96	34,064	94.95	14,267	87.77
		1996/97	42,067	92.70	17,620	85.00
		1997/98	36,797	93.80	15,412	87.60
		1998/99	36,307	94.62	15,207	89.24
		In 1996/1997, the number of enrolled males decreased as more males of working age found employment.				
3.8	Tertiary graduates	Government of Cambodia, Draft Report 1993–1998; NIS, MOP, Socioeconomic Survey of Cambodia 1993/94; Phnom Penh Municipality, Yearbook Report on the Economy and Culture 1979–1997				
			Male Adults		Female Adults	
		Year	No.	%	No.	%
		1993/1994	47,211	2.60	41,866	0.64
		1994/1995	53,139	2.39	48,157	0.58
		1995/1996	53,576	2.49	48,889	0.59
		1996/1997	54,530	2.51	49,162	0.61
		1997/1998	54,387	2.73	51,156	0.64
		Many students enrolled at the tertiary level dropped out because they could not afford the high costs of tertiary education.				
3.9	Median years of education	NAV				
3.10	School children per classroom (primary, secondary)	Department of Youth, Culture and Sports, Yearbook Report				
		Year	No. of School	No. of Classrooms	School Children per Classroom	
		Primary School				
		1989/90	100,980	1,880	54	
		1990/91	110,969	1,965	56	
		1991/92	116,005	1,977	59	
		1992/93	125,623	2,072	61	
		1993/94	136,545	2,313	59	
		1994/95	143,821	2,554	56	
		1995/96	146,684	2,646	55	
		1996/97	138,755	2,784	50	
		1997/98	151,661	2,941	52	
		1998/99	155,399	3,077	51	

Phnom Penh

Secondary School

1989/90	32,998	716	46
1990/91	31,785	702	45
1991/92	33,782	736	46
1992/93	39,759	835	48
1993/94	45,997	906	51
1994/95	47,792	951	50
1995/96	48,331	1,009	148
1996/97	59,687	1,125	53
1997/98	52,209	1,076	49
1998/99	51,514	1,078	48

- The number of students per classroom has increased over the years because of the limited capital budget for the Government's educational program (e.g., expansion of school physical facilities and classrooms).

4 URBAN PRODUCTIVITY

- 4.1 City product per capita
- 4.2 Employment by industry
- 4.3 Household expenditure

NIS, MOP, Socio-Economic Survey of Cambodia 1993/94

Ibid., 1997

Ibid., NIS, MOP, Labor Force Survey of Phnom Penh, Second Quarter 1998

Year	Ave. Household Income (\$)	Household Expenditure (%)			
		Food	Shelter	Travel	Others
1993	179.84	9.00	24.00	9.00	18.00
1994	191.27	49.00	24.00	9.00	18.00
1997	216.58	43.90	32.60	9.50	14.00
1998	173.58	40.44	37.56	10.00	12.00

- 4.4 Investment by sector
- 4.5 Tourism

NAV

Draft Report of the Royal Government of Cambodia Activities between 1993 and 1998

Year	Tourists	% Growth over Previous Year
1997	218,843	16.00
1996	260,489	18.57
1995	219,680	24.38
1994	176,617	49.44
1993	118,183	

- Cambodia (or Phnom Penh) has high tourism potential because of its many heritage buildings like the Angkor Wat Temple and the Palace Royal.
- Moreover, the Government of Cambodia in recent years has improved its tourism-related policies to attract more tourists.

- 4.6 Major projects

Phnom Penh Water Supply Authority, Interim Report 1995–1999

Department of Public Works and Transport, Interim Report 1995–1999; MOP, Public Investment Program for 2000–2002

Project Name	Total Project Cost (\$)
Phnom Penh Water Supply and Drainage Project (Part A: Water supply)	15,360,000
Phnom Penh Water Supply and Drainage Project (Part B: Drainage)	13,947,000
Cambodia Urban Water Supply Project, Phnom Penh Component	25,961,500
Improvement of Water Supply Facilities in Phnom Penh	17,147,058*
Construction of MPP Landfill Site	12,300,000
Study on Drainage Improvement and Flood Control in MPP	2,867,000
Improvement of MPP Flood Control Facilities	41,600,000
Total	112,035,500

*converted to US dollar based on 1998 average rate per year of the international financial statistics yearbook.

- The drainage and road congestion systems of the city need to be improved.

Phnom Penh

- 4.7 Cost of stay
4.8 Corporate headquarters

CDB estimates
Investment Bureau, Phnom Penh Municipality, Interim Report 1999

5 NEW TECHNOLOGY

- 5.1 R&D expenditure
5.2 Telephone traffic
(million calls per year)
5.3 Internet hosts per
thousand population

NAV
NAV
NAV

6 URBAN LAND

- 6.1 Urban land

Study on Drainage Improvement and Flood Control in Phnom Penh Municipality, August 1999

Category	Zoned Area 1998 (ha)	% of Total	Zoned Area 2010 (ha)	% of Total	Zoned Area 1998–2010 (%)
Residential	4,136	21.00	6,921.	35.40	7.00
Business and Services	603	3.10	663.	3.40	10.00
Industry and Infrastructure	287	1.50	431.	2.20	50.00
Agriculture	11,919	60.90	8,130.	41.50	-32.00
Mixed Use	793	4.10	1,586.	8.10	100.00
Others	1,833	9.40	1,840.	9.40	0.38
Total Area	19,571	100.0	19,571.	100.00	0.00

- The 195.71 m² study area constitutes the greater part of Phnom Penh City (290 m²). The area is within longitude 105 degrees 45' E to 105 degrees 55' E latitude 12° 27' N to 12° 40' N and is in the delta plain of the Mekong River system with low altitudes ranging from 4 m to 14 m above the mean sea level.

- 6.2 Land developer multiplier

- At the urban fringe the price of raw land was from \$1–\$2 per m² in 1993/94. After development the price of land went up to \$10–\$30.
- Planning permission is required before land can be developed.

- 6.3 Developer contributions
6.4 Median time for planning
permission
6.5 Vacant land with planning
permission
6.6 Public open space

NAV
NAV
Department of Urbanization, Land Management and Construction of Phnom Penh City, Yearbook Report 1999
• Amount of vacant land with planning permission: 627 hectares
Study on Drainage Improvement and Flood Control in Phnom Penh Municipality (Final Report), August 1999
• Open space comprises about 209 hectares of the total land area of 19,571 hectares, or only 1% of the built-up area.

- 6.7 Vacant government land
6.8 Price of prime commercial
land

Based on best estimates
Cambodia Urban Development Strategy Studies (Draft final Report), March 1996
• In 1993/1994 land in prime commercial locations cost an average of \$165–\$400 per m² based on estimates.

7 HOUSING

- 7.1 Dwelling type

Based on estimates
• Single houses: 60%–70%
• Apartments: 30%–40%

- 7.2 Tenure type

NIS, MOP, Demographic Survey of Cambodia 1996

Type of Land	1996 (%)	1998 (%)
Owned or purchased	92.60	84.00
Rented	3.40	11.53
Rent-free	3.70	3.76
Others	0.30	0.71

- The cost of acquiring a house has increased and more people would rather rent than buy their own house.
- Tenure type includes formal and informal housing.

Phnom Penh

- 7.3 Ratio of house price to income
7.4 Ratio of house rent to income
7.5 Floor area per person

NAV

NAV

Year **Median Floor Area
per Person (sq m)**

1996 5.75

1997 8.81

- 7.6 Housing in compliance

- There are no accurate records of housing data for the period 1988–1998 because of poor land management and weak enforcement of the housing controlling law (or principal law).
- During the same period, the local government authorized the building of 7,130 houses.
- The principal laws and their enforcement must be strengthened to improve housing and land use management in Phnom Penh City.
- There is a need for technical and financial assistance to improve housing and land use management and control.
- In the last five years the percentage of dwellings in Phnom Penh that complied with the building code increased from 30% to 40%.

- 7.7 Ratio of mortgage to credit

NAV

- In Phnom Penh City, it is difficult to borrow money from any source to buy a house.

- 7.8 Houses with mortgage

NAV

- 7.9 Mortgage loans for women

NAV

- 7.10 Housing production

Department of Urbanization, Land Management and Construction of Phnom Penh City, Yearbook Report 1990–1999; Land Title Department, MOP.

Year **No. of Dwellings Produced Yearly
% Increase/Decrease per 1,000
Population over previous year**

1999 556 0.54

1998 529 0.53

1997 603 0.71

1996 889 1.07

1995 625 0.76

1994 393 0.48

1993 1,279 1.73

1992 763 1.13

1991 490 0.78

1990 383 0.62

- The rate of housing production cannot keep up with the increase in population, especially given the inadequate technical and financial support for housing production.
- Many workers from provinces, who come to the city looking for work, have been living in rented houses.
- Although many houses were built without the approval of the local government, these houses cannot rightly be called informal houses because the house owners can have their tenure approved at any time. The median floor area of 7.5 m² per person is adequate.

• Houses built on new (vacant) land averaged 651 units yearly between 1990 and 1999. Housing production in 1999 was 540 units below the housing production requirement for that year, excluding informal and squatter housing.

- 7.11 Squatter resettlement or
normalization

Phnom Penh Government, Report on the Implementation of the Poverty Reduction Program 1999

- In 1999, the start of the program, 441 of the 30,000 squatter households (1.47%) in Phnom Penh City were resettled or normalized.
- The Phnom Penh government is concerned with reducing the number of poor people living in Phnom Penh City.
- Technical and financial support from developed countries and NGOs is needed to strengthen the squatter resettlement and normalization program of the local government.
- There is a plan to help alleviate the situation of squatters in Phnom Penh City, according to the poverty reduction program of the government.

- 7.12 Net housing outlays by
government (per person)

- The Phnom Penh government plans and makes housing outlays, but the amounts involved fall far short of the requirement, given the number of people living in Phnom Penh City.

- 7.13 Homeless people

- There is no record of the number of homeless or street people on an average night. But from 1993 to 1998 there have been several hundred homeless or street people on an average night because of migration of people from other provinces looking for jobs or seeking to earn a living by begging. The number of homeless or street people increases during the dry season.
- Homeless people are a source of much concern to the local authorities, but most come from other provinces to earn a living and stay only for a limited time in Phnom Penh.

Phnom Penh

8 MUNICIPAL SERVICES

8.1 Water

Phnom Penh Water Supply Authority (PPWSA), Yearbook Report on Clean Water Production Activities 1997, 1998, 1999, 2000

- PPWSA was created as an autonomous state-owned enterprise of the Cambodian Government by Decree No. 52, issued in December 1996.
- PPWSA currently has a permanent staff of 401 employees. There are about eight employees for every 1,000 connections.

8.1.1 Household connections

8.1.2 Investment per capita

In 1998, the capital expenditure per person was \$2.55, and expenditure would be increased 96% in 1999 if compared to 1998. Total capital expenditure was approximately \$5,123,495 in 1999.

8.1.3 Operations and maintenance expenditure

8.1.4 Cost recovery

Department of Finance, PPWSA, Yearbook of Water Production and Service Management Activities CDB estimates

8.1.5 Output per staff: Water supplied per employee

8.1.6 List of providers

- The main provider is the PPWSA.

8.1.7 Nonrevenue water

a. Percent unaccounted for water

b. Interruptions in water service

- Water interruptions are normally localized and do not affect the whole system.

8.1.8 Consumption of water per capita

- The domestic sector (including the unserved areas) uses 1.22 m³ of water per person per day, or about 80 m³ of water per person per year.

8.1.9 Median price of water, scarce, season

- The median price of water per day is \$0.39 m³.

8.2 Electricity

8.2.1 Household connections

- The number of households with electric connections increased from 7,559 in 1995 to 10,583 in 1996, largely because of the major projects in this area.

- The major projects are supported by the developed countries (such as France, Belgium, Ireland, and Japan) and development finance institutions (such as the Asian Development Bank, the United Nations Development Programme, and the World Bank).

8.2.2 Investment per capita

- The investment in electric power per capita increased by 24% between 1996 (\$76.56) and 1997 (\$85). Per capita investment in electricity in 1998 is estimated to have been slightly higher than the 1997 figure.

8.2.3 Operations and maintenance expenditure

8.2.4 Cost recovery (%)

Department of Finance, Electricité du Cambodge, Yearbook Reports
NAV

8.2.5 Output per staff: Megawatt hours of electricity supplied per employee

8.2.6 List of providers

- A private company, Electricité du Cambodge, is the main provider.
- Unserved areas use charcoal, other fuels, and small generators for their cooking and lighting needs.
- There have been interruptions in the delivery of electricity.

8.2.7 Non revenue electricity

8.3 Sewage/Wastewater

8.3.1 Household connections

Sewerage Division, Department of Public Works and Transport, Annual Report 1995–1999

- The percentage of households with sewerage and wastewater disposal connections remained the same between 1997 and 1999.

8.3.2 Investment per capita

NAV

8.3.3 Operations and maintenance expenditure

NAV

8.3.4 Cost recovery

NAV

8.3.5 Output per staff: Wastewater discharged or treated per employee

NAV

8.3.6 List of providers

Sewerage Division of Phnom Penh City

- In areas without wastewater disposal systems, people throw their wastewater into pits or canals near their houses.

Phnom Penh

8.4	Telephone																																		
8.4.1	Household connections	- The total number of households with telephone connections increased by 1.46% from 1998 to 1999, but such households made up a smaller proportion of the total population of the city in 1999 (by 13.5%) compared with the previous year. - The investment in telephone service per person in 1998 was \$8. The investment per capita is estimated to have increased slightly in 1999.																																	
8.4.2	Investment per capita																																		
8.4.3	Operations and maintenance expenditure																																		
8.4.4	Cost recovery	Ministry of Post and Telecommunication, Yearbook Reports, 1998–1999																																	
8.4.5	Output per staff: thousands of calls per employee	The average duration of calls per employee per day in 1998 was 95 minutes.																																	
8.4.6	List of providers	The companies that provided telephone services in 1998 were Alcatel, Camitel, Fetex, Cam GSM, Mamtel, Tricelcam, Casacam, and Camshin.																																	
8.5	Solid waste collection	Department of Public Works and Transport, Yearbook Reports, 1990–1999																																	
8.5.1	Households with regular service	- In 1990–1999, the number of households in Phnom Penh with access to regular garbage collection services was increasing, as was the percentage of such households relative to the total number of households in the city. - Financial support is needed to operate and extend the solid waste collection services. - There are not enough landfill sites. - In 1998–1999, 94,159 of the 173,678 households in Phnom Penh (54.21%) had access to regular garbage collection services. - In 1999, 85% of households in four urban districts (82,702 out of 97,296 households) and 10%–15% of the households in three districts in the suburbs (11,457 out of 76,382 households) had access to regular garbage collection services. - In 1999 the government contracted solid waste collection to a private company. The government and the company are monitoring each other's compliance with the terms of the contract, and the government is helping coordinate garbage collection by the private company within the city. - The city government is helping coordinate garbage collection by the private company within the city. - Solid waste in informal areas, which is not collected by the private company, is dumped or burned near the houses.																																	
8.5.2	Investment per capita	NAV																																	
8.5.3	Operations and maintenance expenditure	NAV																																	
8.5.4	Cost recovery	NAV																																	
8.5.5	Output per staff: collected per employee	<table> <tr> <th>Year</th><th>Total Solid Waste Collected (mt)</th><th>Collected per Employee (mt)</th></tr> <tr><td>1990</td><td>98,500</td><td>145</td></tr> <tr><td>1991</td><td>135,205</td><td>199</td></tr> <tr><td>1992</td><td>137,965</td><td>203</td></tr> <tr><td>1993</td><td>159,812</td><td>235</td></tr> <tr><td>1994</td><td>185,609</td><td>249</td></tr> <tr><td>1995</td><td>186,216</td><td>250</td></tr> <tr><td>1996</td><td>195,384</td><td>262</td></tr> <tr><td>1997</td><td>194,610</td><td>261</td></tr> <tr><td>1998</td><td>230,893</td><td>310</td></tr> <tr><td>1999</td><td>270,293</td><td>363</td></tr> </table>	Year	Total Solid Waste Collected (mt)	Collected per Employee (mt)	1990	98,500	145	1991	135,205	199	1992	137,965	203	1993	159,812	235	1994	185,609	249	1995	186,216	250	1996	195,384	262	1997	194,610	261	1998	230,893	310	1999	270,293	363
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1999	270,293	363																																	
8.5.6	List of providers	NAV																																	

9 URBAN ENVIRONMENT

9.1	Solid waste generated	<table><tr><th>Year</th><th>Solid Waste Generated per Person per Year</th></tr><tr><td>1998</td><td>0.43</td></tr><tr><td>1996</td><td>0.44</td></tr></table>	Year	Solid Waste Generated per Person per Year	1998	0.43	1996	0.44
Year	Solid Waste Generated per Person per Year							
1998	0.43							
1996	0.44							
9.2	Household sewage disposal (% of households)	- Phnom Penh has no wastewater treatment plant and does not separate wastewater produced by households with public sewerage connections (51% of all housing units from storm water). Both are channeled to pumping stations through the same pipes before being discharged into rivers. - The Cambodia Socioeconomic Survey of 1999 disclosed that 41.4% of all housing units were connected to public sewerage pipes in 1998 (compared with 51% in 1997) and 36.7% units used septic tanks in 1998 (versus 25% a year earlier).						

Phnom Penh

9.3	Wastewater treated	NAV
9.4	Percent BOD removed from wastewater	NAV
9.5	Air pollution concentrations	- Air pollution problems occurring near the landfill sites have caused breathing difficulties among the people living in the vicinity and given some of them, especially the children, respiratory diseases. - The yearbook reports on the Cambodia socioeconomic surveys for 1994, 1996, 1997, and 1998 do not contain information on the total energy use per person per year (in metric tons of coal equivalent). The survey results show only the main sources of lighting and the types of fuel used for cooking in households.
9.6	Energy use per person	Most people living in Phnom Penh City use charcoal, wood, and kerosene to cook their meals.
9.7	Noise complaints	- Authorities received a few complaints of noise from domestic (generator use for lighting) and industrial sources during the year. - Local authorities who received such complaints collaborated with the Phnom Penh Environment Department, and the mayor or the Ministry of Environment acts on the complaints. - Noise pollution regulations must be enforced more strictly in Phnom Penh City.
9.8	Disasters in last 10 years	
9.9	Methods of solid waste disposal	- In 1998/1999, of the total waste produced by the city: - About 50-60% was disposed in sanitary landfills. - About 1-2% was incinerated. - About 34-38% was dumped or burned in the open. - About 5-10% was recycled.

10 URBAN TRANSPORT

10.1	Mode of travel	In the absence of a survey of the types of transport used in traveling to and from work, estimates made by an experienced consultant with the Department of Transport and Public Works of Phnom Penh Municipality were used. <table><tr><th colspan="2">Modes of Travel to and from Work, 1999</th></tr><tr><th>Mode</th><th>% of Total Trips</th></tr><tr><td>Private automobile</td><td>10</td></tr><tr><td>Bus or minibus</td><td>15</td></tr><tr><td>Motorcycles</td><td>60</td></tr><tr><td>Bicycle</td><td>02</td></tr><tr><td>By foot</td><td>03</td></tr><tr><td>Others</td><td>10</td></tr></table>	Modes of Travel to and from Work, 1999		Mode	% of Total Trips	Private automobile	10	Bus or minibus	15	Motorcycles	60	Bicycle	02	By foot	03	Others	10
Modes of Travel to and from Work, 1999																		
Mode	% of Total Trips																	
Private automobile	10																	
Bus or minibus	15																	
Motorcycles	60																	
Bicycle	02																	
By foot	03																	
Others	10																	
10.2	Median travel time	- Problems related to energy use and urban congestion are expected to increase. - The average travel time to and from work is as follows: <table><tr><th>Mode</th><th>No. of Minutes</th></tr><tr><td>Private car</td><td>20</td></tr><tr><td>Bus or miniutes</td><td>25</td></tr><tr><td>Motorcycle</td><td>25</td></tr><tr><td>Bicycle</td><td>30</td></tr><tr><td>By foot</td><td>40</td></tr></table>	Mode	No. of Minutes	Private car	20	Bus or miniutes	25	Motorcycle	25	Bicycle	30	By foot	40				
Mode	No. of Minutes																	
Private car	20																	
Bus or miniutes	25																	
Motorcycle	25																	
Bicycle	30																	
By foot	40																	
10.3	Expenditure on road infrastructure	Ministry of Finance and the Economy, Distribution of Funds to Phnom Penh City in 2000, December 1999 - In 2000, the expenditure on roads per capita was about \$0.83 (government budget only). - Expenditure on roads in Phnom Penh Municipality is low because of the lack of financial support for road maintenance every year. - Technical and financial assistance for road infrastructure is needed from developed countries to reduce road congestion and road accidents in Phnom Penh City. - The central Ministry of Public Works and Transport supplies the budget for the construction and maintenance of Phnom Penh's main reads.																
10.4	Road congestion	- Road traffic increased gradually in 1995 to 1999. - Road congestion was not a problem in Phnom Penh in 1998 or 1999.																
10.5	Automobile ownership	Draft Report on Government Activities in 1993 to 1998, July 1998 <table><tr><th>Year</th><th>Private Cars</th></tr><tr><td>1997</td><td>8,421</td></tr><tr><td>1996</td><td>6,290</td></tr><tr><td>1995</td><td>7,982</td></tr></table>	Year	Private Cars	1997	8,421	1996	6,290	1995	7,982								
Year	Private Cars																	
1997	8,421																	
1996	6,290																	
1995	7,982																	

Phnom Penh

1994	7,383
1993	6,760
1992	10,798
1991	5,564

10.6 Cost recovery from fares

10.7 Port/Air activity

NAV

Draft Report on Government Activities in 1993–1998, July 1998

Year	Departing Ships
1997	2,265
1996	1,721
1995	1,394
1994	1,540
1993	1,025

- Phnom Penh has a small port.
- Financial and technical assistance from developed countries is needed to extend and upgrade port facilities.
- Economic reforms have led to increased activity in factories. Workers have been going to work on motorcycles with hitched wagons. This is the main explanation for the large figure in the Others category.

10.8 Goods carried

10.9 Transport fatalities

Road Traffic Police Bureau, Phnom Penh Municipality, Yearbook Report on Transport Fatalities in 1990–1999

11 CULTURAL

11.1 Attendance at public events

Phnom Penh Municipality, Report on Economic and Cultural Activities in 1979–1997

Year	No. of Shows	Attendance
1998	87	405,000
1997	139	890,000
1996	116	28,974
1995	123	738,000
1994	130	900,000
1993	78	169,867
1992	75	168,525
1991	70	157,290
1990	60	137,293
1989	36	30,000

11.2 Attendance at galleries and museums

NAV

11.3 Participation in sports

NAV

12 LOCAL GOVERNMENT FINANCE

12.1 Sources of revenue

Phnom Penh City, Yearbook Report on Activities in 1997, 1998, 1999; Phnom Penh Water Supply Authority, Yearbook Report on Water Production in 1997, 1998, 1999; Department of Construction and Urbanization, Phnom Penh City, Yearbook Report on Housing and Building Construction in 1997, 1998, 1999

	Revenue Sources (%)		
	1997	1998	1999
Taxes	8.56	22.80	11.47
User Charges	17.20	44.20	27.83
Others	74.24	33.00	60.70

- The total annual budget of the city government is covered by taxes, user charges, and other sources including transfers from the national Government. For more than ten years large transfers were made from the Government but these budget transfers decreased significantly in 1999 and will continue to decrease, in accordance with the principle of local budget autonomy. The budget autonomy granted to the water supply authority in Phnom Penh explains much of the increase in the revenue of Phnom Penh. Also, it charges those who use more than a certain minimum amount of clean water a higher price per m³ for the extra water they use.
- The Others category also includes a large amount of revenue from the rental of assets. In 1999 this amounted to \$1,639,158.

Phnom Penh

- The city imposes these taxes and other charges:
 - Tax on cultural assets
 - Patent licenses
 - Tax on the slaughter of animals
 - Tax on transportation services and all modes of transport
 - Tax on general lighting

- 12.2 Capital and recurrent expenditure per person
- 12.3 Collection efficiency, property taxes

NAV

Phnom Penh City, Yearbook Report on Tax Collection Results for 1981 to 1999, December 1999

Year	Total Tax Collection (cost of land without building) (\$)	% of Collection Receipts Passed on to Local Gov't
1997	14,546	1.27
1998	2,063	0.13
1999	22,024	1.26

- 12.4 Debt-service charge

- The poor community in Phnom Penh City needs to pay their low-interest loans from the local government for building their houses.

- 12.5 Employees

Phnom Penh City, Yearbook Report on Economic and Cultural Activities, 1979–1997

Year	Local Government Employees	
	Number	Per 1,000 Population
1999	11,330	11
1997	11,052	13
1996	11,241	14
1995	10,502	13
1994	10,759	13
1993	10,945	15
1992	11,234	17
1991	11,858	19
1990	11,897	19

- 12.6 Wages in budget

Department of Finance and the Economy, Report on Phnom Penh City, 2000; Ministry of Finance and the Economy, Report on the Management of Government Expenditure 1999

Year	Wages (\$)	% of Recurrent Expenditure
2000	3,743,528	53.00
1999	5,208,444	57.59

- 12.7 Contracted recurrent expenditure ratio
- 12.8 Business permits

- The major contracted recurrent expenditure was for clean water supply and the reconstruction and improvement of the road and drainage systems.

Phnom Penh City, Yearbook Reports on Economic and Cultural Activities, 1979–1997

Permits Issued to Businesses, 1993–1997			
Year	Export and Import Companies	Other Companies	Total Permits Issued
1993	517	45	562
1994	740	65	805
1995	742	71	813
1996	752	70	822
1997	868	70	938

More business permits are being issued because of the improved political stability of Cambodia.

- 12.9 Enterprise revenues
- 12.10 Computerization of functions

NAV

NAV

13 URBAN GOVERNANCE

- 13.1 Functions of local government

- The local government controls all activities related to water supply, sewage collection, refuse collection (in coordination with private companies), public transport, emergency services (fire, ambulance), road maintenance, and health care. In partnership with higher government and in some cases with other countries and with NGOs, it carries out activities in education, public housing, recreation/sports, police services, drainage/flood control, and livelihood assistance.

Phnom Penh

13.2	Delivery of annual plan	- Electricity and telephone services are functions of higher government. - Before 1993 (the year of the first government election) Phnom Penh government units delivered close to 100% of the annual plan but now they deliver 50-60% of the annual plan.
13.3	Voter participation rates, by sex	NAV
13.4	Independence from higher government	- The local government cannot dissolve the Council or remove councilors from office. This decision belongs to the Government. - The local government only implements taxes imposed by the central Government.
13.5	Elected and nominated councils	- The local government proposes user charges for major services to the higher government and submits to the latter's decision. - The local government negotiates loans and terms with fund sources and then endorses the loan documents to the higher government for approval and signature. - The local government chooses project contractors and endorses these to the higher government for decision.
13.6	Representation of minorities	NAV
13.7	Planning applications refused	The interests of the various minorities in the Phnom Penh municipality have been adequately represented in their communities and in Parliament.
13.8	Business satisfaction	A survey of business satisfaction must be made to gauge the extent of responsiveness of local government services to the needs of the business community.
13.9	Consumer satisfaction	A survey of consumer satisfaction must be made to gauge the extent of responsiveness of local government services to the needs of consumers in general.
13.10	Perception as place to live	Public perception of the quality of life in the city has not been surveyed but in view of the decrease in the number of poor people from 1993 to 1999, the quality of life can be said to have improved. Investors have also increased in number between 1995 and 1998.
13.11	Reported crimes	NAV
13.12	Access to information	The local government has carried out many activities to inform its various constituencies since 1992 but no documents detail the actual extent of public access to information.
13.13	Contact with the public	- While there are no details of the actual number of local government meetings held each year and the attendance at those meetings, it is estimated that such meetings occur at least 100 times yearly. - Top officials meet an average of once or twice a week with their various constituencies.
13.14	Decentralized district units	There are seven districts with 76 communes within the Phnom Penh local government.

Seoul

Indicators

1 POPULATION

1.1	Urbanization	National Statistical Office (NSO), International Statistics Yearbook 1999																											
		<table><tr><td>1995</td><td>1990</td><td>1985</td></tr><tr><td></td><td>(%)</td><td></td></tr><tr><td>81.3</td><td>73.8</td><td>64.9</td></tr></table>	1995	1990	1985		(%)		81.3	73.8	64.9																		
1995	1990	1985																											
	(%)																												
81.3	73.8	64.9																											
1.2	City Population	Seoul Metropolitan Government (SMG), Seoul Statistical Yearbook (SSY) 1999																											
		<table><tr><td>1998</td><td>1993</td><td>1988</td></tr><tr><td>10,321.496</td><td>10,925.464</td><td>10,286.503</td></tr></table>	1998	1993	1988	10,321.496	10,925.464	10,286.503																					
1998	1993	1988																											
10,321.496	10,925.464	10,286.503																											
1.2.1	Resident population of municipal area																												
1.2.2	Population during daytime working hours	Daytime pop. = Nighttime pop. + Daytime inflow pop.- Daytime outflow pop. Population (12 years old and over) during daytime working hours for 1995 was 8,873,370. Resident (night) pop. for 1995 is 8,421.085. Therefore, the daytime population index is 105.4. SMG, SSY 1999																											
1.3	Migration	<table><tr><td>1998</td><td>1997</td><td>1996</td><td>1995</td><td>1994</td><td>1993</td></tr><tr><td>-134,013</td><td>-178,319</td><td>-211,237</td><td>-321,898</td><td>-236,497</td><td>-182,632</td></tr></table>	1998	1997	1996	1995	1994	1993	-134,013	-178,319	-211,237	-321,898	-236,497	-182,632															
1998	1997	1996	1995	1994	1993																								
-134,013	-178,319	-211,237	-321,898	-236,497	-182,632																								
1.3.1	Other parts of the city, net	0 since SMG boundary has not been changed.																											
1.3.2	Other parts of the country, net	-134,013 since (In-migrants) – (Out-migrants) = 546,288 – 680,301																											
1.3.3	International migration, net	NAV																											
1.3.4	Total net migration	Total net migration is 134,013 for 1998. - This includes the figure (birth) – (death) = 132,494 – 37,573 = 94,921. - Where SMG is composed of 25 lower level local governments, the intra-local government migrants are 1,256,643. However, those migrants still live inside the SMG and are not included in the net migration calculation.																											
1.4	Population net density	SMG, SSY 1999																											
		<table><tr><td>1998</td><td>1993</td></tr><tr><td>480.7</td><td>520.8</td></tr></table> The classification of land area by land category used in SSY is dry paddy, rice paddy, orchard, pasture, forestry, mineral spring, salt field, housing lots, factory site, school site, road, and railroad site. Total land area and housing lot are 605.5 and 214.7 hectares, respectively. Thus, population net density is calculated as SMG population divided by housing lot.	1998	1993	480.7	520.8																							
1998	1993																												
480.7	520.8																												
1.5	Age pyramid	Ibid.																											
		<table><tr><td>1998</td><td>Male</td><td>Female</td></tr><tr><td></td><td>(%)</td><td>(%)</td></tr><tr><td>Persons 0 – 14</td><td>10.11</td><td>9.11</td></tr><tr><td>Persons 15 – 59</td><td>36.69</td><td>36.07</td></tr><tr><td>Persons over 60</td><td>3.31</td><td>4.71</td></tr></table> <table><tr><td>1990</td><td></td><td></td></tr><tr><td>Persons 0 – 14</td><td>12.98</td><td>11.78</td></tr><tr><td>Persons 15 – 59</td><td>35.15</td><td>34.72</td></tr><tr><td>Persons over 60</td><td>2.05</td><td>3.31</td></tr></table>	1998	Male	Female		(%)	(%)	Persons 0 – 14	10.11	9.11	Persons 15 – 59	36.69	36.07	Persons over 60	3.31	4.71	1990			Persons 0 – 14	12.98	11.78	Persons 15 – 59	35.15	34.72	Persons over 60	2.05	3.31
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	(%)	(%)																											
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1990																													
Persons 0 – 14	12.98	11.78																											
Persons 15 – 59	35.15	34.72																											
Persons over 60	2.05	3.31																											
1.6	Average household size	Ibid.																											
		<table><tr><td>1998</td><td>1993</td><td>1988</td><td>1983</td></tr><tr><td>2.98</td><td>3.18</td><td>3.87</td><td>4.35</td></tr></table>	1998	1993	1988	1983	2.98	3.18	3.87	4.35																			
1998	1993	1988	1983																										
2.98	3.18	3.87	4.35																										
1.7	Household formation rate	Ibid.																											
		<table><tr><td>No. of Households</td><td></td></tr><tr><td>1993</td><td>1998</td></tr><tr><td>3,430,528</td><td>3,458,511</td></tr></table>	No. of Households		1993	1998	3,430,528	3,458,511																					
No. of Households																													
1993	1998																												
3,430,528	3,458,511																												
1.8	Women-headed households	Thus annual rate of increase between 1993 and 1998 is 0.2%. Ibid.: SMG Seoul Women White Paper 1999																											

	1995	1980
Total households	2,965,794	1,849,324
Women-headed households	496,248	275,041
%	16.7	14.9

1.9 Minority groups

Ibid.

- According to the census, the total number of foreigners was 50,990 out of a total population of 1,0321,496; that is, less than 0.5%. There is no specific ethnic group in the Republic of Korea. The 50,990 consists of Japanese (5,957), Americans (17,751), Chinese (10,856), British (731), French (931), Germans (901), Vietnamese (657), Filipinos (1,659), and others (11,547).
- These figures exclude United Nations (UN) armed forces, civilians attached to the forces, diplomats and members of UN organizations or missions of foreign governments and their families.

1.10 Household types

NSO Population and Housing Census Report 1995

	1995	No. of Households (%)
Single person	382,024	12.88
Adults only	368,579	12.43
Single parent family	241,392	8.14
Adults and children	1,973,799	66.55

- Here, children implies either parents' or grandparents' children. Thus children may include adults who live together with their parents or grandparents.

1.11 Informal settlements

SMG, SSY 1999

1998	1993
56,082	86,164

- Data on the number of old illegal housing are available.

2 EQUITY

2.1 Income distribution

NSO, Annual Report on the Family Income and Expenditure Survey 1998

Monthly average incomes per household in 1998: Q5.\$5,314; Q4.\$3,215; Q3.\$2,439; Q2.\$1,873; Q1.\$1,198

- The above monthly average income figures are derived from monthly income per household by income decile for households of all cities. The NSO does the sampling of 3,098 households among households of all cities. The average monthly income for all cities was \$2,808.
- Although NSO does not release the figures for Seoul, it reports the average monthly income per household. For 1998, it is \$2,890.

2.2 Households below poverty line

SMG, SSY 1999

- SMG does not have any official poverty line, but provides the relief for livelihood, for the protected at home, low-income persons, and the protected in institutional facilities.

Classification	1998	1993
Total Households	40.000	42.536
The Protected at Home	17.412	11.781
Low-Income Persons	22.588	30.755
The Protected at Institutional Facilities	0.100	0.086
All Households	3,458.511	3,430.528

2.3 Women-headed households in poverty

SMG, Seoul Women White Paper 1999

- Though there is the relief for livelihood, it is not classified by the gender of the household head. In general, women-headed households are regarded as more likely in poverty than average households. This can be shown in working condition by genders.

1999	Women (Seoul)	Men (Seoul)
Average monthly working days	25.3	25.0
Average monthly working hours	197.1	202.5
Average monthly earnings (\$)	783.0	1,194.0

- Women earn only about 65.6% of what men earn.

2.4 Child labor

SMG, SSY 1999; SMG, Seoul Women White Paper 1999

- There is no report on child labor in Seoul. However, the central Government and SMG try to protect child-headed households and laborers under 20.

Year	Number of Child-Headed Households		
	Total	Household Head	Household Member
1999	936	364	572
1998	985	589	396
1997	1,266	686	580
1996	1,105	579	526
1995	981	500	481
1994	875	448	427
1993	757	384	373

- Until 1997, the standard age for child-headed households was under 20. But the policy has been changed to less than 18. Thus, the number of child-headed households decreased.
- According to employed persons by age group, the number of employed aged between 15 and 19 is 88,000, that is, about 1.98% of all 4,452,000 employed persons.

NAV

SMG, SSY 1999

Unemployment Rate

Year	(%)
1998	7.6
1997	2.7
1996	2.4
1995	2.6

2.5 Informal employment

2.6 Unemployment

2.7 Expenditure on poverty reduction (per poor person)

SMG, The Summary of Budget 1999

Category	Amount (\$)
Comprehensive Policy to Reduce Unemployment	414,938
Protection of Low-Income Group	48,159
Support for Poor Elderly	10,217
Support for Poor Disabled	3,997
Provision of Public Medical Service	39,253
Public Rental Housing	7,833
Total	624,397

- The following figure represents SMG's expenditure on poverty reduction. Due to the Asian financial crisis beginning in 1997, there was much expenditure on reducing unemployment in 1998.

3 HEALTH AND EDUCATION

3.1 Persons per hospital bed

SMG, SSY 1999

- For the 10,321,496 people in Seoul in 1998 there were 32,195 beds for all general hospitals, clinics, special clinics, dental hospitals and clinics, oriental medical hospitals and clinics, dispensary clinics midwife clinics, and city health centers.

3.2 Child mortality

UN, World Population Yearbook 1995

UN, Monthly Bulletin 1998

1996	1991
0.53	0.59

3.3 Life expectancy at birth

SMG, Major Administration Statistics in Seoul 1999

- The figures are national level data:

1995	1990	1985
73.45	71.27	69.00

3.4 Infectious diseases mortality

SMG, SSY 1999

1998	1993
0	0

- There were cases of communicable diseases, but no deaths. The cases for 1998 were composed of typhoid fever (107), paratyphoid fever (7), bacterial dysentery (22), whooping cough (1), mumps (87), and others (520), which include scarlet fever, epidemic hemorrhagic fever, amebic dysentery, and tetanus.

3.5 Family planning

1997 National Fertility and Family Health Survey, Namhoon Cho, Seungkwon Kim, Aejeo Cho, et al., Korea Institute for Health and Social Affairs 1997

3.6	Adult literacy rate	For Seoul, family planning rate is 79.7%. For the national level, the rates are 24.4% (1970), 54.5% (1979), and 79.4 (1991). In addition, for Seoul the family planning methods are vasectomy (13.6%), tubal ligation (24.9%), intra-uterine device (11.4%), oral pills (1.6%), condoms (16.8%), and others (11.5%). Country Report, UNESCO Homepage: http://www2.unesco.org/efa/wef/countryreports/korearapport_2_1.html <table><tr><th>1998</th><th>1993</th></tr><tr><td>98.50</td><td>97.32</td></tr></table>	1998	1993	98.50	97.32														
1998	1993																			
98.50	97.32																			
3.7	School enrollment rates (primary, secondary)	- The literacy rate is for 15 years or older. Seoul Metropolitan Office of Education, Statistical Yearbook of Education 1999; SMG 1999, Population Statistics by Resident Registration 1998 - The number of students at primary school is 748,978, and the primary school age population is 765,956. Thus, the school enrollment rate for primary school is $748,978/765,956 = 97.78\%$. - The number of students at secondary school is 956,778, and the secondary school age population is 931,550. Thus the school enrollment rate for secondary school is $956,778/931,550 = 102.71\%$.																		
3.8	Tertiary graduates	NSO Advance Report of 1995 Population and Housing Census NSO, 1995 Population and Housing Census Report - The number of tertiary graduates (graduates from four-year college or university, and from graduate school excluding two-year college graduates) 30 years or older = 3,095,287. The population of 30 years or older = 22,153,356. These figures are for the national level data of 1995. The proportion of tertiary graduates $(3,095,287/22,153,356) = 13.81\%$. - For Seoul, the number of tertiary graduates from four-year college or university excluding two-year college graduates; from graduate school; and from college but not completed graduate school among 30 years or older = 1,137,341. The population of 30 years or older = 4,932,660. The proportion of tertiary graduates $(1,137,341/4,932,660) = 23.06\%$.																		
3.9	Median years of education	NSO, Homepage 2000 <table><tr><th>1995</th><th>1990</th><th>1985</th></tr><tr><td>10.25</td><td>9.54</td><td>8.58</td></tr></table> Since the median is not available, the mean years of education are used. These are calculated as the total number of educated years divided by (number of persons six years old or above) – (number of students).	1995	1990	1985	10.25	9.54	8.58												
1995	1990	1985																		
10.25	9.54	8.58																		
3.10	School children per classroom (primary/secondary)	Seoul Metropolitan Office of Education, Statistical Yearbook of Education 1999 Primary school children per classroom = $748,978/20,453 = 36.62$ and secondary school children per classroom = $956,778/21,591 = 44.31$.																		
4	URBAN PRODUCTIVITY																			
4.1	City product per capita	SMG, SSY 1999 The following figures are the per capita gross regional domestic product deflated for 1998 dollars, where per capita GRDP = GRDP population in Seoul. <table><tr><th>1997</th><th>1993</th><th>1990</th></tr><tr><th>(\$)</th><th>(\$)</th><th>(\$)</th></tr><tr><td>10,079.37</td><td>8,207.11</td><td>6,050.92</td></tr></table>	1997	1993	1990	(\$)	(\$)	(\$)	10,079.37	8,207.11	6,050.92									
1997	1993	1990																		
(\$)	(\$)	(\$)																		
10,079.37	8,207.11	6,050.92																		
4.2	Employment by industry	Ibid. <table><tr><th></th><th>1998</th><th>1995</th></tr><tr><th></th><th>(no.)</th><th>(no.)</th></tr><tr><td>Agriculture, Forestry, Hunting & Fishing</td><td>14,000</td><td>21,000</td></tr><tr><td>Mining and Manufacturing</td><td>835,000</td><td>1,128,000</td></tr><tr><td>Social Overhead Capital & Other Services</td><td>3,603,000</td><td>3,730,000</td></tr><tr><td>Total</td><td>4,452,000</td><td>4,880,000</td></tr></table>		1998	1995		(no.)	(no.)	Agriculture, Forestry, Hunting & Fishing	14,000	21,000	Mining and Manufacturing	835,000	1,128,000	Social Overhead Capital & Other Services	3,603,000	3,730,000	Total	4,452,000	4,880,000
	1998	1995																		
	(no.)	(no.)																		
Agriculture, Forestry, Hunting & Fishing	14,000	21,000																		
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Social Overhead Capital & Other Services	3,603,000	3,730,000																		
Total	4,452,000	4,880,000																		
4.3	Household expenditure	Ibid. <table><tr><th></th><th>1998</th><th>1993</th></tr><tr><th></th><th>(%)</th><th>(%)</th></tr><tr><td>Food</td><td>28.3</td><td>29.7</td></tr><tr><td>Shelter</td><td>17.7</td><td>20.5</td></tr><tr><td>Travel</td><td>13.2</td><td>9.5</td></tr><tr><td>Others</td><td>40.8</td><td>40.3</td></tr></table>		1998	1993		(%)	(%)	Food	28.3	29.7	Shelter	17.7	20.5	Travel	13.2	9.5	Others	40.8	40.3
	1998	1993																		
	(%)	(%)																		
Food	28.3	29.7																		
Shelter	17.7	20.5																		
Travel	13.2	9.5																		
Others	40.8	40.3																		

- 4.4 Investment by sector
4.5 Tourism

- The classification used in SSY is different. 'Food' is for food and beverages; 'shelter' is a sum of housing (3.6%), fuel, light & water charges (5.2%), furniture & utensils (3.6%), and clothing & footwear (5.3%); 'travel' is for transportation and communication; and "others" include medical care (4.6%), education (11.4%), culture & recreation (4.7%), and other consumption expenditures (20.2%).

NAV

See <http://www.knto.or.kr/Korean/>

- The following figures are estimated from national level data. To estimate the tourism related-data for SMG area, 0.70 – 0.80 is multiplied by the national level data since the relative importance of Seoul to tourism is much greater than for the rest of the country. Here, the index of 0.75 is used. The expenditure figures are adjusted to 1998 US dollars with price index.

	1998	1997	1996	1995	1994
Persons (thousand)	3,188	2,931	2,763	2,815	2,685
Expenditures (million)	4,314	3,687	3,822	3,830	2,534

- 4.6 Major projects

The Budget Outline of SMG 1998	\$ million
Construction of the second-term subway project	648.3
Construction of the radial principal road	67.9
Construction of the inner circular road	61.3
Collectively supplied energy project	57.2
Maintenance and repair project of underground shopping centers	56.7
Construction and design of the third-term subway project	43.8
Construction of recovery facilities of waste materials	34.6
Construction of water purification plants	33.3
Project to improve residential environment	31.4
Extension project of Ji-bong Street	20.8

- 4.7 Cost of stay
4.8 Corporate headquarters

Cities Data Book (CDB) estimates

NAV

5 NEW TECHNOLOGY

- 5.1 R&D expenditure
5.2 Telephone traffic
(million calls per year)

NSO, International Statistics Yearbook 1999

SMG, SSY 1999

Internal source from Information Communication Promotion Association

- Since statistics for domestic phone calls are not separated into local and long distance calls, the national average rate is applied.

- For mobile phones, only the numbers of subscribers for national level are available:

Year	No. of Subscribers
1993	471,784
1998	13,982,919
1999	46,858,000 (August, about 43.4% of national population)

- For mobile phones, only the numbers of subscribers for national level are available: 471,784 in 1993 and 13,982,919 in 1998. Moreover, in August 1999 it became 46,858,000, about 43.4% of Republic of Korea's population.

- According to http://nca.or.kr/main/nca_main.htm, among the persons aged 13 – 59, about 19.5% of them used Internet in 1998 (1,476,504/7,559,893).

Type of Call	1998 (million calls)	1993 (million calls)
Local	2,122.7	3,439.4
STD	417.0	675.6
International	11.6	5.0

- 5.3 Internet hosts per thousand population

6 URBAN LAND

- 6.1 Urban land

SMG, SSY 1999

- The planning area used in Seoul is classified into four basic zoning areas.

Area/Zone	1998	1993
Residential Area	(ha)	(ha)
Exclusive Residential	417	534
Residential	28,766	29,217
First Class Residential	127	—
Second Class Residential	3	—
Mixed Residential	730	405
Commercial Area		
Central Commercial	—	—
General Commercial	2,185	2,147
Residential Commercial	54	—
Distribution Commercial	94	—
Industrial Area		
Exclusive Use Industrial Area	—	—
Industrial Area	—	—
Quasi-Industrial Area	2,891	2,908
Green Zone		
Conservation a Green Zone	7	—
Nature a Green Zone	24,966	31,019
Production a Green Zone	355	368
Total	60,595	66,598

6.2 Land developer multiplier

6.3 Developer contributions

6.4 Median time for planning permission

6.5 Vacant land with planning permission

6.6 Public open space

6.7 Vacant government land

6.8 Prime commercial land price

6.9 Prime rental and occupancy costs

6.10 Expenditure on development

NAV/NAP

Development of housing land has been a public sector role. However, there has been a change in law to allow private developers to provide typical subdivisions.

SMG, SSY 1999

Internal source from SMG Urban Redevelopment Division

- For 1998, the area of overall development plan (196.1 hectares) – annual total area of development (28.4 hectares) was 167.7 hectares.

Ibid.

SMG Major Administration Statistics in Seoul 1999

- In 1998, there was 26.74% open space.

Ibid.

- SMG owns 10,944 hectares of city land. The lower level governments (Gu) own 2,955 hectares, but this is not classified in detail so any part of Gu land is added to vacant property. The result showed 1.79% of government land is vacant.

Seoul Development Institute 1998, Growth Management in CBD

One of the highest commercial land prices is in Myong-Dong area within CBD:

1998	1995	1994
(\$)	(\$)	(\$)
23,253	34,715	34,628

SMG, Summary of Budgets 1998, 1999, 2000

- According to SMG's summary of budgets, there is a 'Housing and Urban Development' category. Each year's budget is adjusted and deflated to 1998 US dollars and divided by the city population. Then the average of 3 years' budgets is calculated:

2000	1999	1998	Average
(\$)	(\$)	(\$)	(\$)
93.97	68.18	65.37	75.84

- In the summary of budgets, there are other expenditure categories that can be regarded as expenditure on development. However, those are not added since they are under a different category. Those items are additional (or continuous) road construction projects, bridge construction, city highway construction, subway construction, and others.

7 HOUSING

7.1 Dwelling type

SMG, SSY 1999

- Temporary dwellings, institutions, and hostels are not classified as dwelling types.

Type	1998 (%)	1993 (%)
Single Family Houses	38.44	45.76
Median Density	18.74	16.68
Apartment	42.82	37.56

7.2 Tenure type

Ibid.

SMG 1999, Major Administration Statistics in Seoul

- In the Republic of Korea, social housing, subtenant, and squatter are not classified as tenure types.
- However, in 1999 SMG, NGOs and religious groups operated many facilities, such as 86 social and welfare houses, 31 disabled houses, 35 rehabilitation facilities for the disabled, 3 rehabilitation facilities for criminals, 4,064 nursery or child care facilities, 15 youth centers, 14 elderly welfare centers, 49 women protection facilities, and others.

Type	1995 (%)	1990 (%)	1985 (%)
Owned or Purchased	69.57	74.66	80.51
Private Rental	29.57	24.19	17.84
Rent Free	0.83	1.15	1.65
Others	0.03	—	—

7.3 House price to income ratio

Ibid.

Internal source from Korea Research Institute for Human Settlements (KRIHS)

Income-Price	1998	1993
Monthly income per household for salary and wage earner	(won '000) 2,213.00	(won '000) 1,615.70
Median house price (KRIHS)	120,000.00	150,000.00
House price to (annual) income ratio (%)	4.52	7.74

- According to the research project 'Housing Master Plan in Seoul' by Seoul Development Institute in 1998, the ratio is 6.87 with their samples.
- Since the median income is not available, the average income is used.

7.4 House rent to income ratio

Housing Master Plan in Seoul 1998

Type of Rent	1998
Tenement	35.6
Monthly rent with deposit in advance	40.0
Monthly rent without deposit	57.2

- The figures are drawn from the above source which mentioned that in general the households under the median income level were more burdened with rent.

7.5 Floor area per person

Housing Master Plan in Seoul 1998; Population and Housing Census Report 1995

- In 1995 the floor area per person was 15.77 square meters.

Note: This is from the appendix of the above source.

7.6 Housing in compliance

NAV

7.7 Mortgage to credit ratio

Korea National Housing Corporation 2000, Yearbook of Housing Statistics

http://www.nso.go.kr/cgi-bin/sws_999.cgi

- Housing loans data are collected from the Yearbook of Housing Statistics, and total credit data are from the NSO's homepage where it quotes data from Bank of Korea statistics.

Loan	1999 (\$)
Private housing loans (billion)	1.58
National housing fund's housing loans	370
Total housing loans	2,638
Total credits	113,002
Mortgage to credit ratio (%)	2.33

7.8 Houses with mortgages

Ibid.

- The following figures are the housing units for which new loans were approved for each year; data on cumulative loaned housing units are not available.

Loan	1999 (units)	1993 (units)
Private housing loans	78,980	32,541
National housing fund's housing loans	6,976	17,273
Total	85,956	

7.9 Mortgage loans for women

NAV

7.10 Housing production

Internal source from SMG Housing Planning Division 2000; SMG SSY 1999

Housing	1999	1998	1997 (units)	1996	1995
New housing construction	61,460	32,022	70,446	96,342	104,322
Housing redevelopment	NAV	9,911	10,691	4,719	2,625
Annual production per 1,000 pop. for new housing construction	NAV	3.10	6.78	9.20	10.20
Housing redevelopment	NAV	0.96	1.03	0.45	0.26

7.11 Squatter resettlement or normalization

SMG, SSY 1999

1998	1997	1996 (%)	1995	1994	1993
1.97	8.66	10.99	8.01	5.35	4.12

Housing units that are redeveloped or legalized are treated as regularized or resettled housing.

NAV

7.12 Net housing outlays by government (per person)

7.13 Homeless people

8 MUNICIPAL SERVICES

8.1 Water

8.1.1 Household connections

SMG, SSY 1999

- In 1998 99.98% of households had connections and in 1997 there were 99.95% with connections.

SMG, Office of Waterworks, Waterworks Statistical Yearbook 1997, 1998

- Investment per capita was \$18.36 in 1998, \$26.25 in 1997, and \$23.83 in 1996.

Ibid.

8.1.2 Investment per capita

8.1.3 Operations and maintenance expenditure

8.1.4 Cost recovery

Ibid.

1998	1997	1996 (%)	1995	1994
82.2	75.16	63.64	70.19	66.19

8.1.5 Output per staff: water supplied per employee

Ibid.

1998 (m ³)	1997 (m ³)
412,168,644	27,141,622

8.1.6 List of providers

8.1.7 Nonrevenue water

a. Percentage unaccounted water

SMG, Office of Waterworks supplies water for all households.

SMG, SSY 1999

SMG, Office of Waterworks, Waterworks Statistical Yearbook 1998

The unaccounted for water in 1998 was 35.2%.

NAV

b. Interruptions in water service

8.1.8 Consumption of water per capita

SMG, SSY 1999

- The per capita consumption in 1998 was 0.444 m³ per capita. It was calculated as total output/population/365.

SMG, Office of Waterworks, Waterworks Statistical Yearbook 1998

8.1.9 Median price of water scarce season

- The price was \$0.21 in 1998. Since the median price is not available, the average price for all types was used.

8.2 Electricity

8.2.1 Household connections

Ministry of Commerce, Industry and Energy, Yearbook of Energy Statistics 1998

- The percentage cannot be provided because the number of customers do not necessarily imply the number of households since under the name of one customer several households can use the electricity together.

Year	No. of Customers
1997	2,645,000
1992	2,088,000
1987	1,424,000

8.2.2 Investment per capita

NAV

8.2.3 Operations and maintenance expenditure

NAV

8.2.4 Cost recovery

NAV

8.2.5 Output per staff: megawatt hours of electricity supplied per employee

NAV

8.2.6 List of providers

Korea Electric Power Corporation provides all electricity and do not provide statistics by region.

8.2.7 Nonrevenue electricity

a. Line loss for electricity

Ministry of Commerce, Industry and Energy, Yearbook of Energy Statistics 1998

- In 1997 the loss was 4.85% for the Republic of Korea. It was calculated as net generation – power sold/net generation.

b. Interruptions in power supply

NAV

8.3 Sewerage/wastewater

8.3.1 Household connections

SMG, SSY 1999

- In 1998 there were 98.6% households connected and in 1994, 99.2%.
- The above figures are the diffusion rate of sewerage service that is calculated as wastewater for treatment divided by total population. The wastewater for treatment is composed of wastewater with the first physical treatment and wastewater with the second biological treatment.

Ibid.; Internal source from SMG Sewerage Planning Division

- The following amounts of total investment are divided by city population:

1998	1997	1996	1995	1994
		(%)		
10.09	19.24	27.07	29.94	29.95

8.3.3 Operations and maintenance expenditure

Ibid.

8.3.4 Cost recovery

Internal source from SMG Sewerage Planning Division

- Cost recovery includes the construction expenditure on sewage treatment plants.

1998	1997	1996	1995	1994
		(%)		
60.49	43.94	46.02	52.45	39.07

8.3.5 Output per staff: wastewater treated per employee

Internal source from SMG Sewerage Planning Division and Construction Administration Division

- In 1998 the figure was 792,261 m³ and in 1993 782,185 m³.

8.3.6 List of providers

SMG is responsible.

8.4 Telephone

8.4.1 Household connections

SMG, SSY 1999

- In 1998 it was 116.61% and in 1993, 106.37%.
- The above figure is calculated as the number of residence subscribers divided by the number of households. There are increasing numbers of households with more than one telephone line, but there may also be households without any telephone service.

8.4.2 Investment per capita

NAV

8.4.3 Operations and maintenance expenditure

NAV

8.4.5 Output per staff: thousands of calls per employee

NAV

8.4.6 List of providers

- Korea Telecom, Dacom, and Onse Telecom are the three telephone service providers, but their market share is not known.

8.5 Solid waste collection

8.5.1 Households with regular service

SMG, SSY 1999

- This was 100% in 1998 and 1993.

Internal source from Waste Management Division, SMG

- The amount of investments by SMG and 25 local governments were added and then divided by city population.

1998	1997	1996	1995	1994
		(\$)		
17.13	16.80	13.46	12.99	8.37

8.5.3 Operations and maintenance expenditure

Ibid.

- The amount of operations and maintenance expenditure by SMG and 25 local governments were added and then divided by city population.

1998	1997	1996	1995	1994
		(\$)		
19.43	31.50	34.04	43.46	42.75

8.5.4 Cost recovery

Ibid.

- The cost is the investment and expenditure provided by SMG and 25 local governments and the revenue is collected from local governments. However, the costs and revenues of private haulers are not added so that the following cost recovery figures are underestimated.

1998	1997	1996	1995	1994
		(%)		
28	32	41	40	27

8.5.5 Output per staff:
Collected per employee

Ibid.

8.5.6 List of providers

Ibid.

- Approximately 25 local governments collected mixed waste, road waste, recyclable, and bulky waste; 107 private haulers collected mixed waste; and one private hauler collected road waste.

9 URBAN ENVIRONMENT

9.1 Solid waste generated

Ibid.

- In 1998 there were 3,929,225 tons. It was calculated by multiplying the total amount of discharge per day by 365 days.

9.2 Household sewage disposal
(% of households)

Ibid.

- The figures of 98% by sewerage pipes and 2% by pan are actually for the treatment of night soil collection, and the first one is a percentage of flushed toilet systems and the second one a percentage of traditional toilets. Of course, there are different types of sewerage pipes. One is a separate pipe for the usual household wastewater collection and for night soil collection. The other is that the two kinds of waste are collected through one pipe. However, all collected wastewater or night soil go to water treatment plants. Even the pan-collected night soil is treated at latrine treatment plants.

9.3 Wastewater treated

Ibid.; Internal source from SMG Sewerage Planning Division

- In 1999 98.45% of wastewater was regarded as treated.

- There are two different wastewater treatments. The first treatment is physical and the second treatment is biological and 98.45% refers to biological treatment.

9.4 Percent BOD removed from
wastewater

Ibid.

- BOD removal in sewage treatment plants is equal to flow (inflow BOD – discharge BOD)/inflow BOD:

1998	1997	1996	1995	1994
		(%)		
81.6	77.5	76.0	72.5	61.1

9.5 Air pollution concentrations

SMG SSY 1999; Ministry of Environment, Environmental Statistics Yearbook 1998

- Republic of Korea's measurements of air quality differ from WHO standards:

Pollutant	1998	1997	1996	1995	1994
SO ₂ (ppm/yr)	0.008	0.011	0.013	0.017	0.019
NO ₂ (ppm/yr)	0.030	0.032	0.033	0.032	0.032
CO (ppm/8 hrs)	1.1	1.2	1.2	1.3	1.5
O ₃ (ppm/8 hrs)	0.017	0.016	0.015	0.013	0.014
Dust (ug/m ³ /yr)	62.0	72.0	85.0	85.0	78.0
Lead (ug/m ³ /yr)	–	0.1088	0.1495	0.1844	0.1907

9.6 Energy usage per person

SMG, SSY 1999

- In 1998 523.26 mt were consumed per annum or 5.06 mt per person and in 1993 317.13 mt.
- Annual consumption per person is derived, and then multiplied by conversion factor found in the Appendix of SSY 1999. Following is the annual consumption per person for each energy type:

Energy	1998	1993
Petrol	0.494	0.719
Kerosene	0.481	0.266
Natural gas	392.887	237.587
Coal	0.025	0.214
Electricity	2,534.68	1,818.73

9.7 Noise complaints

9.8 Disasters in last 10 years

NAV

Internal source from SMG Fire and Disaster Management Department

The following list covers 1994–1999:

1. Fire in apartment model housing, 20 December 1999: 3 dead and 1 injured
2. Partial collapse of stone embankment over Han Jin Apartment Housing, 14 May 1997: 1 dead and 6 injured
3. Fire in Jungsan apartment housing, 30 March 1997: 2 dead and 16 injured
4. Collapse of mold at TechnoMart construction site, 22 October 1996: 1 dead and 2 injured
5. Fire in Rolling Stones Rock Café, 29 September 1996: 11 dead and 3 injured
6. Collapse of Sam Poong Department Store, 29 June 1995: 502 dead and 940 injured
7. Fire in Wangsip-ri Market, 5 November 1995: 1 dead and 1 injured, 183 households lost homes
8. Gas explosion at Ahhyun-dong, 7 December 1994: 12 dead and 101 injured
9. Collapse of Sungsu Bridge, 21 October 1994: 32 dead and 17 injured

9.9 Methods of solid waste disposal

SMG, SSY 1999

Method	1998	1993
	(%)	(%)
Landfill	56.76	80.71
Incineration	5.08	0.94
Recycle	38.16	18.35
Total	100.00	100.00

10 URBAN TRANSPORT

10.1 Mode of travel

Ibid.

Mode	1998	1993
	(%)	(%)
Private automobile	20.1	14.2
Train (Subway)	32.3	25.6
Bus or minibus	29.1	38.6
Others	18.5	21.6

- Among 'Others,' 9.7% for 1998 and 11.8% for 1993 represent taxi users. The rest (8.8% and 9.8%) include walking and bicycle users, but separate statistics are not available.

10.2 Median travel time

SMG 1997, Traffic Census and Construction of Data Base in Seoul

- According to the 1997 census, the average travel time for a work trip takes 44.07 minutes. For modes of trip, users of subway, commuting by bus, private automobile, and regular bus line take trip times of 48.18, 45.78, 43.23, and 41.36 minutes, respectively.

10.3 Expenditure on road infrastructure

SMG, The Summary of Budget 1998, 1999, 2000

- According to SMG's summary of budgets, there is a "Reducing Traffic Problem" category. Each year's budget is adjusted and deflated to 1998 US dollars and divided by the city population. Then the average of three years' budgets is calculated.

10.4 Road congestion

- The above figures can be overestimated since "Reducing Traffic Problem" category includes bus service improvement, construction of welfare facility for taxi drivers, introduction of scientific traffic control system on main roads, improvement of traffic signal and sign boards, added parking lots, city highway and all kinds of road and bridge construction and maintenance, added subway construction and operation, and other items. However, central Government expenditure on road infrastructure is not included.

Internal source from SMG Office of Transportation

- The only available data related to road or traffic congestion is traffic speed in the city central area:

1998	1997	1996	1995	1994
(kilometers per hour)				
16.85	16.44	18.25	20.04	19.97

10.5 Automobile ownership

SMG, SSY 1999

- The number of registered motor vehicles including passenger cars, buses, trucks, and special cars per thousand population is as follows. The minimum driving age in the Republic of Korea is 18.

1998	1993
('000 pop)	
290.2	218.3

10.6 Cost recovery from fares

10.7 Port/air activity

NAV

Ministry of Construction and Transportation, Statistical Yearbook of Construction and Transportation 1997

- The number of flights leaving from Seoul is overestimated. For 1996, the total number of flights from all airports in the Republic of Korea was 254,565 (154,838 domestic flights and 99,727 international flights), but the flight numbers for Kimpo International Airport in Seoul are not available. However, most international flights leave from Seoul and less than half of the domestic flights leave from Seoul. The number of commercial flights leaving from Seoul could be less than 177,146.

SMG, SSY 1999; Ibid.

Goods Carried	
(million tons)	
Road	54.8
Rail	0.15
Air	0.88
Sea	NAP

10.9 Transport fatalities

- The road figure is for 1995 since recent figures are not available.

SMG, SSY 1999

Transport Related Deaths					
(per '000 population per year)					
1998	1997	1996	1995	1994	1993
0.053	0.058	0.075	0.082	0.074	0.074

11 CULTURAL

11.1 Attendance at public events

11.2 Attendance at galleries and museums

NAV

NSO, Regional Statistics Yearbook 1999; Ministry of Culture and Tourism, Culture and Arts Statistics in Korea 1998

- In 1998, there were 64 museums, 12 art museums, 29 exhibition halls and 224 galleries in Seoul. There were 757,590 visitors to the National Central Museum and 2,113,605 to the National Folk Museum in 1997.

11.3 Participation in sports

Internal source from SMG Culture and Tourism Bureau; NSO, Regional Statistics Yearbook 1999

- In 1999, there were 6,297 life-related sports activity organizations with 313,924 members. However, total numbers seem underestimated since there were 11,361 sports facilities registered in 1998.

12 LOCAL GOVERNMENT FINANCE

12.1 Sources of revenue

SMG, SSY 1999

- The following figures are the percentage of budget revenues of "General Account" only. Here local taxes include city (SMG) tax and Gu (25 local governments) tax. User charges include rents and fees, property rents, and business receipts. Other own source incomes are interest receipts, proceeds from disposal of properties, and funds repaid. Transfers are local share tax, control grants, and subsidies from central Government. Other incomes are levy grants, surplus, carried over, deposits, charges, revenues from previous year and miscellaneous. Among other income, Surplus is the biggest item at 6.4%. Miscellaneous is 2.9%.

Revenue	1998	1993
	(%)	(%)
Taxes	59.65	68.46
User charges	5.53	2.57
Other own source income	2.22	2.71
Transfers	17.33	13.80
Loans	2.57	0.11
Other income	12.71	12.36

12.2 Capital and recurrent
Expenditure

SMG, Current Budget 1999

- Capital expenditure : \$216.48
- Recurrent expenditure : \$152.55

12.3 Collection efficiency,
property taxes

Internal source from SMG Tax Collection Division

- The percentage of liabilities actually collected for 1997 was 96.1%.
- Property tax is divided into two parts in the Republic of Korea: a tax on buildings, ships and airplanes, and a tax on land. The ratios for each tax are 97.5% and 95.7%, respectively. But the recalculation of collections of both taxes gives the above result. However, the cost of the second item is not applicable since it is a local government tax.

12.4 Debt service charge

Seoul Development Institute, Comprehensive Debt Management for Seoul, unpublished mimeo 1999

- The Republic of Korea's foreign debt increased after the 1997 – 1998 economic crisis.

Debt Service Charge

1998	1995
(%)	(%)
15.9	9.2

12.5 Employees

SMG, SSY 1999

Total No. of Local Government Employees

1998	1993
(per '000 pop)	
4.71	4.90

12.6 Wages in budget

SMG, Current Budget 1999

- Total wages/recurrent expenditure were 14.95% of 1998 budget.

12.7 Contracted recurrent
expenditure ratio

NAV

12.8 Business permits

NAV

12.9 Enterprise revenues

NAV

12.10 Computerization of functions

Land registration was computerized recently, and some rates collections were also computerized so people can use the Internet to pay them. Salaries have been provided on-line through banks for more than 20 years.

13 URBAN GOVERNANCE

13.1 Functions of local government

The checked items are the functions of not only SMG, but also 25 local governments. Electricity, education, health care and police are central Government functions. Telephone provision has been privatized.

13.2 Delivery of annual plan

SMG, SSY 1999

- The figure for 1998 was 96.5%.

13.3 Voter participation rates, by sex

See <http://www.nec.go.kr/sinfo/sinfo.htm>

- The National Election Committee collects the overall voter participation rates, but not by sex. Voter participation rates in Seoul and the Republic of Korea as a whole were 54.3% and 57.2%, respectively, in the National Assembly election on 13 April 2000.

13.4 Independence from higher
government

- The Korean government system is three-tiered with the central Government, upper level local governments (SMG and 6 metropolitan governments, 9 Dos), and 253 local governments (cities, Guns and Gus). Among them Seoul is regarded as a special city. Under the SMG there are 25 Gus. The executives and legislative branches of SMG and Gus are independent so that the executive branch may not close down the council or remove councilors from office. Laws under central Government authority strictly regulate the types of taxes and rates for any tax. Local governments determine user charges for local government services, but many of them should pass through the councils. When SMG wants to issue government bonds over a certain amount of money, it needs central Government permission. Same situation as in 13.4.4.

Seoul

13.5	Elected and nominated councilors	Internal source from Seoul Metropolitan Council - All councilors are elected directly by the citizens: - Female 11 councilors - Male 93 councilors
13.6	Representation of minorities	NAP In the Republic of Korea, there are few foreigners other than United Nations military personnel, but no minority groups.
13.7	Planning applications refused (%)	NAV
13.8	Business satisfaction	Fortune, 2 November 1998 Seoul was ranked 8th among Asian cities in the "98 Best Cities for Business" survey conducted by Fortune magazine and Arthur Andersen Consulting.
13.9	Consumer satisfaction	NAV
13.10	Perception as place to live	Asiaweek, 17 December 1999 Seoul was ranked 13th and tied with Bangkok in the "Asia's best cities to live in" survey conducted by Asiaweek magazine. It dealt with 40 quality-of-life indexes.
13.11	Reported crimes	To be filed.
13.12	Access to information	To be filed.
13.13	Contact with the public	Internal source from SMG Mayor's Secretarial Office In July 1998, the Mayor of SMG began meeting citizens in the "Public's Date with Mayor" every Saturday. It has been very successful for the citizens who have complaints against city policies. Between July 1998 and December 1999, 596 complaints were discussed in such meetings.
13.14	Decentralized district units	Please see 13.4

Indicators

1 POPULATION

1.1 Urbanization

1996 census

- About 46% of the Fiji Island's population now lives in urban areas, compared with 39% in 1986 and 37% in 1976. The recasting of census enumeration boundaries to incorporate periurban districts previously defined as rural pushed up the rate of urban growth since the designation of enumeration areas dictates how the urban and rural populations are defined.

1.2 City population

1996 census

- Another 90,609 live in the periurban area, giving a total population for the Suva urban area (excluding the contiguous towns of Nausori and Lami) of 167,975, or 21.6% of the Fiji Island's total population. If Nausori were included, the urban area would account for 30.4% of the Fiji Islands' total population.

- The comparable figures for the past three decades are

	Suva City	Greater Suva	Total Suva Urban Area	% of the Nat'l Pop'n
1986	69,665	71,600	141,273	19.7
1976	63,628	54,199	117,827	20.0
1966	54,157	26,112	80,269	16.8

- Suva City is growing slowly because only in-fill development is now possible, relatively high land values are forcing people to move to cheaper areas, and the formalization of squatter settlements is halting their growth through in-migration.

- The Suva City Council estimates that 60,000 people commute into the city daily (SCC, Draft Strategic Plan 2000).

1.3 Migration

1996 census, Gutteridge, Haskins, and Davey (GHD) 1999

An estimated 4,300 rural migrants arrived in Suva each year between 1986 and 1996.

Suva City experienced zero growth from 1986 to 1996, while Greater Suva grew at an average of 1.7% yearly. (The analytical report on the 1996 census ascribes the apparent 1.1% yearly increase in the population of Suva City to the incorporation of Tamavua, a part of Suva's periurban area located in Naitasiri Tikina.) The fringes of Suva City are therefore growing faster than the city itself, and migration from other parts of the country evidently accounts for much of this growth. Overall, however, the growth of the Suva urban area is slower than the national urban average of 2.4% (which is understood to be an overestimation).

- This growth cannot be properly broken down according to the place of origin of migrants because this section of the 1996 census data has not been tabulated or analyzed. From provincial data in the 1996 census, GHD (1999) estimate that 4,300 rural migrants arrived in Suva each year between 1986 and 1996.

- The national population increased by around 0.9% over the decade. If it is assumed that the population of Greater Suva conformed to the national averages for births, deaths, and emigration, then migration accounted for around 0.8% of the annual growth of Greater Suva over the past decade.

1996 census and the Suva City Council's measurement of the residential area of the city (1,035.4 ha)

1.4 Net population density

1996 census

1.5 Age pyramid

Ibid.

1.6 Average household size

1986 and 1996 national census

1.7 Household formation rate

1996 census

1.8 Women-headed households

Ibid.

1.9 Minority groups

- Suva has a multiethnic population. The largest ethnic group, Fijians, composes 50% of the population; Indo-Fijians, 34%, and other main ethnic groups (Europeans, Chinese, Rotumans, and Pacific Islanders), 13.4%.

Ibid.

1.10 Household types

Consultant's estimates based on GHD 1999

1.11 Informal settlements

- Informal settlements are of two types. One type, known as vaka vanua, is informal settlement on land provided by traditional Fijian owners. These settlements tend to look like traditional Fijian villages. The other type of settlement is more haphazard. The houses are often overcrowded, to the point where part of the household separates and builds a new structure. Another reason for the seemingly large household size in these informal settlements is the widespread informal subletting, where more than one family may occupy a dwelling. This is often overlooked in surveys and censuses.

- According to a recent estimate (GHD 1999), around 40,000 people, or 16% of the population of the total Suva urban area, live in informal settlements. Informal settlements in the Suva urban area are squatter settlements, native settlements, and urban villages.

- In 1996, squatter households made up 11.3% of households in Greater Suva and 5.6% of households in the Suva urban area; 1.4% of households in Greater Suva and 1.4% of households in the Suva urban area lived in urban villages.
- There are several squatter settlements in Suva City but informal housing is scattered throughout Suva's residential areas, complicating the estimation of the area occupied by informal housing. The main settlements are Jittu Estate (with 602 households and over 2,700 residents in 1998, according to a survey of the Department of Lands); Muslim League, Vunivau, Sanatan, Narain's Land, and Villamaria (contiguous), in the Samabula-Tamavua area; Vunimoli, Valenimanumanu, Nauluvatu, in the Walu Bay–Tamavua River area; and Wailea, Veidogo, and Nanuku in the Vatuwaqa area.
- Urban villages (traditional Fijian settlements) and native settlements (mostly Fijians on informal lease land) are mostly in the periurban area.

2 EQUITY

2.1 Income distribution

Based on a survey of Suva-Nausori households done by GHD in 1999

- The only other information on income distribution could come from the 1990/91 National Household Income and Expenditure Report, which provides the most recent national data. The Household Income and Expenditure Survey (HIES) data can be disaggregated to derive the figure for urban households, but not specifically for Suva households.
- The household income distribution by a 10% group in the Suva-Nausori study area in 1999 was as follows:

10% Group	Average Household Income Range (\$)	Ave. Annual Household Income (\$)
1	1,660.96 – 2,617.27	1,926.72
2	2,617.27 – 3,925.91	3,266.06
3	3,925.91 – 4,711.09	4,476.55
4	4,711.09 – 5,234.55	4,801.19
5	5,234.55 – 6,543.09	6,020.23
6	6,543.19 – 7,851.82	7,283.57
7	7,851.82 – 9,160.46	8,239.88
8	9,160.46 – 10,469.10	9,772.50
9	10,469.10 – 13,609.80	12,275.50
10	13,609.80 – 13,086.40	24,056.30

2.2 Households below poverty line

GHD 1999

- An estimated 15-20 % of households in Greater Suva live in poverty and around 6% (around 15,000 people) live in absolute poverty, according to a household survey in the Suva-Nasuri area in 1999. The 1997 Fiji Poverty Report estimated that 27.7% of urban households in the Fiji Islands live in relative poverty, and that the incidence of poverty is only slightly lower in rural areas. This higher figure may therefore be more accurate for Suva.

2.3 Women-headed households in poverty

Derived from the Fiji Poverty Report

- The assumption is that Suva households are similar to all other urban households in the Fiji Islands, and that the characteristics of households in poverty have not changed since the 1990/91 HIES.

2.4 Child labor

CDB team's estimates based on data provided by the consultant from the 1996 Fiji census and Ministry of Education 1998

- The assumption here is that children who attend school are not involved in child labor. Many children, particularly in the rural areas, nevertheless work to some extent. Underage children (below 15 years) have been found working in factories, but the labor unions and the Ministry of Labour are cooperating to prevent this.

2.5 Informal employment

World Bank estimates for 1992

- This is calculated from the 1996 census because of the categories of employment and definitions used, and the absence of other recent employment surveys. A UNDP study of the informal sector in Pacific island countries found that, in general, the nonformal sector was large and growing (UNDP 1997). The most recent national figure for the Fiji Islands (66.3% of the economically active population) was estimated by the World Bank (1992) on the basis of 1986 census data. This may still provide a useful estimate, for although informal employment could have been expected to grow considerably over the past decade because of the increased proportion of the economically active population, much of this category of workers (especially women) has been absorbed into employment in garment factories.

- 2.6 Unemployment
- 2.7 Expenditure on poverty reduction per poor person

1996 census

Consultant's estimates

- This is based on the 1998 budget and information about NGO poverty assistance and the number of poor people from the Fiji Poverty Report.
- This is a very crude estimate, for three reasons. First, the Department of Social Welfare says that it cannot disaggregate its poverty alleviation expenditures to derive the figure for Suva. Second, the Fiji Government, as a matter of policy, deals with poverty principally through development services, including education and health, and not through welfare, but again this expenditure cannot be disaggregated. Third, much poverty reduction work is done by NGOs, but the 1996 Fiji Poverty Report could not put a monetary value to their assistance.
- The main government and quasi-government agencies involved in poverty reduction are the Department of Social Welfare and the Housing Corporation (which provides cheap accommodation to low-income workers). Other organizations are the Housing and Relief Trust (HART), the Bayly Trust, the Salvation Army, Save the Children's Fund, the Poor Relief Society, the Society of St. Vincent de Paul, and World Vision Fiji.

3 HEALTH AND EDUCATION

- 3.1 Persons per hospital bed

Calculated by the consultant from Ministry of Health (MOF) data

- This is not a particularly relevant statistic for Suva, because its principal national hospital serves a much larger population than the residents of Suva City.

- 3.2 Child mortality

Derived from the 1996 census

- Suva serves as a medical center for a much larger population. Deaths in Suva cannot be broken down by area of residence. The Ministry of Health said that the national child mortality rate of 14 per thousand live births (17 per thousand for males; 12 per thousand for females) would be representative of the Suva rate. Given the good access to medical services in Suva compared with other parts of the country, however, the mortality rate for Suva may be lower than the national figure.

- 3.3 Life expectancy at birth

Ibid.

- For the same reasons as in 3.1 and 3.2 above, the figure cited here is the national average of 65.1 years (63.4 years for males; 66.8 years for females).

- 3.4 Mortality from infectious diseases

NAV

- The 1998 MOF Database gives the national figure, which also includes noncommunicable diseases.

- 3.5 Family planning

Ibid.

- 3.6 Adult literacy rate

Derived from the 1996 census

- As there have been no surveys of functional literacy, adult literacy rates in the Fiji Islands are derived from the 1996 census, from the proportion of adults with at least four years of formal schooling. Adult literacy in urban Fiji Islands is therefore 96.9% (97% for males; 96.6% for females).

1998 MOF Database

- 3.7 School enrollment rates (primary, secondary)

- 3.8 Tertiary graduates

1996 census

- The figures are 132 per thousand for adult males and 101 per thousand for adult females.
- Suva serves as a national and regional center for tertiary education. The University of the South Pacific, the Fiji School of Medicine, the Fiji Institute of Technology, the Fiji School of Nursing, the Fiji College of Advanced Education, and the Fiji Campus of the University of Southern Queensland are all found in Suva. As the national capital and main business center, Suva also offers most of the types of employment that attract tertiary graduates.

Ibid.

- The figures are 8.4 years for males and 8.2 years for females.

- 3.10 School children per classroom (primary,secondary)

1998 Ministry of Education

- Primary classes have an average of 31 students per class, against a national average of 23. Secondary classes have an average of 29 students per class. (Suva schools are relatively crowded because of the perceived high quality of education at its schools.)

4 URBAN PRODUCTIVITY

- 4.1 City product per capita
- 4.2 Employment by industry
- 4.3 Household expenditure

Data derived from the 1996 national census

NAV

- 1990/91 HIES. The national figure cannot be disaggregated to derive the figure for Suva.

- 4.4 Investment by sector

NAV

Suva

4.5	Tourism	Suva City Council (SCC) 2000 This figure represents 8.5% of total annual tourists visiting the Fiji Islands. The Fiji Visitors Bureau has no information on total or average tourist expenditure.
4.6	Major projects	1 Upgrading of Kings Road from Nasinu Nine Miles to Samabula, to accommodate more vehicular traffic 2 Building of four high-rise office blocks along the Suva foreshore 3 Building of two large Fiji National Provident Fund complexes in central Suva 4 Expansion of the Vatuwaqa industrial district 5 Development of low-cost housing near Nasinu • Several major development projects requiring foreign investment have remained on the drawing board for most of the 1990s, chiefly because of investors' concerns about political stability. Among those planned developments is reclamation of the Suva harbor foreshore and the development of a trade center, major hotels, a marina, and civic recreational facilities in the area. Another large-scale reclamation and building program that seems to have been put on hold because of the political crisis since May 2000 is the regional campus planned by the University of Central Queensland in the Suva Point area. The upgrading of the Suva-Nausori Water Supply and Sewerage Systems is also planned, but no funds have as yet been secured for the project. Besides the scanty overseas investment, the SCC's financial difficultiesb throughout the 1990s have been another brake on project implementation. Much of the development that has occurred has been financed by the National Provident Fund, which is required by law to invest part of its funds in the Fiji Islands.
4.7	Cost of stay	CDB estimates
4.8	Corporate headquarters	NAV • Large corporations, such as Coca-Cola and Mobil Oil, have regional offices in Suva, but none have their corporate headquarters in the city.
5 NEW TECHNOLOGY		
5.1	R&D expenditure	• No figures are available, but there is very little expenditure on R&D in Suva. R&D is not done in the Fiji Islands but brought in from overseas.
5.2	Telephone traffic (million calls per year)	Telecom • This is the national figure. Telecom says that its traffic data cannot be disaggregated to give the figure for Suva. Given the volume of the Fiji Islands business that is transacted in Suva, Suva could account for half to two thirds of the traffic. Vodafone declined to give information about mobile connections. CDB team's estimates, based on data from the Telecom consultant • There were 2,061 Internet connections in Suva in 1998. The growth in connections has been rapid since 1995, when the Internet was introduced: 1995, 60 connections; 1996, 407; 1997, 1,080; 1998, 2,061. Growth since then has been even more rapid.
5.3	Internet host per thousand population	CDB team's estimates, based on data from the Telecom consultant • There were 2,061 Internet connections in Suva in 1998. The growth in connections has been rapid since 1995, when the Internet was introduced: 1995, 60 connections; 1996, 407; 1997, 1,080; 1998, 2,061. Growth since then has been even more rapid.
6 URBAN LAND		
6.1	Urban land	SCC • Data on urban land came from SCC. Data on transport and mixed use are either insignificant or not possible to disaggregate and are therefore included in "Others."
6.2	Land developer multiplier	Calculated by the consultant from data provided by real estate agents and SCC 1998
6.3	Developer contributions	SCC
6.4	Median time for planning permission	Ibid. • This is the average figure, but the time varies, depending mostly on the size of the planned development.
6.5	Vacant land with planning permission	NAV
6.6	Public open space	SCC
6.7	Vacant government land	NAV
6.8	Prime commercial land price	Real estate agents in Suva • Prices are strongly influenced by the tenure of the lease and location.
6.9	Prime rental and occupancy costs	Real estate agents in Suva
6.10	Expenditure on development	SCC 2000 • The \$808 million earmarked in the recurrent budget for capital projects will be gradually increased as Council efforts to reduce costs and improve debt collection take effect, and as the city debt is progressively repaid after 2003.

7 HOUSING

7.1	Dwelling type	NAV A survey done in 1999 as part of the Suva Earthquake Vulnerability Study collected information on single- or multiple-storey buildings, but not on dwelling type.
7.2	Tenure type	Global Urban Indicators Database (GUID) 1998
7.3	Ratio of house price to income	Consultant's estimates based on median household incomes (as estimated by GHD) and real estate agents' estimates of median house costs
7.4	Ratio of house rent to income	Ibid.
7.5	Floor area per person	Census data on housing are provided by province only, and not by urban and rural areas. A planned monograph on urbanization will probably include an analysis of data on urban housing, but it is not yet known when the study will begin.
7.6	Housing in compliance	GUID 1998 - The 1986 census-takers asked householders whether or not they were squatters—an unreliable method of inquiry. In the 1996 census the two relevant questions related to residential class and dwelling adequacy. The first question was asked only in urban areas. For the second question, enumerators ranked dwellings in one of five categories, from superior to inferior, on the basis of a set of photos. The photo answers were well correlated with wall materials, type of toilet, and other characteristics of individual dwellings. - Enumerators classed from 18% to 41% of housing tenure as “Miscellaneous.” This was not very helpful. - The photos, however, indicated that 13.5% of dwellings in Greater Suva and 25.5% of those in the Suva urban area were “inferior” (roughly equated with informal) dwellings. These findings accord better with the results of previous surveys.
7.7	Ratio of mortgage to credit	
7.8	Houses with mortgages	
7.9	Mortgage loans for women	Consultant's estimate, based on Fiji National Provident Fund Many mortgage loans to women are held jointly, often with the spouse or another family member.
7.10	Housing production	
7.11	Squatter resettlement or normalization	- Since 1990, informal settlements within the Suva City boundary have decreased in number, while informal houses in the periurban area have increased. Most of the decrease in Suva City is due to formal development of the land, rather than official programs of squatter resettlement. The National Resettlement Committee is the coordinating body for the planning and implementation of programs for the upgrading of squatter settlements. - The only housing expenditures by the Government are those made by the national Housing Authority (which is charged with housing low- to middle-income earners) and the Public Rental Board (which facilitates short-term low-cost rental accommodation). The local government of Suva does not spend for housing. - There is no estimate of the number of homeless people in Suva, but officials of the Department of Social Welfare say the figure is low, probably less than 300. This is because people can build squatter houses or move in with relatives, and organizations such as the Housing Assistance and Relief Trust (HART) and Habitat for Humanity have been exerting efforts to provide shelter for people in desperate need. Many people live in substandard housing. Youths make up most of the homeless in Suva City.
7.12	Net housing outlays by government (per person)	
7.13	Homeless people	

8 MUNICIPAL SERVICES

8.1	Water	
8.1.1	Household connections	About 98% of the population living in the Suva-Nausori area have piped water supply from the Public Works Department (PWD) (GHD 1999). There were 50,280 connections in the Suva-Nausori area in 1998. Informal housing can get metered water.
8.1.2	Investment per capita	GHD 1999, from Water and Sewerage Connection (WSC) data
8.1.3	Operations and maintenance	Official communications with Quan Chung, 31 July 2000
8.1.4	Cost recovery	Water and Sewerage Department (WSD) and GHD 1999
8.1.5	Output per staff (water supplied per employee) per day per employee.	Water production in 1998 was 102 megaliters (ML) per day. With 298 Water Sewerage Section (WSS) employees, this amounts to 0.342 ML.
8.1.6	List of providers	PWD-WSS PWD-WSS provides 100% of output. Household water tanks are not permitted in the urban area.

8.1.7	Nonrevenue water	Official communications with Dr. Margaret Chung, 11 September 2000
a.	Percentage of unaccounted for water	WSD and GHD 1999
b.	Interruptions in water service	GHD 1999 - There are regular service interruptions in some areas, particularly in periurban settlements such as Kalekana. Demand currently exceeds supply. A community survey in 1999 found that 44% of participants had experienced water shortages or low pressure over the previous 12 months because of the dry season and operational problems. Suppressed demand is estimated at 15-20% of domestic consumption and represents around 25–30 liters per capita per day (LPCD). - Suva City Council reports many supply disruptions between February 1998 and January 1999. The disruptions were due to the following: - Suspected burst mains: 940 - Leaking service pipes: 5,126 - Other causes (no water, low pressure, leaking pipe hydrant, etc.): 1,967
8.1.8	Consumption of water per capita	UNCHS 1993
8.1.9	Median price of water, scarce season	PWD The price per cubic meter for the first 50 cubic meters is \$0.168; above this volume the price increases to \$0.483. The price of water does not vary with the season but depends only on the quantity used by a consumer.
8.2	Electricity	
8.2.1	Household connections	Fiji Electricity Authority (FEA)
8.2.2	Investment per capita	NAV
8.2.3	Operations and maintenance expenditure	NAV
8.2.4	Cost recovery	
8.2.5	Output per staff: megawatt hours of electricity supplied per employee	FEA
8.2.6	List of providers	Ibid. Electric power for the island of Viti Levu is generated by the Monosavu Hydroelectric Power Station in central Viti Levu. All power distribution is controlled from the National Control Center on the western part of the island, near the city of Lautoka. Power is transmitted to Suva by overhead power lines from Monosavu to Tacirua, on the outskirts of Suva City. There is a backup oil-driven power station at Kinoya in the Greater Suva area.
8.2.7	Nonrevenue electricity	
a.	Line loss for electricity	NAV
b.	Interruptions in power supply	NAV
8.3	Sewage/wastewater	
8.3.1	Household connections	GHD 1999 - There is a considerable backlog of around 10,690 domestic connections with access to trunk sewers but no reticulation, plus another 1,200 commercial/government connections. - The 1996 census information on all connections refers to formal houses only. Unlike previous census reports, the 1996 census report gives housing characteristics not by urban and rural areas, but only by ethnicity of household head. In the 1986 population census, 61% of urban households had a flush toilet with waste either being retained in a septic tank or directed to connecting sewage mains. This figure is likely to have decreased since then because of the growth of informal housing, which does not have such connections.
8.3.2	Investment per capita	
8.3.3	Operations and maintenance expenditure	Derived from GHD 1999 The \$212,654 expenditure figure covers the entire Greater Suva area, including Nausori, Naboro, Lami, Nasini, and Rewa Delta. The figure is divided by the total population of the area (235,504) to give the O&M expenditure per person.
8.3.4	Cost recovery	Estimated by GHD 1999
8.3.5	Output per staff: wastewater discharge or treated per employee	GHD 1999 156,020 equivalent population (EP) per 44 employees

8.3.6	List of providers	PWD-WSD
8.4	Telephone	
8.4.1	Household connections	Telecom Fiji Ltd. • Only national data were provided.
8.4.2	Investment per capita	Ibid. • Only national data were provided.
8.4.3	Operations and maintenance expenditure	Ibid. • Only national data were provided.
8.4.4	Cost recovery	Ibid. • Only national data were provided.
8.4.5	Output per staff: thousands of call per employee	Ibid. • Only national data were provided.
8.4.6	List of providers	
8.5	Solid waste collection	
8.5.1	Households with regular service	• Informal households have no waste removal services.
8.5.2	Investment per capita	SCC • In 1998 the City Council was in financial crisis and halted all capital expenditure and investment.
8.5.3	Operations and maintenance expenditure	Ibid. Expenditure totaled \$778,727.10
8.5.4	Cost recovery	Ibid. • Recovered from rates.
8.5.5	Output per staff: collected per employee	Ibid.
8.5.6	List of providers	Ibid.
9	URBAN ENVIRONMENT	
9.1	Solid waste generated	Suva City Council • Includes waste from 75% of households
9.2	Household sewage disposal (% of households)	1996 census Data cannot be disaggregated to derive figures for sewerage pipe or septic tank disposal, or for underground pit or underground communal disposal. Pan collection is not practised in Suva City, and open trenches are not permitted in the urban area.
9.3	Wastewater treated	• Estimation is difficult, since a large proportion of the septic tanks in Suva are ineffective (because much of the city stands on marl or soapstone), and much effluent seeps into Suva's many creeks. SCC reports that the regular breakdown of its Gully Emptier trucks has created a backlog of households with full and overflowing septic tanks, posing a grave health risk.
9.4	Percent BOD removed removed from water	GHD 1999 • The WSS was reportedly unable to provide detailed operating records for treatment plants and major pumping stations. There are few flow records at the main treatment plants because the flow meters are not working. However, "the large number of overflows indicates that Suva's sewerage system is failing badly and constitutes a significant health hazard and environmental impact. The impression is that this is caused by faulty equipment, especially pumps, rather than lack of infrastructure as such."
9.5	Air pollution concentrations	ESCAP 1999 • There is no regular monitoring of air pollution and only fragmentary data from spot-checks. The latter data show high dust and particulate levels in some locations, such as the Suva Bus Station. But as far as can be determined, dust, particulate levels, and gas pollutants have not reached concentrations that adversely affect human health.
9.6	Energy use per person	NAV
9.7	Noise complaints	NAV

- 9.8 Disasters in last ten years
 - Not listed by Fiji police. No estimate of the number of complaints is available but noise pollution is an increasing problem in Suva. It is caused mainly by barking dogs at night, industrial processes, vehicles, religious gatherings (particularly with microphones), and residential equipment and appliances (motorized mowers and security alarms). Noise levels are not being monitored but spot-checks indicate that Suva is a relatively noisy for a city of its size (ESCAP 1999).
 - UN Department of Humanitarian Affairs, South Pacific Office, Suva
 - Cyclone Kina in 1993 resulted in no deaths and caused minimal dwelling damage, but led to flooding in periurban areas.

- 9.9 Methods of solid waste disposal
 - Based on Quan Chung's e-mail of 31 July 2000

10 URBAN TRANSPORT

- 10.1 Mode of travel
 - These are estimates based on information from the Greater Suva Transportation Study Inception Report and other transport industry sources. The Greater Suva Transportation Study is underway, and the preliminary data collection phase was planned to be completed by September 2000. The survey aims to determine transport demands and review the strategic road plan within the context of land use planning to guide the development of the road network and public transport for the Greater Suva area to 2030. The study includes home interview surveys to obtain travel information such as origin and destination, travel mode, purpose of journey, and trip time—data that are not yet available.
 - Buses are the most-used transport in Suva.
 - There are no bicycle facilities and very few cyclists in Suva. However, the Transportation Study now underway recognizes that bicycles are a viable transport for Suva.
- 10.2 Median travel time
 - UNCHS 1993
- 10.3 Expenditure on road infrastructure
 - SCC (2000) reports that roads are a major problem, given the high rainfall, the large number of heavy vehicles with excessive axle loads, and poor road design and drainage. These cause the numerous potholes in city streets and due to lack of resources, the Council is unable to maintain the roads. This is an area of Council's operations that needs urgent review.
- 10.4 Road congestion
 - NAV
- 10.5 Automobile ownership
 - This is the national figure, derived from vehicle registration data. The ratio cannot be calculated for Suva, which gets much traffic from other parts of the country, but the Suva figure could well be double the national figure. Vehicle registrations have increased as follows: 1976, around 17,000; 1986, 20,000; 1996, 53,000.
- 10.6 Cost recovery from fares
 - This is zero, as Suva has no publicly owned or subsidized mass transportation facilities. The bus transport industry in Fiji is privately owned. The Fiji Bus Operators Association has around 55 member companies, with fleets ranging in size from 4 to 100 vehicles. Buses tender for their routes and the Government maintains fare price ceilings.
- 10.7 Port/air activity
 - Fiji Ports Authority
 - Suva has no international airport. A domestic airport near the town of Nausori also serves some international flights.
 - Suva Port is one of two main ports in the Fiji Islands, the other being Lautoka, through which most sugar exports pass.
- 10.8 Goods carried
 - NAV
- 10.9 Transport fatalities
 - Greater Suva Transportation Study Inception Report, 2000
 - There were nine pedestrian fatalities in 1997/98. Pedestrian crossings on major roads is a serious road safety issue in Suva.

11 CULTURAL

- 11.1 Attendance at public events
 - Because Suva is the only major urban area, public events, such as the annual Hibiscus Festival or religious celebrations, attract people from all over the country. There are no records of attendance.
- 11.2 Attendance at galleries and museums
 - SCC 2000 report
 - "For a capital city, Suva has relatively few venues for cultural activities and few cultural shows for the public. This is an area of human activity that needs further development."
- 11.3 Participation in sports
 - SCC 2000
 - Many people participate in team sports such as rugby, net ball, and soccer, or individual sports such as swimming or golf. While there is no source of statistical data, sports participation is generally high. Suva has adequate recreational facilities but also areas that need improvement. The city now hosts international sporting events, and this attraction needs promoting.

12 LOCAL GOVERNMENT FINANCE

12.1	Sources of revenue	Suva City Council
12.2	Capital and recurrent expenditure per person	Ibid.
12.3	Collection efficiency, property taxes	In 1998 the City Council was in financial crisis and halted all capital expenditure and investment.
12.4	Debt service charge	Ibid.
		Official communications with Quan Chung, 31 July 2000
		Total principal and interest repaid as a fraction of total expenditure is equal to 38.8%. This figure is much higher than normal because of Suva City Council's financial crisis in 1998. This crisis stopped all capital expenditure.
12.5	Employees	SCC
12.6	Wages in budget	Ibid.
12.7	Contracted recurrent expenditure ratio	Ibid.
12.8	Business permits	Ibid.
12.9	Enterprise revenues	Ibid.
12.10	Computerization of functions	The Local Government Act prohibits the City Council from operating revenue-generating activities, and this is a major constraint on city development.

13 URBAN GOVERNANCE

13.1	Functions of local government	Suva City Council
13.2	Delivery of annual plan	Ibid.
13.3	Voter participation rates, by sex	Given the usual behavior of Fiji voters, female and male voters are probably about equal in number.
13.4	Independence from higher government	Ibid.
13.5	Elected and nominated councilors	Ibid.
13.6	Representation of minorities	- Councilors are nominated and elected by ratepayers. - Minorities are not specifically represented.
13.7	Planning applications refused (%)	SCC
13.8	Business satisfaction	- The main reason for refusal is noncompliance with building codes or area use zoning. - No survey of business satisfaction has been done. However, businesses in the CBD regularly complain about poor drainage and the threat of flooding, and problems of traffic congestion downtown. Like other urban residents, business-owners are periodically affected by water cuts and shortages, and power outages. In recent years, violent crime, including daytime armed holdups, has increasingly been a concern. Most business-owners must fully secure their premises, particularly at night. It is important to mention the looting and burning of the CDB in 2000, resulting in damages of at least \$15 million, was uninsurable because it was the outcome of civil unrest.
13.9	Consumer satisfaction	No survey of consumer satisfaction done
13.10	Perception as place to live	- Compared with other Pacific island urban centers, Suva is an attractive place to live because of the range of services and recreational facilities, the relatively good quality of educational institutions, and the social life in this multiethnic community. - Crime is a concern, however, and common house break-ins in the wealthier suburbs add to a perception of compromised security. For this reason, some international organizations consider Suva a hardship post. - Other concerns are increasing poorly maintained roads and traffic congestion. - Police crime data are reported by division. Suva is located in, and dominates, the Southern Division.
13.11	Reported crimes	SCC
13.12	Access to information	Ibid.
13.13	Contact with the public	Ibid.
13.14	Decentralized district units	Ibid.

Indicators

1 POPULATION

1.1 Urbanization

Consultant's communications with National Statistics Office (NSO)

- 77.1% in 1990; 69.3% in 1995; 67.9% in 1999
- Changes in urbanization occurred because of social and economic reforms since 1990.

Population increased only in the three major cities of Ulaanbaatar, Darhan, and Erdenet; it decreased in smaller towns and villages as people left to find a better life in bigger cities or in the countryside.

- Before 1990, the smaller settlements were heavily subsidized from the center. The withdrawal of these subsidies has rendered much of the local economies unsustainable and pushed many families into a nomadic lifestyle. In addition, changes in residence and place of work were severely restricted.

- As defined in the CDB, urban areas have more than 1,000 people.
- According to the City and Settlement Law of Mongolia (1993), a city is an urban area with a population of at least 15,000, while a settlement is an urban area with a population of less than 15,000.

Department of Statistics Information and Research of the City (DSIRC) 1998, UB Statistics Office 1998/99

- Ulaanbaatar had a population of 530,500 in 1990; 573,600 in 1995; and 725,300 in 1999. The population of the capital city including the satellite towns of Nalaikh, Baganuur, and Bagakhangai was 574,900 in 1990; 619,200 in 1995; 773,000 in 1999.

- The satellite towns are under the capital city government. Mr. Enkhbold is governor of the capital city and mayor of the city of Ulaanbaatar.

- The 1990 and 1999 figures are based on the census. The 1995 figure is an estimate based on the number of people holding Ulaanbaatar residency documents; the actual figure could be much higher, by almost 100,000. Accelerated migration to Ulaanbaatar since 1995 has resulted in a significantly higher rate of growth. Out-migration has mostly occurred from remote western regions, where the economic situation is most difficult. The Ulaanbaatar city boundary has not changed.

- The daytime population is the same as the nighttime population. The city area is large and there is no cross-boundary commuting.

1.3 Migration

DSIRC

- Net migration in 1999 = 15,199 (in-migration) – 822 (out-migration) = 14,377
- There are no data available on international migration, which the Secretary of the Foreign Citizens Council regards as negligible.

Net migration is increasing:

Year	Migrants	
1985	460	(2,380 – 1,920)
1989	3,315	(4,772 – 1,457)
1990	3,055	(5,157 – 2,102)
1995	7,717	(10,280 – 2,563)
1999	14,377	(15,199 – 822)

1.4 Net population density

CDB estimates, based on the formula in the consultant's kit

1.5 Age pyramid

DSIRC 1999

Age Group	Males	Females
	(%)	(%)
0–14	15.27	15.18
15–59	30.69	33.85
60 and over	2.22	2.79

1.6 Average household size

DSIRC 1999

1.7 Household formation rate

- According to unpublished data from the City Statistician, households holding Ulaanbaatar residency documents increased by 2.5% per year between 1995 and 1999 (from 92,500 in 1995 to 102,000 in 1999). This is an obvious underestimate because not all immigrants are included (see note 1.2 above). Household size, according to the census, declined from 5 persons in 1989 to 4.8 in 1999, and the size of households with Ulaanbaatar residency documents declined from 4.9 persons in 1990 to 4.6 in 1999.

CDB team's estimates, based on data obtained by the consultant from NSO 1999

- Given the 12,020 women-headed households in 1996 and 13,513 in 1997, there were about 14,854 such households in 1999.

1.9 Minority groups

1999 census

- Kazakhs, numbering 4,200 (0.006% of the population), make up the largest minority group.

1.10 Household types

2000 census

- The figures for adults and children were estimated by Joe Flood.

1.11 Informal settlements

- Nearly half of the people in Ulaanbaatar (48.7%) live in ger areas. A ger is a traditional Mongolian dwelling. It is a circular, conical, felt-covered structure, which is easy to assemble and disassemble.
- These ger areas are provided with electricity. Water is delivered by water trucks to several distribution points where people can fill their containers. Sewage is collected in pit latrines. There are no paved access roads. Plots are fenced off and most households aspire to build permanent houses on these plots, generally without the permission of the building standards office.

2 EQUITY

2.1 Income distribution

DSIRC 1999 survey among 510 families

	Range (\$)	Ave. Annual Income (\$)
Top 20%	1,208.40 – 6,296.40	1,944.00
Next 20%	802.80 – 1,201.20	1,003.20
Middle 20%	520.80 – 801.60	656.40
Next bottom 20%	334.20 – 520.80	426.00
Bottom 20%	40.08 – 332.40	218.40

	Range (\$)	Ave. Annual Expenditure (\$)
Top 20%	1,514.00 – 13,512.90	2,884.10
Next 20%	1,082.80 – 1,510.30	1,275.30
Middle 20%	749.70 – 1,082.70	925.30
Next bottom 20%	506.30 – 749.20	616.60
Bottom 20%	96.10 – 506.30	358.70

2.2 Households below poverty line

Living Standards Measurement Survey (LSMS), NSO, DSIRC

- Percentage of households below poverty line: 35.1% in 1995; 34.1% in 1998; 27.1% in 1999
- The 1995 and 1998 LSMS differed somewhat in their survey methods, making a direct comparison of the survey results difficult.
- The poverty threshold for 1999 was (\$211.44) per person per year.

2.3 Women-headed households in poverty

DSIRC 1999

2.4 Child labor

- There were about 300 children (0.04 % of the total) in 1999, according to an unpublished survey by the City Statistician. The children mostly polish shoes, wash cars, and pull carts in the markets.

2.5 Informal employment

1999 Mongolia Informal Sector Survey, conducted for the USAID Economic Policy Support Project, April 2000 [what is the April 2000

- The principal informal sector is retailing, which accounts for 57% of the total informal employment. The other informal sectors are transport (34%) and personal services (8%). Informal employment mainly covers the retail trade (small kiosks, counters, containers), financial services (pawnshops and money changers), transport (taxis, trucks, minibus, garages), and services (shoe repair, chemists, canteens, barbershops, home-cooked meals).

2.6 Unemployment

DSIRC 1999

- This official figure is commonly regarded as a gross underestimate since registering as unemployed carries no benefits. The 1998 LSMS estimated real urban unemployment to be 30%.

2.7 Expenditure on poverty reduction (per poor person)

Unpublished data, 1999, from the City Poverty Alleviation Officer

- A total of \$5.5 million went to poverty alleviation programs for 196,232 poor people under the Poverty Alleviation Project of the World Bank and the projects of the Social Care Authority.

Project	\$ million
a. Poverty reduction project	0.23
b. Income generation project for vulnerable groups	0.13
c. Women's development project	0.12
d. Funds spent for poverty reduction	0.44
e. Social care pension	0.85
f. Social care allowance	1.30
g. Special favorable allowance for the elderly	0.30
h. Social care allowance for disabled people	0.02
i. Favorable allowance for firewood and coal	0.24
j. Social care allowance from donations	0.09
k. Social housing and ger provision	0.03
l. Social care hospital for the poor and homeless	0.20 and 1,265,500

- m. Different social allowances, including free camp for school children from vulnerable families, presents for vulnerable elderly persons on the occasion of the Lunar New Year, provision of discounted passes to sanatoriums for vulnerable elderly persons, etc. 0.06
- n. Free social care services for the poor 0.10

3 HEALTH AND EDUCATION

- 3.1 Persons per hospital bed
- 3.2 Child mortality

DSIRC 1999

Ibid.

$$P_0 = 532/10,508 = 0.0506$$

$$P_1 = 134/10,028 = 0.0133$$

$$P_2 = 27/10,384 = 0.0026$$

$$P_3 = 29/10,762 = 0.0026$$

$$P_4 = 11/12,517 = 0.0008$$

$$1 - (1 - 0.0506)(1 - 0.0133)(1 - 0.0026)(1 - 0.0026)(1 - 0.0008) = 0.0691$$

- 3.3 Life expectancy at birth

Ibid.

- 61.7 years in 1997; 61.5 years in 1998; 61.5 years in 1999

- 3.4 Mortality from infectious diseases

DSRIC 1999

- 3.5 Family planning

NSO, 1998 Reproductive Health Survey

- 3.6 Adult literacy rate

Ministry of Enlightenment of Mongolia (MOEOM) 1999

- 99.6% in 1990; 99.1% in 1995; 97.1% in 1999
- Adult literacy is declining because of economic difficulties.

- 3.7 School enrollment rates (primary,secondary)

Ibid.

	1990	1995	1999
	(%)	(%)	(%)
Primary schools	105.8	93.4	103.8
Secondary schools	86.8	65.6	66.4

- An enrollment rate of more than 100% in the primary schools includes children below eight years, the mandatory enrollment age according to the Education Law of Mongolia.

- 3.8 Tertiary graduates

Ibid.

- 5.2 per 1,000 population in 1990; 6.5 in 1995; 10.9 in 1999
- The number of tertiary graduates has sharply increased in recent years because of the liberalization of education policy and the establishment of several private colleges.

- 3.9 Median years of education

Ibid.

- 3.10 School children per classroom (primary,secondary)

Ibid.

	1990	1995	1999
	(%)	(%)	(%)
Primary schools	32.7	33.7	35.7
Secondary schools	33.5	31.5	34.2

4 URBAN PRODUCTIVITY

- 4.1 City product per capita

DSIRC 1999

- Total city product per year = \$ 452,577.81 = \$0.623
City population 725,300

- 4.2 Employment by industry

DSIRC 1999

- 4.3 Household expenditure

Ibid.; Mongolian Statistical Yearbook (MSY) 1999 for urban areas

- The Ulaanbataar figure for transport is much higher than the figure for all urban areas, which also includes communication expenditure. The DSRIC and MSY surveys are different but the Ulaanbataar transport figure is probably closer to the actual since many other urban centers have no public transport services at all, and fares in Ulaanbataar have quadrupled recently. Because transport service prices increased twice in 1998, the total expenditure for such service is high.

- 4.4 Investment by sector

CDB estimates based on data obtained by the consultant from DSIRC 1999

Sector	\$ million
Physical infrastructure	8.5
Housing	21.2
Services	17.8
Others	73.8

- 4.5 Tourism
 - This investment includes both public and private sectors.
- 4.6 Major projects
 - Ministry of Infrastructure Development of Mongolia (MIDM) 1999
- 4.7 Cost of stay
 - These are national figures. All tourists enter Mongolia through Ulaanbaatar.
 - Data from the consultant
 - Several private hotels and many restaurants, cafés, bars, and nightclubs have been established in recent years.
- 4.8 Corporate headquarters
 - Businesses here do not qualify under the definition.

5 NEW TECHNOLOGY

- 5.1 R&D expenditure
 - MOEOM
 - \$4.50 per person in 1995; \$2.24 in 1999
 - R&D expenditure has fallen because of economic difficulties. Satellite dishes, mobile phones, the Internet, and cable TV are the commonly used R&D methods.
 - Consultant's communications with MIDM, 1999
- 5.2 Telephone traffic (million calls per year)
- 5.3 Internet hosts per thousand population
 - CDB estimates, based on the data obtained by the consultant from MIDM 1999

Number of Internet connections	3,000
Annual growth in connections (%)	250

 - The Internet was first introduced in 1995. There are no restrictions on Internet use.

6 URBAN LAND

- 6.1 Urban land
 - Consultant's communications with Urban Design Institute of the City (UDIC) 1999
- 6.2 Land developer multiplier
 - Consultant's communications with the City Office, 1999
 - Ulaanbataar, until recently a communist city, is now being developed into a market economy. The city has a low density and presents many development opportunities. Services are not being extended at the city periphery, and the prospect of change in this regard is very low. Development beyond the existing serviced area is of the informal ger type described above.
- 6.3 Developer contributions
 - Consultant's consensus estimates, based on discussions with developers and public-sector experts
 - Most formal, as opposed to ger area, development involves relatively short links to existing infrastructure, rather than direct connections.
 - Consultant's communications with the City Office, 1999
- 6.4 Median time for planning permission
- 6.5 Vacant land with planning permission
- 6.6 Public open space
 - Ibid.
 - 1999 UDIC survey
 - This figure may appear low by international standards.
- 6.7 Vacant government land
- 6.8 Prime commercial land price
 - Ibid.
 - City Office 1999
 - Long-term use rights to the highest priced land in Ulaanbaatar cost \$9.4 per m² (1999 public auction).
- 6.9 Prime rental and occupancy costs
 - Consultant's communications with landlords, 1999
 - The prime rental rate per month was \$12.5 per m² in 1999 for an artificial short-term situation.
 - The monthly rate in 2000 could be \$8 per m².
 - City Office 1997–1999
 - The figure cited is the average over the last three years.
- 6.10 Expenditure on development

7 HOUSING

- 7.1 Dwelling type
 - DSIRC 1999
- 7.2 Tenure type
 - Ibid.

7.3 Ratio of house price to income

- State-owned apartments were privatized in 1996 and 94% are now owned by the tenants.
- Median house price = \$10,969 = 11
Median household income \$996

The median house price is calculated as follows:

Apartment Type	Price Range by District (\$1.189)	Official Price	Ave.	70 %	Ave.
1-room	\$6 – \$9	\$1.85	\$6.80	\$7.78	\$5.44
2-room	\$8 – \$11	\$3.10	\$7.90	\$10.13	\$7.08
3-room	\$12 – \$15	\$5.35	\$33.18	\$37.92	\$26.54

7.4 Ratio of house rent to income

7.5 Floor area per person

7.6 Housing in compliance

7.7 Ratio of mortgage to credit

7.8 Houses with mortgages

7.9 Mortgage loans for women

7.10 Housing production

City Office 1999

Ibid.

- The figure cited Includes informal housing.

Ibid.

- These are just apartments with basic services.

- There is as yet no mortgage system.

None

None

DSIRC 1999

	1992	1993	1994	1995	1996	1997	1998	1999
Housing production	2,944	729	678	1,600	602	387	551	584

Depending on their income, new households buy or rent apartments or move in with parents. People sell their apartments and move to ger areas where they can buy or develop new plots more cheaply. Parents often move to ger areas, leaving their apartments to their married children to share. All this means that the ger areas are increasing.

7.11 Squatter resettlement or normalization

- None. The urban service improvement project being implemented by the Government with a loan from the World Bank is concerned mainly with providing water supply to the ger areas. A housing development project to be implemented by the Government will partly improve ger areas.

7.12 Net housing outlays by government (per person)

City Office 1999

- Economic difficulties almost put a stop to the Government's investments in housing development. The main housing outlays of the government are favorable allowances for senior citizens with high state titles (Hero of Labor, People's Artist, etc.) and investments in housing construction for repressed.

7.13 Homeless people

City Office

- The Government provides homeless people with ger or low-cost housing, employment, and a favorable allowance within the budget.

8 MUNICIPAL SERVICES

8.1 Water

8.1.1 Household connections

City Office 1999 and Water and Sanitation Corporation (WSC)

8.1.2 Investment per capita

Ibid.

8.1.3 Operations and maintenance expenditure

Ibid.

8.1.4 Cost recovery

Ibid.

8.1.5 Output per staff: Water supplied per employee

Ibid.

8.1.6 List of providers

WSC

8.1.7 Nonrevenue water

a.) Percentage

unaccounted for water

City Office 1999 and WSC

b.) Interruptions in water service

ADB "Second Water Utilities Data Book" 1997

8.1.8 Consumption of water per capita

City Office 1999 and WSC

8.1.9 Median price of water, scarce season

Ibid.

- Industry and households are charged differently for water: \$0.23 per m³ for industry, \$0.05 per m³ for households in formal housing without metered water and \$0.03 per m³ for households in formal housing with water meter, \$0.58 for water distribution kiosks, and \$1.16 for water truck deliveries in the ger area. The number of households that get water by truck is small.

8.2	Electricity	
8.2.1	Household connections	City Office 1999 and Electricity Distribution Corporation (EDC)
8.2.2	Investment per capita	Ibid.
8.2.3	Operations and maintenance expenditure	Ibid.
8.2.4	Cost recovery (%)	Ibid.
8.2.5	Output per staff: Megawatt hours of electricity supplied per employee	Ibid.
8.2.6	List of providers	EDC
8.2.7	Nonrevenue electricity	City Office 1999 and EDC
	a. Line loss for electricity	Ibid.
	b. Interruptions in power supply	• 3,554.7 kWh • Power plant failures caused power shortages.
8.3	Sewage/ Wastewater	
8.3.1	Household connections	City Office 1999 and WSC
		• All wastewater from industry and formal housing goes to a treatment plant.
8.3.2	Investment per capita	Ibid.
8.3.3	Operations and maintenance expenditure	NAV
8.3.4	Cost recovery	• Industry and households (formal area) are charged differently for sewage disposal: \$0.14 for industry and \$0.07 for households in formal housing.
8.3.5	Output per staff: wastewater discharged or treated per employee	Ibid.
8.3.6	List of providers	WSC
8.4	Telephone	
8.4.1	Household connections	Mongolian Telecom and Ministry of Infrastructure and Development
8.4.2	Investment per capita	Ibid.
8.4.3	Operations and maintenance expenditure	Ibid.
8.4.4	Cost recovery	Ibid.
8.4.5	Output per staff: Thousands of calls per employee	Ibid.
8.4.6	List of providers	Mongolian Telecom, Railway Telecom
8.5	Solid waste collection	
8.5.1	Households with regular service	City Office 1999
		• There are authorized intermediate solid-waste points in ger areas where households may dispose of their garbage. District solid-waste companies collect garbage from those points and transfer it to dump sites.
8.5.2	Investment per capita	Ibid.
8.5.3	Operations and maintenance and expenditure	Ibid.
8.5.4	Cost recovery	Ibid.
8.5.5	Output per staff: Collected per employee	Ibid.
8.5.6	List of providers	• Public solid-waste companies in each district. • The Company Nuuts is responsible for the dump sites.
9	URBAN ENVIRONMENT	
9.1	Solid waste generated	City Office 1999
9.2	Household sewage disposal (% of Households)	Ibid.
9.3	Wastewater treated	WSC 1999

- 9.4 Percent BOD removed from wastewater
- 9.5 Air pollution concentrations
- 9.6 Energy usage per person

- This figure refers to the wastewater in the sewerage system. In ger areas, water consumption is very low at 8 liters compared with 200 liters in formal housing. There is no wastewater treatment system in the ger areas. Households in these areas use a pit for wastewater disposal.

WSC 1999

Environment Laboratory 1999 and Ministry of Nature and Environment
City Office 1999

Type of Energy Consumption/Person	Annual Factor	Conversion Consumption	Total Annual
Petrol (+)	0.10	1.179	75,000.0
Kerosene (+)	0.05	1.179	36,000.0
Aviation fuel (+)	0.01	1.179	7,000.0
Natural gas (m ³)	0.02	1.23	14,000.0
Wood (m ³)	269.32	0.333	186,100.0
Electricity (kWh)	2.69	0.000123	1,953,370.3
Coal (+)	4.37	1.0	3,171,700.0
Total	4.67		3,390,650.5

- 9.7 Noise complaints
- 9.8 Disasters in last 10 years
- 9.9 Methods of solid waste disposal

City Office 1999

- The noise complaints received by the city officer on duty pertain mostly to everyday occurrences, like noise made by neighbors at night.

10 URBAN TRANSPORT

- 10.1 Mode of travel
- 10.2 Median travel time
- 10.3 Expenditure on road infrastructure
- 10.4 Road congestion
- 10.5 Automobile ownership
- 10.6 Cost recovery from fares
- 10.7 Port/Air activity
- 10.8 Goods carried
- 10.9 Transport fatalities

City Office 1999

- Privately owned minibuses, charging the same tariff as buses and trolley buses but offering much greater speed and comfort, are used widely as public transport, almost putting the trolley buses out of business. But the trolley bus operators cut their tariffs twice to attract passengers and stay in business.

City Office

DSIRC 1999

None

Traffic Policy Department (TPD) 1999

- The number of privately owned cars is increasing rapidly, although the Government imposed high import duties on cars from 1997 to early 2000.

City Office 1999

Ibid.

Ibid.

TPD 1999

- Traffic accidents are due mainly to the bad condition of the roads, the rapidly increasing number of vehicles, and the many new drivers with limited driving experience.

11 CULTURAL

- 11.1 Attendance at public events
- 11.2 Attendance at galleries and museums
- 11.3 Participation in sports

City Office 1999

Ibid.

Ibid.

- 34.5 % of the city population

12 LOCAL GOVERNMENT FINANCE

- 12.1 Sources of revenue

Ibid.

- The General Taxation Law of Mongolia mandates the imposition of two types of taxes: national and local. Revenues from local taxes are negligible. Taxes fixed at the national level are paid as follows: major taxpayers pay to the national taxation office, medium taxpayers pay to the city taxation office, and small taxpayers pay to district taxation office.

- The sale of government-owned properties in the framework of privatization is another source of income.

		There are some investment projects that are funded by the national Government or by a major industry but belong to the national ministries. These do not have to report to the city.						
12.2	Capital and recurrent expenditure per person	CDB team's estimates, based on data obtained by the consultant from City Office 1999 <table><tr><td>Expenditure per annum</td><td>\$ million</td></tr><tr><td>Capital</td><td>4.3</td></tr><tr><td>Recurrent</td><td>33.6</td></tr></table>	Expenditure per annum	\$ million	Capital	4.3	Recurrent	33.6
Expenditure per annum	\$ million							
Capital	4.3							
Recurrent	33.6							
12.3	Collection efficiency, property taxes	City Office 1999						
12.4	Debt service charge	None						
12.5	Employees	City Office 1999						
12.6	Wages in budget	Ibid.						
12.7	Contracted recurrent expenditure ratio	Ibid. A part of road construction and maintenance and all repairs of schools, kindergartens, and government hospitals are contracted by the private sector.						
12.8	Business permits	City Office 1999						
12.9	Enterprise revenues	NAV						
12.10	Computerization of functions	City Office 1999 Computerization is being introduced gradually as funds become available for the purchase of computers and associated facilities.						

13 URBAN GOVERNANCE

13.1	Functions of local government	City Office 1999 Water supply, sewage and refuse collection, public transport, emergency services (fire, ambulance), road maintenance, education, health care, public housing, recreation/sports facilities, police, drainage/flood control, and livelihood assistance are the direct responsibilities of the city. These service units report to the city, which finances most of them. Corporations under the Ministry of Infrastructure Development provide electricity, telephone and centralized heating services. These do not report to the city but sell services to it.
13.2	Delivery of annual plan	Ibid.
13.3	Voter participation rates, by sex	Ibid.
13.4	Independence from higher government	Ibid. - Political parties may remove councilors from office. - The city government is legally independent from the central Government but is financially dependent on the latter. The city budget must be approved by the City Assembly. - The following describes the relationship between the Government and the city of Ulaanbaatar: - The mayor is nominated by the City Assembly and appointed by the prime minister (the prime minister signs the contract specifying the mayor's tenure). - The mayor with the approval of the Prime Minister appoints the deputy mayor. - The mayor submits his performance report to the prime minister twice a year. - The prime minister has the right to cancel the mayor's decision, if it violates the law. - The Cabinet (according to the Urban Development Law) approves the city master plan. - The city is self-supportive and does not get any subsidies from the central Government. Its budget is approved by the City Assembly. The central Government decides which economic entities should pay to the appropriate tax offices (national, municipal, and district). Business taxpayers are allocated among the national, municipal, and district levels according to tax revenue size. Central Government decisions sometimes cause problems for the city. For instance, the companies Petrovis and Skytel traditionally pay \$0.93 million annually to the municipal budget, but the central Government has recently taken these two companies out of the city budget in exchange for 10 other tax-paying companies, which pay a total of only \$0.19 million because of financial difficulties. In other words, the city loses more than \$0.70 million annually. - A decision by the Government to grant salary increases to employees in the public sector after the annual budgets have been approved would place immense pressure on the city budget. - The utility corporations (Ulaanbaatar Heating Network and Electricity Network) are under the Energy Authority, which is a part of the Ministry of Infrastructure.
13.5	Elected and nominated councilors	City Office 1999 The voting system is a mixture of majority and proportional. There are 40 councilors in the City Assembly. Nine of them (there are nine districts in the capital city) are elected from the candidates of political parties and the remaining 31 are appointed by political parties according to the percentage of votes obtained by each party. These councilors nominate the mayor and submit their nomination to the prime minister for approval.

- 13.6 Representation of minorities
- 13.7 Planning applications refused (%)

NAP
City Office 1999

- The reasons for the high refusal rate are: too many applicants because of the low charge for the right to state-owned land (many applicants keep the land without developing it, for lack of funds); the absence of infrastructure on the land; or noncompliance of the applicant's proposed development with the city's urban development requirements.

- 13.8 Business satisfaction
- 13.9 Consumer satisfaction
- 13.10 Perception as place to live
- 13.11 Reported crimes
- 13.12 Access to information

No survey conducted
No survey conducted
No survey conducted
City Office 1999
Ibid.

- Community participation and reporting to the public are new in Mongolia and other postcommunist countries. The City Development Strategy Project being developed by the World Bank has considerable provisions for institutional capacity building, community participation, and public awareness.

- 13.13 Contact with the public

Ibid.
• Meetings with the mayor and his deputies

- 13.14 Decentralized district units

Ibid.
• Decentralization is ongoing but it is not very smooth despite the declared decentralization policy of the government. The city is still very dependent on the central Government and the districts depend on the city administratively and financially.

Appendixes

Appendix 1. Resources on the Internet: A Directory

A. Indicators Systems

Competitiveness

wbln0018.worldbank.org/psd/compete.nsf
www.imd.ch/wcy/methodology/methodology.cfm

Governance

www.transparency.de/

Index-Driven

www.undp.org/hdro/indicators.html
www.who.dk

Needs-Based

www.regeneration.detr.gov.uk/98ild/

Performance-Based

www.telco-cpi.org.uk/
www.reggen.vic.gov.au/
www.anao.gov.au/bpgs.html
www.pc.gov.au/service/gtepubs.html
www.moe.edu.sg/esp/edunews/pr03097.htm
www.info.gov.hk/jud/performance/index.htm
www.urbanobservatory.org/indicators/analysis/
www.hsd.ait.ac.th/ihsa/si/a13lc/bombay/ui.html

Policy-Based

www.ccsd.ca/lp.html
www.obm5.treas.gov.ab.ca/comm/perfmeas/
www.gov.calgary.ab.ca/finance

Poverty Monitoring

www.worldbank.org/poverty/data/povmon.htm

Systems Approach

www.who.dk/healthy-cities/
venus.hq.nasa.gov/iwgsdi/sdi_ol_framework.html

Sustainable Development

venus.hq.nasa.gov/iwgsdi/sdi_ol_framework.html

B. Sustainability Indicators

Agenda 21

The most widespread indicators movement, sustainable development indicators, has been the successful outcome of recommendations from Agenda 21, the policy document of the 1992 United Nations Conference on Environment and Development (UNCED) Rio Conference, which recommends that sustainability monitoring systems be put in place. This has initiated a process of sustainability monitoring in many countries and communities.

www.unep.org/Documents/Default.asp? DocumentD=52

Agenda 21 reporting includes direct reporting through a system of indicators and country profiles developed by the UN

Commission for Sustainable Development (CSD), the United Nations Environment Programme, and a great many independent activities known under the collective title of State of the Environment (SoE) Reports. This has generally involved the publication of yearbooks, and occasionally the development of comprehensive indicators systems, usually making reference to a sectoral, strategic policy, and/or systems approach. The SCOPE Project (Moldan and Billharz 1997) effectively synthesizes all international research in the area.

www.un.org/esa/sustdev/worklist.htm

www.unep.ch/earthw/indstat.htm

COUNTRIES

Most developed countries, and many states/provinces and cities, have independently engaged in sustainable development debates and consultations, and many have produced SoE Reports, which investigate human components of sustainability as well as the physical components. Some of the most noteworthy national activities have been

Canada. SoE reporting through reports and brochures carried out by Environment Canada is generally regarded as state of the art. A comprehensive indicators database has been developed on most environmental aspects and this has been coupled with excellent outreach activities.

www.ec.gc.ca/ind/English/History/histor_e.htm

www.ec.gc.ca/soer-ree/English/tools/ind_data.cfm

The IISDNet Working Group on Sustainable Development Indicators has been working on composite indexes of sustainability using clusters of related variables, similar to the approach used in the Cities Data Book.

iisd1.iisd.ca/cgsdi/

United States. In the US, an Inter-Agency Working Group on Sustainable Development Indicators (IWGSDI) has developed a framework to identify, organize, and integrate national SDIs, selecting 32 key indicators from a much larger set, to monitor the capacity of the US to meet present and future needs.

venus.hq.nasa.gov/iwgsdi/sdi_ol_framework.html

Australia. One national SoE Report (1997) has been published, together with several comprehensive state reports, for Queensland and New South Wales. The national report included a system of indicators developed specifically for human settlements, and this has been subject to considerable peer review and further development (as discussed in Newton et al. 1998).

Hong Kong, China. Hong Kong, China has a system of Social Indicators of Quality of Life and also a system of Sustainability Indicators sponsored by the Government.

http://www.cuhk.edu.hk/hkiaps/INDICA/soc4~1.htm

http://www.info.gov.hk/planning/susdev/report_6/
e_index.htm

CITIES AND MUNICIPALITIES

As well as national sustainability studies, of which there are relatively few at present, an increasing number of cities and municipalities are undertaking community sustainability studies, encouraged by the Local Agenda 21 initiative. In such cases (see for example Besleme and Mullin 1997; Farrell and Hart 1998), the community selects those indicators it considers most important for monitoring issues such as economic security, ecological integrity, and quality of life. The resultant material is used to raise public awareness, identify achievable goals, make trends visible,

and help individuals, communities, and their governments establish priorities (several case studies are found in OECD 1997).

The US maintains an excellent network of city indicators initiatives and newsletters, for example the Urban Quality Indicators newsletter. These local government initiatives are mostly concerned with sustainability, as already discussed, and various performance measurement exercises and community empowerment initiatives. Some of the best known and well developed of these are the Sustainable Seattle, maintained by the YMCA, which sought to establish indicators by public consultation that would “capture the hearts as well as the minds” of Seattle citizens, and included such Seattle-specific indicators as “number of days you can see the Rockies,” or “wild salmon running in streams;” and the Sustainability Plan for San Francisco, which combines an excellent strategic planning approach with sustainability. The Sustainable State of New Jersey indicators are based on a strategic approach to city goals, with indicators divided into thematic goal categories.

people.mw.mediaone.net/cyoakam/index.html

www.andromeda.rutgers.edu/~ncpp/cdgp/commun.htm

www.sustainable-city.org/

www.njfuture.org/HTMLSrc/SSR/GoalsAndIndicators.html

C. Web-Based Statistical Collections

Most of the major multilateral agencies conduct general statistical activities partly as an information function or as part of yearbooks, but increasingly as a formal part of policy goal setting. The indicators programs of these agencies are linked to organizational policy and strategy development, but generally are not associated with a specific indicators approach.

- *World Bank Development Indicators 2000*. This database is available on CD-ROM and diskette. The 1995 *Social Indicators of Development* may be accessed at www.ciesin.org/
- *Regional Social Indicators for East Asia* has been developed as a monitoring system following the East Asia Crisis, at www.worldbank.org/eapsocial/indicat/index.htm.
- *The United Nations Statistical Division* is the ultimate world authority for harmonized international data definitions. It maintains demographic data and social indicators. This can be found at www.un.org/Depts/unsd/statcom/statcom.htm, and maintains links with all member country statistical offices.
- OECD maintains a database of development indicators and extensive data and metadata resources. This can be found at www.oecd.org/dac/Indicators/index.htm and www.oecd.org/std/.
- *UNCHS (Habitat) Statistical Programme* maintains several downloadable collections, including the *Human Settlements Data Collection* (time series of mostly national data) and *Citibase*, the results of a postal data survey of 3,500 cities in 1994/95. This can be found at www.unchs.org/unon/unchs/habrdd/statprog.htm.
- *UNICEF Progress of Nations Report* contains a range of social indicators and league tables of country performance against various indicators. These can be found at www.unicef.org/pon97/stat2.htm.
- *World Resources Institute*: The environmental and social database of this influential think tank is available at www.wri.org/facts/data-tables.html, and interactively at

www.ciesin.org/

- *ESCAP Statistical Division* maintains a time series database of social indicators in the Asian and Pacific region at unescap.org/stat/index.htm.
- *Eurostat*, the statistical arm of the European Union, maintains several extensive databases, including the NewCronos metadata system, which provides a good sectoral cataloguing system for social indicators.

A number of other general and sectoral databases from multilateral organizations including ILO, UNIDO, UNESCO, UNHCR, WHO, and APEC, etc. are detailed in the Web Resources listing, along with a listing of national statistical offices in the Asian and Pacific region.

D. National and Local Collections

At the national or city level, some of the main activities with index links in the Web Resources listing are

- **Australia**. Many national and state departments and authorities maintain websites with sectoral statistics; for example as part of the Australian Productivity Commission evaluation and reporting systems, Environment Australia, Health Indicators in the ACT, the Bureau of Transport Economics, the City of Melbourne, most public utilities, etc.
- **Hong Kong, China**. There are social indicators for quality of life and sustainability indicators.
- **Japan**. There are economic/business and consumer confidence, industrial and business statistics, demographic and employment time series, science and technology indicators, and gender indicators.
- **India**. India was active in the Habitat II Indicators preparation. India has been a focus for Global Urban Observatory training and indicators collection activities.
- **Indonesia**. There are the Asian crisis poverty surveys and health indicators.
- **Nepal**. There are aspects and incidence of Nepal poverty; and the development database for Nepal regions.
- **Singapore**.
- **Taipei, China**. There are urban and regional development indicators, and science and technology indicators.
- **Thailand**. An indicators approach is encouraged by the strength of the central planning agency, the National Economics and Social Development Board, for a comprehensive if rather undirected statistical system, and a move towards more decentralized forms of local government (which until the 1994 reforms were organs of the National Department of Local Administration) involving less control and more accountability. Some of the main activities have been the Rural Database, the Village Basic Needs Indicators, an online Health Indicators system, Poverty Indicators, and a new Performance Indicators for the Local Government scheme which will require submission of financial and other data by all local governments in Thailand by 2000.
- **US**. Many pertinent government and commercial data websites are maintained in the US, including national level databases such as the Department of Housing and Urban Development's *State of the Cities Report and Database*, http://webstage1.aspensys.com/SOCDS/SOCDS_Home.htm.

Appendix 2. The CDB Workshops

Participatory Workshop 13–14 September 1999, Manila

Fifteen representatives from 14 cities participated in the Participatory Workshop on 13–14 September 1999. The cities were: Bangkok, Bangalore, Bishkek, Cebu, Colombo, Hanoi, Hong Kong, Kathmandu, Mandaluyong, Medan, Naga, Phnom Penh, Suva, and Ulaanbaatar. The workshop was the initiating activity for work on the Cities Data Book (CDB). Its objectives were to

- develop a consensus on which urban data are most useful for policy setting and evaluation by local governments;
- establish key indicators for monitoring and evaluating cities in the region; and
- establish a network of cities that can communicate experiences and transfer good practices in urban services, policy development, and data management.

To generate consensus among cities, criteria in selecting indicators were put forward. It was agreed that the exercise will highlight the promotion of cities which are human, sustainable, innovative, efficient, participatory, and effectively managed. The criteria chosen were driven by objectives of

- improving linkages between central and local governments and the private sector;
- improving the management of resources;
- supporting the development of long-term urban sector strategies and plans;
- reducing levels of urban poverty; and
- promoting sound governance.

Under the above guidelines the participants identified and prioritized the sectors.

- From a long list of themes or sectors in the city participants selected the six priority sectors of environmental management, water supply, municipal services, governance, solid waste management, and economy.
- For indicators, the sectors on environmental management and municipal services were merged with solid waste and water supply, respectively. The groups gave most votes to the indicators of

(i) environmental management including degree of pollution and diseases caused by pollution;

(ii) municipal services including connections or collection as for solid waste, expenditures on operations and maintenance, loss or unaccounted for services, consumption per capita, cost to connect, wastewater treated, types of services, modes of travel, and travel time;

(iii) governance including delivery of annual plan, business satisfaction survey, representation of minorities, compliance to regulations, access to information, voter turnout, consumer satisfaction services, and processing and approval time; and

(iv) economy including investment for basic services, employment rate, economic growth, households below the poverty line, cities' land structure, competitiveness as measured by skilled education composition, and tourism.

Indicators selected would be considered in a questionnaire for data collection. Cities will adopt standard definitions of terms

to compare cities' performances. As measures of city performance the indicators should be important, simple, easy to collect, accurate, affordable, available, useful, and sustainable.

The CDB team briefed the cities on the indicative timetable of the exercise. Six months after the workshop the consultants in each city were expected to be in place, and to have completed a draft of the survey results or draft values, a city profile, and documented the sources of the data. The participants noted that the CDB is not a mere collection of statistics. Goals and priorities should be established and the indicators to be used and later maintained should be policy oriented or performance-based.

Dissemination Workshop 15–16 February 2001, Manila

A dissemination workshop was held at ADB headquarters in Manila on 15–16 February 2001 to discuss the major findings of the Cities Data Book: Urban Indicators for Managing Cities. The workshop recapped the regional technical assistance funded by ADB to initiate an urban indicators system to provide useful, timely, and relevant information on urban conditions and trends in Asian and Pacific cities and to establish a network among the cities to exchange good practices. Participating cities included Bangalore, Bishkek, Cebu, Colombo, Dhaka, Hanoi, Hohhot, Kathmandu, Hong Kong, Lahore, Mandaluyong, Medan, Melbourne Naga, Phnom Penh, Seoul, Suva and Ulaanbaatar. Among those present were mayors, city administrators, and senior technical staff from the participating cities and statistics offices, representatives from international development agencies including the World Bank, United Nations Development Programme's Urban Management Programme for Asia and Pacific, Japan Bank for International Cooperation, academic research institutions, and NGOs.

Sir Peter Hall of the University College London, Dr. Peter Newton of the Commonwealth Science Research Organization of Australia, Dr. Terrence McGee of the University of British Columbia, Canada, and Dr. Joe Flood and Mr. Giles Clarke, consultants to the Cities Data Book, comprehensively discussed the development of indicators, adoption of an indicators system in the national policy context, and the use of policy-based indicators at the city level. The resource persons analyzed the cities' development based on data generated by the Cities Data Book exercise and illustrated comparative performance of cities on selected aspects. The mayors and other city representatives likewise shared their cities' experiences in developing a local information system and showed how indicators influenced their local decision making.

Key conclusions and recommendations reached during the workshop were as follows:

- The comparison of cities in the CDB should not be viewed as criticism of the city but rather a challenge to the city to continue to strive to improve performance.
- There was a clear justification for using the urban indicators.
- Parallel work in the application of indicators in city management needed to be pursued and discussed with the stakeholders.

- Ownership of the CDB should be at the city level. At the initial stages of its development, local ownership is more important than quality data.
- Data generated in the CDB exercise should be popularized or packaged from the perspective of stakeholders such as investors and the business community, to promote its wide use.
- Cities need to link urban indicators data to city goals and priorities, and continually refine the process as priorities change over time.
- An information network among cities would promote exchange and sharing of information.

CITIES DATA BOOK WORKSHEET

Cities Data Book: Indicators Worksheet

Welcome to the Cities Data Book indicators worksheet. This is the instrument for entering the data which will be used in the ADB Cities Data Book. In it you will find the indicators and their definitions. More detailed definitions, along with methods of calculation and uses for the indicators, are contained in the companion document, *Indicators Reference*. Notes and references on each indicator must be included in the companion *Notes and Sources* document.

The kit for country consultants consists of

- This *Indicators Worksheet*
- The *Indicators Reference*
- The *Notes and Sources* document
- The *Calculations* software, which provides assistance with the more difficult indicators

All indicators are one of

- *numbers or percents*
- *a list of items*
- *a selection or checkbox*
- *a description*

Please use the *Notes* freely to describe the data and its collection.

Instructions

- * *Please do not use zero to clear a value; use the delete key.*
- * *Enter percentages as a decimal. For example, enter "0.5" to indicate 50%.*
- * *Use a period to indicate decimals, and a negative sign (-) to indicate negative numbers.*
- * *Do not use any other signs, such as currency symbols, percentage signs, thousand decimeters, etc.*
- * *Be patient when saving, it may take several minutes to properly format and save the data.*

Contact Information

City:		Region:	
First name:		Last name:	
Title:		Telephone (1):	
Mailing address:		Telephone (2):	
		Fax:	
		E-mail:	
Country:			

Appendix 3. Cities Data Book Worksheet *(continued)*

1. POPULATION			
1.1 Urbanization			%
1.2 City population			
1.2.1 Resident population of municipal area			'000
1.2.2 Population during daytime working hours			'000
1.2.3 Annual rate of population increase			%
1.3 Annual net migration			
1.3.1 Other parts of the city (Net)			'000
1.3.2 Other parts of the country (Net)			'000
1.3.3 International migration (Net)			'000
1.3.4 Total net migration (1.3.1+1.3.2+1.3.3)			'000
1.4 Population net density			persons/ha
1.5 Age pyramid		Males	Females
1.5.1 Persons 0-14		%	
1.5.2 Persons 15-59		%	
1.5.3 Persons over 60		%	
1.6 Average household size			persons/hh
1.7 Household formation rate			%
1.8 Women-headed households			%
1.9 Minority groups			
1.10 Household types			
1.10.1 Single person			%
1.10.2 Adults only			%
1.10.3 Single parent family			%
1.10.4 Adults and children			%
1.11 Informal settlements			
1.11.1 Population			'000
1.11.2 Households			'000
1.11.3 Land occupied			ha

2. EQUITY		
	Range (US\$)	Ave. Income on Range (US\$)
2.1 Income distribution		
2.1.1 Q5. Top 20%		
2.1.2 Q4. Next 20%		
2.1.3 Q3. Middle 20%		
2.1.4 Q2. Next bottom 20%		
2.1.5 Q1. Bottom 20%		
2.2 Households below poverty line		%
2.3 Women-headed households in poverty		%
2.4 Child labor		%
2.5 Informal employment		%
2.6 Unemployment		%
2.7 Expenditure on poverty reduction (per poor person)	\$	

3. HEALTH AND EDUCATION	
3.1 Persons per hospital bed	
3.2 Child mortality	%
3.3 Life expectancy at birth	years
3.4 Infectious diseases mortality	 per '000 pop.
3.5 Family planning	%
3.6 Adult literacy rate	%
3.7 School enrollment rates	
3.7.1 Primary schools	%
3.7.2 Secondary schools	%
3.8 Tertiary graduates	 per '000 pop.
3.9 Median years of education (years)	years
3.10 School children per classroom	
3.10.1 Primary	
3.10.2 Secondary	

Appendix 3. Cities Data Book Worksheet *(continued)*

4. URBAN PRODUCTIVITY		
4.1 City product per capita		\$
		\$
4.2 Employment by industry		
4.2.1 Secondary and infrastructure (ISIC Divisions 3,4,5,7)		'000
4.2.2 Consumer services (ISIC 6, 7, part of 9)		'000
4.2.3 Product services (ISIC 8)		'000
4.2.4 Social services (ISIC 9)		'000
4.2.5 Others (ISIC 1,2,9)		'000
4.3 Household expenditure		
4.3.1 Food		%
4.3.2 Shelter		%
4.3.3 Travel		%
4.3.4 Others		%
4.4 Investment by sector		
4.4.1 Physical infrastructure	\$	
4.4.2 Housing	\$	
4.4.3 Services	\$	
4.4.4 Others	\$	
4.5 Tourism		
4.5.1 Persons		'000
4.5.2 Expenditure	\$	m
4.6 Major projects		
4.7 Cost of stay		\$
		per day
4.8 Corporate headquarters		

5. NEW TECHNOLOGY	
5.1 R&D expenditure	\$
5.2 Telephone traffic	(calls per person per year)
5.2.1 Local	
5.2.2 International	
5.2.3 Mobile or cellphone	
5.3 Internet hosts per '000 population	

6. URBAN LAND	
6.1 Urban land	
6.1.1 Residential	ha
6.1.2 Business	ha
6.1.3 Services	ha
6.1.4 Transport	ha
6.1.5 Mixed use	ha
6.1.6 Others	ha
6.1.7 Total area	ha
6.2 Land developer multiplier	
6.3 Developer contributions	%
6.4 Median time for planning permission	month
6.5 Vacant land with planning permission	ha
6.6 Public open space	%
6.7 Vacant government land	
6.7.1 Amount of land owned by government, parastatals, or enterprises	ha
6.7.2 Proportion of this land which is vacant	%
6.8 Prime commercial land price	£/m ² per m ²
6.9 Prime rental and occupancy costs	
6.9.1 Prime rental per month	£/m ²
6.9.2 Operating costs per month	£/m ²
6.9.3 Statutory charges per month	£/m ²
6.10 Expenditure on development	£/m ²

Appendix 3. Cities Data Book Worksheet *(continued)*

7. HOUSING		
7.1 Dwelling type		
7.1.1 Houses (single family)		%
7.1.2 Medium density		%
7.1.3 Apartments		%
7.1.4 Temporary dwellings		%
7.1.5 Other (institutions, hostels, etc.)		%
7.2 Tenure type		
7.2.1 Owned or purchased		%
7.2.2 Private rental		%
7.2.3 Social housing		%
7.2.4 Subtenant		%
7.2.5 Rent free		%
7.2.6 Squatter - no rent		%
7.2.7 Squatter - paying rent		%
7.2.8 Others		%
7.3 House price to income ratio		%
7.4 House rent to income ratio		%
7.5 Floor area per person		m ²
7.6 Housing in compliance		%
7.7 Mortgage to credit ratio		%
7.8 Houses with mortgages		%
7.9 Mortgage loans for women		%
7.10 Housing production		
7.10.1 On new (vacant) land		unit/'000
7.10.2 Conversions or infill from other uses		unit/'000
7.11 Squatter resettlement or normalization		%
7.12 Net housing outlays by government (per person)	\$	
7.13 Homeless people		'000

8. MUNICIPAL SERVICES

8.1 Water

- 8.1.1 Household connections %
- 8.1.2 Investment per capita \$
- 8.1.3 Operations and maintenance expenditures \$
- 8.1.4 Cost recovery %
- 8.1.5 Output per staff: Water supplied per employee m³
- 8.1.6 List of providers
- 8.1.7 Nonrevenue water
- a. Percentage unaccounted for water %
- b. Interruptions in water service hrs/mo.
- 8.1.8 Consumption of water per capita liters per day
- 8.1.9 Median price of water, scarce season \$ per m³

8.2 Electricity

- 8.2.1 Household connections %
- 8.2.2 Investment per capita \$
- 8.2.3 Operations and maintenance expenditure \$
- 8.2.4 Cost recovery %
- 8.2.5 Output per staff: Megawatt hours of electricity supplied per employee MWh
- 8.2.6 List of providers
- 8.2.7 Nonrevenue electricity
- a. Line loss for electricity %
- b. Interruptions in power supply hrs/mo.

8.3 Sewerage/wastewater

- 8.3.1 Household connections %
- 8.3.2 Investment per capita \$
- 8.3.3 Operations and maintenance expenditure \$
- 8.3.4 Cost recovery %
- 8.3.5 Output per staff: Wastewater discharged or treated per employee m³
- 8.3.6 List of providers

Appendix 3. Cities Data Book Worksheet *(continued)*

8.4 Telephone		
8.4.1 Household connections		%
8.4.2 Investment per capita	\$	
8.4.3 Operations and maintenance expenditure	\$	
8.4.4 Cost recovery		%
8.4.5 Output per staff: Thousands of calls per employee		'000
8.4.6 List of providers		
8.5 Solid waste collection		
8.5.1 Households with regular service		%
8.5.2 Investment per capita	\$	
8.5.3 Operations and maintenance expenditure	\$	
8.5.4 Cost recovery		%
8.5.5 Output per staff: Collected per employee		m ³
8.5.6 List of providers		

9. URBAN ENVIRONMENT

9.1 Solid waste generated	tons
9.2 Household sewage disposal	% of households
9.2.1 Sewerage pipe	%
9.2.2 Septic tank (treated)	%
9.2.3 Underground pit (untreated)	%
9.2.4 Underground communal	%
9.2.5 Pan collection	%
9.2.6 Open ground trench	%
9.2.7 Others	%
9.3 Wastewater treated	%
9.4 Percent BOD removed from wastewater	%
9.5 Air pollution concentrations	Standard exceeded (days per annum)
9.5.1 SO ₂	
9.5.2 NO _x	
9.5.3 CO	
9.5.4 O ₃	
9.5.5 Suspended particulates	
9.5.6 Lead	
9.6 Energy usage per person	
9.7 Noise complaints	
9.8 Disasters in last ten years	
9.9 Methods of solid waste disposal	
9.9.1 Percent disposed to sanitary landfill	
9.9.2 Percent incinerated (formally)	
9.9.3 Percent dumped or burned in the open	
9.9.4 Recycled	
9.9.5 Others	

Appendix 3. Cities Data Book Worksheet *(continued)*

10. URBAN TRANSPORT		
10.1 Mode of travel		Percent of work trips
10.1.1 Private automobile		%
10.1.2 Train, tram, or light rail		%
10.1.3 Bus or mini bus		%
10.1.4 Motorcycle (2- or 3-wheel motorized vehicle)		%
10.1.5 Bicycle, including pedicab (pedal-powered vehicle)		%
10.1.6 Walking		%
10.1.7 Others (including boat, taxi, animal, rickshaw)		%
10.2 Median travel time		mins
10.3 Expenditure on road infrastructure		\$
10.4 Road congestion		%
10.5 Automobile ownership		 per '000 pop
10.6 Cost recovery from fares		%
10.7 Port/air activity		
10.7.1 Commercial ships leaving port (freight and passenger)		
	National	International
10.7.2 Commercial flights leaving per month		
10.8 Goods carried		Millions of revenue tons p.a.
10.8.1 Road		
10.8.2 Rail		
10.8.3 Air		
10.8.4 Sea		
10.9 Transport fatalities		Per '000 pop.
10.9.1 Transport-related deaths		
10.9.2 Pedestrian deaths		

11. CULTURAL	
11.1 Attendance at public events	%
11.2 Attendance at galleries and museums	%
11.3 Participation in sports	%

12. LOCAL GOVERNMENT FINANCE

12.1 Sources of revenue

12.1.1 Taxes		%
12.1.2 User charges		%
12.1.3 Other own source income		%
12.1.4 Transfers		%
12.1.5 Loans		%
12.1.6 Other income		%

12.2 Capital and recurrent expenditure per person

12.2.1 Capital expenditure	\$	
12.2.2 Recurrent expenditure	\$	

12.3 Collection efficiency, property taxes

12.3.1 Percent of liabilities actually collected		%
12.3.2 Costs of collecting property tax as percentage of receipts passing to the local government		%

12.4 Debt service charge

 %

12.5 Employees

12.6 Wages in budget

 %

12.7 Contracted recurrent expenditure ratio

 %

12.8 Business permits

12.9 Enterprise revenues

12.10 Computerization of functions

Checkbox

12.10.1 Land registration	☐	
12.10.2 Rates collection	☐	
12.10.3 Salaries	☐	
12.10.4 General finances	☐	
12.10.5 Business permits	☐	

13. URBAN GOVERNANCE	
13.1 Functions of local government	
13.1.1 Water	
13.1.2 Sewerage	
13.1.3 Refuse collection	
13.1.4 Electricity	
13.1.5 Telephone	
13.1.6 Public or mass transport	
13.1.7 Emergency (fire ambulance)	
13.1.8 Road maintenance	
13.1.9 Education	
13.1.10 Health care	
13.1.11 Public housing	
13.1.12 Recreation/sports facilities	
13.1.13 Police	
13.1.14 Drainage/flood control	
13.1.15 Livelihood assistance	
13.1.16 Others	
13.2 Delivery of annual plan	
13.3 Voter participation rates, by sex	
13.3.1 Proportion of adult males	%
13.3.2 Proportion of adult females	%
13.4 Independence from higher government	<i>Description (to be included in the City Report)</i>
13.4.1 Closing down the council or removing councilors from office	
13.4.2 Setting local taxes level	
13.4.3 Setting user charges for services	
13.4.4 Borrowing funds	
13.4.5 Choosing contractors for projects	
13.5 Elected and nominated councilors	
13.5.1 Female	
13.5.2 Male	

13.6 Representation of minorities		
13.7 Planning applications refused		%
13.8 Business satisfaction	<i>Description</i>	
13.9 Consumer satisfaction	<i>Description</i>	
13.10 Perception as place to live	<i>Description</i>	
13.11 Reported crimes		per '000 pop.
13.11.1 Murders		
13.11.2 Drug-related crimes		
13.11.3 Thefts		
13.12 Access to information		
13.12.1 Annual report/budget		
13.12.2 City strategy/vision		
13.12.3 Economic strategy		
13.12.4 Social strategy		
13.13 Contact with the public	<i>Number</i>	<i>Attendance</i>
13.13.1 Annual number of public local government meetings		
13.13.2 Breakdown of meetings held by mayor or CEO with business, public, officials, average week		
a. public		
b. business		
c. officials and councilors		
d. others		
13.14 Decentralized district units		
13.14.1 Number of local government units within the metropolis area		
13.14.2 Number of decentralized units in local government		

Appendix 4. Calculations and Statistical Methods

CALCULATIONS AND STATISTICAL METHODS

A. Calculations

Several indicators may need to be estimated by more complex methods. These include various rates of growth, City Product, House Price to Income Ratio, Mortgage to Credit Ratio, and Energy Use. The detailed methodology is given below and was included in the small software package (Calculations Assistance) given to consultants.

1. Rates of growth (indicators 1.1.2, 1.2.3, 1.7, 4.1, 4.2 and others)

The average annual rate of growth may be calculated from the formula

$$G = (B/A)^{1/t} - 1$$

where t is the time between the two observations A and B.

2. City product per person (indicator 4.1)

There are two standard methods of estimation, the first of which uses employment figures, while the second uses average household incomes.

Method A

This method estimates the urban product by presuming that the product of the city in each sector is proportional to employment in the city, possibly adjusted by differential wage rates. It should be used when employment by industry sector is known.

The following table should be filled out for each industry sector.

Sector	National Product (\$m)	National Employment	City Employment	Wage Ratio	City Product (\$m)
	(1)	(2)	(3)	(4)	(5)
a. 1,2. Agriculture and mining					
b. 3,4,5. Manufacturing, utilities, construction					
c. 6,7. Wholesale and retail trade, transport, and communication					
d. 8. Finance, insurance, real estate, and business services					
e. 9. Community, personal and other services, domestic					
f. Government					
g. Others					

Definitions

National product (GNP) by industry sector is contained in National Accounts. These figures should be updated to 1998 values using the \$ price index. The classification used here is an abbreviated form of the SITC standard industry classification, which is used for standard national accounting (see ILO, *International Standard Industrial Classification of All Economic Activities*, Geneva 1968).

National and city employment. This includes economically active persons by industry, preferably including the informal sector. If activity is not customarily defined in these categories, either estimate or group the categories—for example, at the minimum, by agriculture, manufacturing, and total service employment.

Income ratio. If city income and national income are known to be significantly different, then this ratio should be an estimate of average city wage in the industry divided by average national wage (e.g., if city wages are 20% higher, the ratio is 1.2). Otherwise the ratio should be taken as 1.

The city industry product (Column 5) is then estimated as

$$\text{Column (5)} = \text{Column (1)} \times \text{Column (3)} \times \text{Column (4)} / \text{Column (2)},$$

which is the national industry product times the fraction of national employment in the city times the wage ratio.

The final category, row (g), Others, cannot be estimated by this method, since it includes items such as ownership of dwellings, which do not involve employment. It can be estimated by presuming it is the same fraction of city product as for the national product, using the table as follows:

Sum Column (1), row (a) to row (f)	(i)	
Sum Column (5), row (a) to row (f)	(ii)	
Column (1) row (g) Others	(iii)	
Column (5) row (g)	$= (ii) \times (iii) / (i)$	

The total city product is then obtained by summing Column (5), and the product per person is obtained by dividing by city population.

This is the preferred method of calculation, as it provides important intermediate data about the industry and employment structure of the city, which are key indicators in their own right.

Method B

If industry employment figures are not known, then the city product per person can be taken as the national average, i.e., gross national product (GNP) divided by national population.

GNP	(i)	
Total national household income (from national accounts)	(ii)	
Households (city)	(iii)	
Average household income (city)	(iv)	
City product	$= (i) \times (iii) \times (iv) / (ii)$	

This method is very approximate and takes no account of different industry structures in different cities or in the rural area. It should only be used if there is no other option.

3. House price to income ratio (indicator 7.3)

This indicator is the ratio of median house price to median income. It has been found to be the most useful single measure of the functioning of housing markets. It has also been found that the formal and informal sectors should be estimated separately, especially where the informal sector is large, otherwise misleading results can be generated.

The two components may be estimated as follows:

Median household income

Household income is defined as gross income from all sources, which includes wages, salaries, incomes from businesses or informal sector activities, investment income, and where information is available, income in-kind such as consumption of agricultural produce which might have been sold.

The following methods for calculating median household incomes are suggested:

1. If there is a household expenditure survey or similar, then Indicator 2.1, Income distribution, will be available. The average income in the middle quintile, quintile 3, will be very close to the median household income.
2. Mean incomes are often easier to obtain as a recent estimate (for example, by dividing household income or household expenditure in the National Accounts by the number of households). If a survey is available which is too old to yield good estimates of household income, the ratio of median to mean incomes may still be used because the distribution of incomes does not change as rapidly as incomes themselves.
3. Taxation departments maintain records of gross incomes for taxable purposes, though these are usually on an individual level rather than a household level. An approximate estimate for household income may be made by multiplying the median level of individual income by the mean number of income-earners per household.

Median house price

Housing value is defined as the price at which a house would sell if placed on the market for a reasonable length of time by a seller who is not under pressure to sell.

The median-priced house in the urban area is that house which has 50% of the houses priced below it, and 50% of the houses priced above it. The calculation of the price of the median-priced house should therefore include all housing, both new and old.

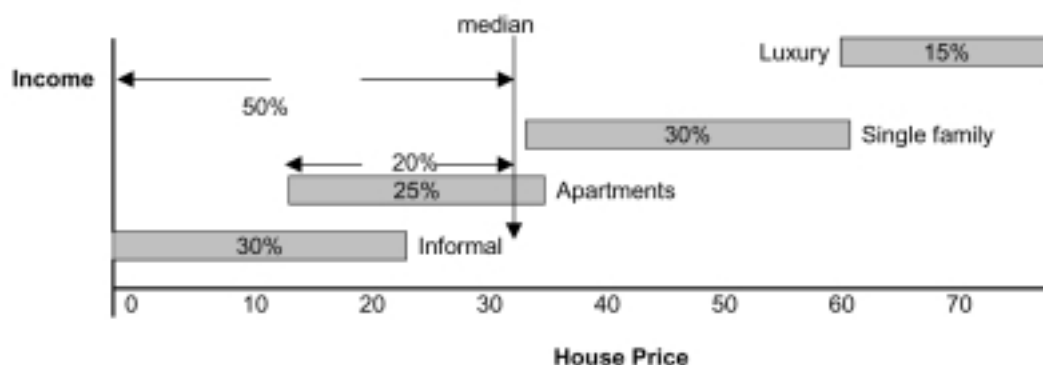
For blocks of apartments or multiple-family dwellings which are usually sold as a single building, the value of one dwelling unit should be estimated as a pro-rata share of the total sale price. This is particularly relevant for countries in Africa where the majority of housing is of this type.

Method 1. For the formal sector, median house price can often be determined directly from published (formal) figures or from recent surveys.

Method 2. If recent average prices are available, they can be converted to median price by using a median/mean ratio from an older household survey. In much of the research done on housing markets in developing countries, it has been found that median prices are generally about 70 percent of the average. This figure is higher when housing is more equally distributed and lower when housing is more unequally distributed.

Method 3. If no direct data are available, then prices need to be estimated for each submarket. Enter percentage of all housing units and price range per unit in a table as follows (one is contained in the calculations assistance diskette):

Type	% of Stock	Price Range
Informal housing		
Low-cost apartment		
Single housing		
Luxury house		



In this example, informal dwelling units are 30% of the total, and apartments are a further 25% up to 55% of the total units. The median price unit will therefore be an apartment. Apartment prices range from 15 to 40 price units. The median priced dwelling will be an

apartment for which 50% of all dwelling units will be cheaper, i.e., 20/25% of all apartments will be cheaper.

4. Mortgage loans (indicators 7.7, 7.9)

In Indicator 7.7 outstanding loans may need to be accumulated from the following sources:

Savings and loans (savings banks)	
Commercial or trading banks	
Merchant banks	
Quasi-government institutions	
Credit unions	
Trust or finance companies	
Insurance companies or pension funds	

In Indicator 7.9 numbers of loans and numbers of loans for women will need to be assessed.

5. Energy use per person (Indicator 9.6)

Total energy usage can be calculated by conversion from different forms of energy usage, as in the following table

Type of Energy	Annual Consumption per Person	Conversion Factor	Tons per Annum
Petrol (kiloliters)		1.179	
Kerosene, aviation fuel		1.23	
Natural gas (m ³)		1.328	
Coal (ton)		1.0	
Wood (ton)		0.333	
Electricity (kWh) (hydro or wind)		0.000123	
Total			

Total city usage (including industrial) for each form of energy should be averaged across the population.

Conversion to energy equivalents may be found in reference works, particularly UNSTAT (1994) Energy Statistics Yearbook 1992 (New York: UN), which gives very detailed conversion factors for fossil fuels in every country, or UNCTAD (1993) Handbook of International Trade and Development Statistics (New York: UN). Other conversion factors are: lignite (0.26 to 0.66), coke (0.9), peat (0.325), crude petroleum (1.454 per ton), bagasse (0.264), and charcoal (0.986). Electricity will vary by type of production: raw fossil fuels used for electricity generation should be calculated directly, nuclear energy has a factor of 0.000372 per kWh, and geothermal electricity 0.001228.

B. Statistical Methods

1. Correlation

The formula used to determine the relationship between two variables was the Pearson product-moment correlation coefficient denoted by

$$r_{xy} = \frac{\sum (X - \bar{X})(Y - \bar{Y})}{\sqrt{\sum (X - \bar{X})^2 \sum (Y - \bar{Y})^2}}$$

where

r_{xy} is the estimator, correlation coefficient

X is the independent variable

$\bar{X}$ is the average value of X

Y is the dependent variable

$\bar{Y}$ is the average value of Y

In the 18 cities included in the study, there were 142 pairs of variables analyzed to determine levels of relationship. Cities which lacked sufficient data in certain variables were not included in determining correlations.

2. Regression

The regression model considered is that there is only one independent variable, and the regression function is linear. The model is stated as

$$Y_i = \beta_0 + \beta_1 X_i + \varepsilon$$

where

Y_i is the value of the response variable in i th city

β_0 is the Y intercept of the regression line

β_1 is the slope of the regression line; indicates the change in the mean of the probability distribution of Y per unit increase in X

X_i is a known constant, the independent variable in the i th city

ε is the random error term with mean = 0

3. The F test

The F test was used to test linearity. The F test has its advantages when deciding if there is any genuine relationship at all. This nonlinearity test is most widely accepted and is based on the analysis-of-variance (ANOVA) approach.

The F test of Null hypothesis (or Hypothesis sub o) $B = 0$ versus Alternative (or Hypothesis sub 1) B not equal to 0.

The test statistic is denoted by F^* which compares the regression mean square (MSR) and error mean square (MSE), as follows

$$F^* = \text{MSR} / \text{MSE}$$

MSR = SSR / 1 or regression sum of squares divided by 1

The SSR or the regression sum of squares is often called the "explained variation" in Y.

MSE = SSE / (n-2) or error sum of squares divided by n-2

The SSE or the residual sum of squares is called the "unexplained variation." In the constructed ANOVA tables, the total sum of squares is the "total variation."

The symbol n is the number of cities included, in most cases, 18, in others, 17, 16 or lower.

The constructed decision rule is as follows

If F^* is less than or equal to F (0.95; at degrees of freedom 1, n-2): conclude null hypothesis.

If F^* is greater than F (0.95; at degrees of freedom 1, n-2): conclude the alternative hypothesis; when this conclusion is arrived at, then there exists a linear association between the two variables tested.

4. Points of consideration

While regression analysis is used to make inferences about parameters, to estimate mean responses for a given independent variable, and to predict new observation Y (dependent) for a given X (independent), there are certain points to consider:

- a. The validity of the regression application depends upon whether basic causal conditions in the period ahead will be similar to those in existence during the period (1998) upon which the regression analysis was based.
- b. The statistical test that leads to the conclusion B is not equal to 0 or 1 does not establish a cause and effect relationship between the independent and dependent variables. Both X and Y variables may be simultaneously influenced by other variables or other factors not included in the regression model.

Appendix 5. Summary of ADB's Urban Sector Strategy

A. The Context of the Strategy

- **Asia's future is urban.** Within a generation developing Asia will be predominantly urban. In 1966, only 1 in 5 Asians lived in cities; today, with an urban population of 1.3 billion, the ratio is 1 in 3. By 2020, every other Asian will live in a city. Six (Beijing, Kolkata (formerly Calcutta), Jakarta, Mumbai (formerly Bombay), Shanghai, and Tianjin) of the world's megacities (continuous urban areas with over ten million people) are located in the region, and 11 more Asian megacities are projected to emerge by 2025 (Bangalore, Bangkok, Chennai (formerly Madras), Dhaka, Hyderabad, Karachi, Lahore, Manila, New Delhi, Shenyang, and Yangon).
- **The challenges are great.** Today, 830 million people in developing Asia lack safe drinking water; two billion lack sanitation facilities. Well-managed urbanization can facilitate and sustain economic growth and broadly support improved quality of life and increased opportunities for people. Conversely, weak policies, ineffectual management, and low levels of investment will prevent cities from achieving their full potential and erode previous gains. Without proper management and planning—for land, water, transportation, housing, and the environment—Asia's cities face the prospect of becoming unmanageable sprawling slums.
- **We must reach the urban poor.** Increasing urban poverty and inequality threaten to undermine the promise of sustainable urban development. Two thirds of the world's poor live in Asia, surviving on less than one dollar a day, with an ever-increasing proportion living in cities, or on the peri-urban rim. Urban poverty is multidimensional and complex; the effect of cumulative deprivation brought on by lack of employment and livelihood opportunities, poor education, inadequate shelter and squalid living conditions, health risks from poor sanitation, air pollution, crime, and the absence of social safety nets.
- **We must enhance capacity and support partnerships.** Local governments are in the frontlines of this urban transformation, and serve as the interface between policy and people. Decentralization and devolution of authority to local governments have strengthened their role in the urban development process, but central governments have not always provided the resources to allow local governments to fulfill the new roles. Local governments are transitioning from their traditional role as a provider of urban services to that of an enabler, which in turn is creating opportunity for the private sector. Increasingly, private sector participation is being relied on to meet financing demands and to introduce efficiencies in the delivery of services. Communities and nongovernment organizations (NGOs) also play a vital role. Enhancing capacity and building partnerships are essential.
- **We must think in new and innovative ways.** The lessons being learned in Asia's megacities provide an opportunity to address the same problems being replicated on a smaller scale in rapidly growing secondary cities. At the

same time, urban and rural sectors should be viewed as an interlinked, interdependent continuum in the development process. We must begin looking past stand-alone projects and seek holistic, integrated solutions.

B. The Challenges

The challenges that the Asian Development Bank (ADB) faces in preparing an urban strategy are as follows:

- **Reducing urban poverty.** This goal is best achieved through well-targeted, integrated interventions in government strategies for poverty reduction, which provide a framework for ADB assistance. Better efforts must be made at understanding the multidimensional nature of urban poverty, where it occurs (through poverty mapping exercises), and causes and characteristics of poverty (which vary from country to country). Slum upgrading and providing low-cost housing present good entry points into urban poor communities and a platform to deliver other services. Addressing urban poverty through urban development will require attention for (i) promoting income and wealth poverty (through micro-finance and employment creation); (ii) improving quality of life poverty (infrastructure, services provision and shelter); and (iii) reducing vulnerability of the poor (through targeted fiscal policies such as subsidized user charges).
- **Improving urban services.** The goal is to achieve market-based provision of urban services based on delivery of appropriate and affordable services using, as possible, market competition and effective private sector participation. An important element is cost recovery through economic pricing, enterprise reform, corporatization, and exploring private sector participation (privatization, management contracts, build-operate-transfer and biological oxygen demand schemes, etc.).
- **Promoting good governance.** In the frontline of the urban development process, cities must pursue good governance through strengthened legislation, regulation, monitoring, enforcement, accountability, participation, predictability, and transparency. Performance indicators and benchmarking can measure the effectiveness of policies. Support for political and fiscal decentralization helps to empower local governments, who often lack capacity, with greater authority to deliver urban services.
- **Strengthening urban management.** Local governments have essential roles in providing urban services, facilitating the efficient and equitable access to urban land and promoting sound, balanced urban development through effective planning and policy. With an increasing array of responsibilities on the shoulders of local government under decentralization, there is a need to improve capacity, skills and expertise, while incorporating best practices and innovation.
- **Protecting the environment.** Environmental improvements require institutional coordination between public and private sector organizations, which have been difficult to achieve. Lack of political commitment and environmental awareness and poor enforcement are cited as major causes of low levels of investment in environmental man-

agement facilities. The challenge is to move beyond remedial actions for cleaning up pollution to preventative actions that can forestall future environmental degradation without imposing impossible financial burdens on government.

- **Achieving greater development impact.** ADB urban projects and programs should promote lasting improvements in outcomes, particularly in improving the quality of life for the poor. ADB must improve its ability to work at the strategic level while designing selective interventions for maximum development impact. Through consultation and stakeholder participation, responsive and appropriate interventions should be prioritized.

C. Urban Development Objectives and Priority Sectors

The overall objectives for the strategy are summarized as follows. The current priority for ADB to respond to the economic crisis and its aftermath is highlighting the key role of urban projects in reducing urban poverty.

1. Maximizing the economic efficiency of urban areas through
 - a. increased contribution to gross domestic product;
 - b. easier market entry for small businesses;
 - c. creation of employment;
 - d. attraction of inward investment; and
 - e. availability of suitable land, infrastructure, energy and services to meet business demand.
2. Reducing urban poverty through
 - a. reduced unemployment; and
 - b. increased number of households with access to land, infrastructure, and services.
3. Improving quality of life through
 - a. reductions in environmental pollution levels;
 - b. improved support mechanisms for the disadvantaged;
 - c. enhanced role for gender development;
 - d. reduced crime levels;
 - e. reduction in serious illnesses; and
 - f. availability of suitable land, infrastructure, and services to meet demand.
4. Achieving sustainable urban development through
 - a. reduced use of non-replaceable natural resources;
 - b. increased use of energy taxation, pricing and energy saving forms of land use and construction;
 - c. increased social equity in the distribution of social benefits;
 - d. reductions in environmental pollution levels; and
 - e. improved management systems, including good governance, decentralization, private sector involvement, funding mechanisms, and community participation.

The following are the proposed core sectors for urban operations and where new opportunities are expected to emerge. Over the next two- to three-year time frame, the mix of work between and within these sectors will require some level of refocusing and refinement to respond to the crosscutting concerns of poverty reduction, governance, gender equity, and private sector participation.

- **Water supply and sanitation.** Water and sanitation projects aim to provide universal access to adequate, reliable and

affordable supplies of clean water with commensurate sanitation facilities for wastewater management that improve social welfare, environmental integrity, and economic productivity, with projects in both larger urban centers and rural towns. Increasing participation among stakeholders is vital, particularly for women, NGOs, and the private sector. Meeting rising demand, addressing affordability, improving the management of systems, implementing measures for demand management, and achieving full cost recovery through economic pricing are challenges to be met. For wastewater, there is a high need but low demand, with low levels of willingness to pay. Low cost sanitation approaches must be developed.

- **Urban development and urban management.** Investments in municipal infrastructure help unlock the potential of cities. Efforts must be made to improve operations and maintenance (O&M) to maintain existing systems for urban service delivery, transport, drainage and flood control, and to protect investments already made. Capacity building by urban managers and policymakers is closely linked to the long-term sustainability of investments and interventions. Urban planning systems must be strengthened, with improved processes for resource allocation, prioritizing development, and reaching the urban poor. Regional cooperation in benchmarking skills, networking, and cooperation is important to allow one city to learn from another.
- **Housing and housing finance.** ADB has carried out relatively few housing projects. Slum upgrading and improving access to basic services in urban poor communities are gateways for reaching the poor. Squatter communities often need to be relocated from areas not fit for human habitation. Opportunities exist for strengthening national housing finance systems to place them on sustainable footings, to attract private sector capital and expertise, and better involve community-based organizations. Interventions in the housing sector offer a good opportunity to address the three main crosscutting themes of poverty reduction, governance, and private sector participation.
- **Solid waste management.** Efficiency of systems needs to be improved through private sector partnerships, and integrating informal waste collection to extend services to the urban poor. Cost recovery, waste recycling and minimization measures, and support for inter-local cooperation are tools to create sustainable solid waste management systems.
- **Urban land management.** Land management is critical to successful business, social, and residential development in the city or megacity and where relevant, to the wider extended metropolitan region. Related to the shelter sector and housing for the poor, effective policies require a sound understanding of urban land markets, developing the legal and institutional structures, land use planning, zoning tenure, cadastral surveys, and titling. Capacity building actions are needed to accelerate the delivery of serviced land, using a variety of mechanisms. Geographical information systems (GIS), with in-depth relational databases, are powerful decision-making tools for urban planners and policymakers, and can be utilized for poverty mapping.

- **Urban transport.** There is scope for ADB to provide efficiency improvements through traffic management, municipal-level public transit systems, and municipal road projects. Urban air quality issues can be addressed through improved fuel quality, reduced vehicular emissions, and improved traffic flow. ADB can also assist in establishing clear roles for the public and private sectors and in generating competitive market, including competition between modes.
- **Urban environmental management.** This is a growth area to be addressed through the introduction of market-based instruments, improved coordination across boundaries and jurisdictions, and by promoting holistic, multipronged approaches to be applied by strong institutions in a well-grounded legal and regulatory environment. In many instances, the poor have the greatest exposure to environmental pollution, and benefit the most through interventions in this sector. ADB is building good experience in wastewater management, environmental cleanup of river basins, and comprehensive approaches that bring both environmental and human development benefits.
- **Municipal finance.** ADB needs to work more in this important area to improve fiscal autonomy, including computerization of accounting, billing and collection procedures, contracting out some services, and developing management information systems. In addition, ADB should assist in improved funding for municipal infrastructure through financial intermediaries, strengthen capital investment planning and budgeting processes, improve local resource mobilization (cost recovery, revenue mobilization, and financial management), develop credit ratings and municipal bond markets, and introduce credit enhancement mechanisms.
- **Tourism infrastructure.** Development of tourism plans, programs, and related infrastructure in close cooperation with the private sector, are important for increasing incomes and employment opportunities for the poor.

D. Achieving the Strategy

We will ensure a future of sustainable, equitable Asian cities by

- adopting pro-poor strategies, which will ensure that the fruits of development and quality of life are extended to all;
- thinking of cities as complex, living organisms that must be addressed in a holistic manner, with comprehensive solutions that deliver interrelated programs;
- providing support for decentralization, the empowerment of local governments that brings the decision-making and the provision of services closer to the people served, in a more accountable, participatory fashion;
- involving civil society in a more broad, transparent way, through partnerships with universities, NGOs, beneficiary communities, and other stakeholders;
- promoting private sector participation to narrow the financing gap to be met and bring increased competition and efficiency to the delivery of urban services;
- embracing the digital revolution, and information and communications technology that is transforming the way cities are managed;
- pursuing enhanced networking and cooperation to pro-

mote the sharing of best practices and innovation in urban environmental management; and

- developing a new urban management agenda that promotes public awareness, targets the poor, and helps clients phase-in programs on the basis of available resources. Sound urban development must be viewed as a process, not a result.

E. Implementing the Strategy

In summary the recommended strategy is a combination of several options considered by ADB and its developing member countries and comprises

- developing comprehensive urban sector policy frameworks;
- formulating improved integrated urban development projects;
- expanding subsector programs in priority new areas such as poverty reduction, land management, and housing finance;
- providing policy-based loans;
- supporting private sector investments;
- promoting cooperation with NGOs and community-based organizations (CBOs); and
- catalyzing information dissemination.

The strategy also identifies the implications for ADB operations including lending and technical assistance, staff resources and research priorities, including collaboration with other agencies in the region (external support agencies, academic institutions and NGOs/CBOs).

Appendix 6. City Hologram Ranking Scale

National Context Indicators

- A. Urbanization Level, 1998 (percent of national population living in urban places)
- B. National Population, 1999
- C. Human Development Index Ranking, 1998
- D. GNP Per Capita, 1999

City Context Indicators

- A. City Development Index
- B. City Population Density (persons per hectare)

City Indicators

Sector A. Demographic Indicators A

- 1. City Size (in million)
 - 1 = < 1
 - 2 = 1–2.4
 - 3 = 2.5–5.0
 - 4 = > 5
- 2. Annual Rate of Population Increase (%)
 - 1 = < 1
 - 2 = 1–2.9
 - 3 = 3–4.0
 - 4 = > 4
- 3. Annual Household Formation Rate (%)
 - 1 = < 1
 - 2 = 1–2.9
 - 3 = 3–4.0
 - 4 = > 4

Sector B. Demographic Indicators B

- 4. Life Expectancy at Birth (years)
 - 1 = > 70
 - 2 = 65–69
 - 3 = 60–64
 - 4 = < 60
- 5. Proportion of Total Population 0–14 years of Age (%)
 - 1 = < 20
 - 2 = 21–27
 - 3 = 28–35
 - 4 = > 35
- 6. Child Mortality: (the probability that a child will die before five years as a percentage)
 - 1 = < 3
 - 2 = 3.1–5.9
 - 3 = 6.0–9.0
 - 4 = > 9

Sector C. Economic Characteristics and Productivity A

- 7. City Product Per Capita 1998 (\$)
 - 1 = 4,000–26,000
 - 2 = 2,000–3,999
 - 3 = 1,000–1,999
 - 4 = < 1,000

- 8. City Product (PPP Adjusted) Per Capita (\$)
 - 1 = > 20,000
 - 2 = 5,000–19,999
 - 3 = 2,000–4,999
 - 4 = < 2,000
- 9. Gross Domestic Product Per Capita 1997 (Same as Indicator 8)

Sector D. Economic Characteristics Employment/Competition

- 10. Informal Population as Percent of Total City Population (%)
 - 1 = < 9
 - 2 = 10–19
 - 3 = 20–30
 - 4 = > 30
- 11. Secondary Employment Percent of Employed Population (%)
 - 1 = < 15
 - 2 = 16–22
 - 3 = 23–30
 - 4 = > 30
- 12. Services Employment (total of consumer, producer, social) (%)
 - 1 = > 60
 - 2 = 40–59
 - 3 = 20–39
 - 4 = < 20
- 13. Cost of Business Stay Overnight (\$)
 - 1 = > 140
 - 2 = 111–139
 - 3 = 80–110
 - 4 = < 80
- 14. No. of International Flights per Month
 - 1 = > 1,000
 - 2 = 500–999
 - 3 = 100–499
 - 4 = < 100
- 15. Cost of Commercial Land (\$ per m²)
 - 1 = > 2,000
 - 2 = 1,000–1,999
 - 3 = 500–999
 - 4 = < 500

Sector E. Poverty

- 16. Percent of Households Below Poverty Line (%)
 - 1 = < 20
 - 2 = 21–29
 - 3 = 30–40
 - 4 = > 40
- 17. Percent of Households Below Poverty Line \$1 a day (same as Indicator 16)
- 18. Percent of Total Work Force Unemployed (%)
 - 1 = < 5
 - 2 = 5.0–9.9
 - 3 = 10–15.0
 - 4 = > 15

19. Percent of Household Expenditure on Food (%)
- 1 = < 30
 - 2 = 30–39
 - 3 = 40–50
 - 4 = > 50

Sector F. Social Infrastructure

20. School children per Classroom, Primary
- 1 = < 30
 - 2 = 30–39
 - 3 = 40–50
 - 4 = > 50
21. Persons (City Population) per Hospital Bed
- 1 = < 200
 - 2 = 200–399
 - 3 = 400–600
 - 4 = > 600
22. Percent Housing In Compliance with Local Government Regulations (%)
- 1 = 75–100
 - 2 = 50–74
 - 3 = 25–49
 - 4 = 0–24
23. Floor Area per Person (m²)
- 1 = > 30
 - 2 = 20–29
 - 3 = 10–19
 - 4 = 9

Sector G. Sustainability, Physical Infrastructure, and Governance

24. Water Household Connections (%)
- 1 = > 86
 - 2 = 73–85
 - 3 = 60–72
 - 4 = < 60
25. Electricity Household Connections (%)
- 1 = > 75
 - 2 = 50–74
 - 3 = 25–49
 - 4 = < 25
26. Sewerage Household Connections (%)
- 1 = > 75
 - 2 = 50–74
 - 3 = 25–49
 - 4 = < 25
27. Automobiles per '000 Population
- 1 = > 225
 - 2 = 150–224
 - 3 = 75–149
 - 4 = < 75
28. Local Government Employees per '000 Population
- 1 = < 20
 - 2 = 20–29
 - 3 = 30–40
 - 4 = > 40

29. Local Government Wages as a Percentage of Recurring Budget
- 1 = < 25
 - 2 = 25–49
 - 3 = 50–74
 - 4 = > 75
30. Source of Local Government Revenue: Proportion from Taxes
- 1 = 75–100
 - 2 = 50–74
 - 3 = 25–49
 - 4 = 0–24
31. Source of Local Government Revenue: Proportion from Transfers
- 1 = 0–24
 - 2 = 25–49
 - 3 = 50–74
 - 4 = 75–100

References

- Allardt, E. 1993. "Having, Loving, Being: An Alternative to the Swedish Model of Welfare Research." In Nussbaum, M. and A. Sen (ed), *The Quality of Life*, 88-94. Oxford: Clarendon Press.
- Analysis of the Data Collection. *Report to Commission for Human Settlements*, April 1997.
- Anon. 1994. *Migration News* 1 (8), August.
- Asian Development Bank. 2000. *ADB Basics*. February, Manila.
- _____. 1999. *Fighting Poverty in Asia and the Pacific: The Poverty Reduction Strategy*. Manila.
- _____. 1999. *Urban Sector Strategy*. Agriculture and Social Sectors Development (East). July, Manila.
- Australian National Audit Office. 1997. *Building Better Cities*. Audit Report No. 9, 1996-97. [www.anao.gov.au/rptsfull_97]
- Besleme, K. and Mullin M. 1997. "Community Indicators and Healthy Communities." *National Civic Review*, 86(1): 43-53.
- Bliss, C. 1993. "Life-Style and the Standard of Living." In Nussbaum, M. and A. Sen (ed), *The Quality of Life*, 417-436. Oxford: Clarendon Press.
- Boeninger, E. 1991. *Governance and Development. Proceedings of the World Bank Annual Conference on Development Economics*. Washington, DC: World Bank.
- Brotchie, J., M. Batty, E. Blakely, P. Hall, and P. Newton. 1995. *Cities in Competition*. Melbourne: Longman.
- Brotchie, J., P. Newton, P. Hall, and J. Dickey (eds). 1999. "East West Perspectives on 21st Century Urban Development." *Sustainable Eastern and Western Cities in the New Millennium*. Aldershot: Ashgate.
- Castells, Manuel. 1991. *The Informational City*. Oxford: Basil Blackwell.
- _____. 1966. *The Rise of the Network Society*. Malden and Oxford: Blackwell Publishers.
- Centre National Francais de la Recherche Scientifique. 1959. *Étude sur les Conditions de Vie et les Besoins de la Population du Vietnam*. Paris. 2 vols.
- Chameides, W.L., et al. 1994. "The growth of continental scale metro-agro-plexes: Regional ozone pollution and world food production." *Science*. 264, April.
- Clark, J. 1991. *Democratizing Development*. London: Earthscan.
- Close, A. and B. Foran. 1998. "Canberra's Ecological Footprint." Working Document 98/12, CSIRO, *Wildlife and Ecology*.
- Cohen, G.A. 1993. "Equality of What? On Welfare, Goods, and Capabilities." In Nussbaum, M. and A. Sen (ed), *The Quality of Life*, 9-29. Oxford: Clarendon Press.
- Corden, C. 1977. *Planned Cities*. Beverly Hills: Sage.
- Council for Urban Economic Development. 1999. *Performance Monitoring. Achieving Performance Excellence in Economic Development*. Washington, DC: CUED.
- Davis, Kingsley. 1972. "World Urbanization 1950-1970, Volume II: Analysis of Trends, Relationships and Development." Population Monograph Series No. 9. Institute of International Studies. Berkeley: University of California.
- Desai, M. 2000. "Portrait: Amartya Sen." *Prospect*, July, 46-50.
- Department of the Environment, Transport and the Regions. 1999. *A Better Quality of Life. A Strategy for Sustainable Development for the United Kingdom*. London: The Stationary Office. [also available at: www.environment.detr.gov.uk/sustainable]
- Devas, N. and C. Rakodi. 1993. *Managing Fast Growing Cities. New Approaches to Urban Planning and Management in the Developing World*. New York: Longman Scientific and Technical.
- Dick, Howard W. and Peter J. Rimmer. 1998. "Beyond the Third World City: The new urban geography of South-east Asia." *Urban Studies*, vol. 1, no. 12, pp. 2303-2321.
- Douglass, Michael. 1998. "A Regional Network Strategy for Reciprocal Rural-Urban Linkages: An Agenda for Policy Research with Reference to Indonesia." *Third World Planning Review*, vol. 20 no. 1, pp. 1-33.
- Economic Commission for Asia and the Pacific (ESCAP). 1993. *State of Urbanization in Asia and the Pacific*. New York: United Nations.
- Elkington, J. 1999. "Triple Bottom Line Reporting: Looking for Balance." *Australian CPA*, 69(2): 18-21.
- Erikson, R. 1993. "Descriptions of Inequality: The Swedish Approach to Welfare Research." In Nussbaum, M. and A. Sen (ed), *The Quality of Life*, 67-83. Oxford: Clarendon Press.
- Estes, R.J. 1988. *Trends in World Social Development: The Social Progress of Nations 1970-87*. New York: Praeger.
- Fainstein, S., I. Gordon, and M. Harloe. 1992. *Divided Cities: New York and London in the Contemporary World*. Oxford: Blackwell.
- Farrell, A. and M. Hart. 1998. "What Does Sustainability Really Mean? The Search for Useful Indicators." *Environment*, 40(9): 4-12.
- Flood, J. 1992. "Housing Indicators in Australia: A Consultative Method." *Netherlands Journal of Housing and the Built Environment*, 8, pp. 95-124. 1992.
- _____. 1997. "Urban and Housing Indicators." *Urban Studies* 34 (10), 1635-1665.
- _____. 1997. UNCHS Indicators Programme 1994-96. *Programme of Activities*.
- _____. 1999a. "Poverty and Governance Indicators." Keynote Paper, Workshop on Poverty and Governance Indicators, April 1999. UNCHS, Nairobi.
- _____. 1999b. "Urban Indicators for Thailand." Working Paper 1. Background Issues, December.
- Flood, J. and Spiller Gibbins Swan 1999. *Methodology for Developing Benchmarking for Housing Outcomes*. AHRF 208, Final Report.
- Friedmann, John and Michael Douglass. 1978. "Agropolitan Development: Towards a new strategy for regional planning in Asia." In Fu-Chen Lo and Kamal Salih (eds), *Growth Pole Strategy and Regional Development Policy*. New York: Pergamon Press. pp163-192.
- Gakenheimer, R. 1994. Six Strategic Decisions for Transportation in Mega-cities in (eds.) R Fuchs et. al., *Mega City Growth and The Future*. Tokyo: United Nations University Press. pp332-348.
- Gaye, M. 1996. *Entrepreneurial Cities*, ENDA, Third World, Dakar.
- Ginsburg, N., B. Koppel and T. G. McGee (eds). *The Extended Metropolis. Settlement Transition in Asia*. Honolulu: University of Hawaii Press.
- Gore, A. 1993. *The Gore Report on Reinventing Government*. Times Books.
- Gottman, Jean. (1961) *Megalopolis: The Urbanized Northeastern Seaboard of the United States*. New York: The Twentieth Century Fund.
- Hall, P. 1998. "Planning for the mega-city – A new East Asian urban form." In J.F. Brotchie et al. (eds), *East-West Perspectives on Urban Development*. Aldershot: Ashgate.
- Hall, P. 2000. Creative Cities and Economic Development, *Urban Studies*, 37(4): 639-649.
- Harpham, T. and K.A. Boateng. 1997. Urban Governance in Relation to the Operation of Urban Services in Developing Countries. *Habitat International*, 21(1): 65-77.
- Harvey, D. 1973. *Social Justice and the City*. London: Edward Arnold.
- Hatry, H. 1999. "Mini-Symposium on Intergovernmental Comparative Performance Data," *Public Administration Review*, 59(2):101-104.
- Hauser, Philip M. and Otis Dudley Duncan (eds). 1959. *The Study of Population. An Inventory and Appraisal*. Chicago, Illinois.

- Hoang, Huu Phu. 2000. "Competitiveness of Cities and the Changing Urban Form: The Residential Dynamics of Central Hanoi." Paper presented at the Workshop on Southeast Asian Urban Futures. Centre for Advanced Studies, University of Singapore.
- Housing and Urban Development. 1999. *The State of the Cities 1999*, US Department of Housing and Urban Development. Washington, DC.
- Huey, J. 1991. "The Best Cities for Business," *Fortune*, 4 November, 38-59.
- Jenks, M., E. Burton, and K. Williams (eds). 1996. *The Compact City: A Sustainable Urban Form*. London: E&FN Spon.
- Jensen, R. 1974. *Cities of Vision*. Sydney: ANZ Book Company.
- Jonsson, Asa and David Satterwaite. 2000. "Income based-poverty lines; How well do the levels set internationally and within each country reflect (a) the cost of living in larger/ more prosperous/more expensive cities; and (b) the cost that the urban poor have to pay for non-food items." Draft paper prepared for the Panel on Urban Population Dynamics, Committee on Population, National Research Council/ National Academy of Sciences.
- Kakwani, N. 1980. *Income Inequality and Poverty: Methods of Estimation and Policy Applications*. New York: Oxford University Press.
- Kemp, D., M. Manicaros, P. Mullins, R. Simpsons, R. Stimson, and J. Western. 1997. *Urban Metabolism: A Framework for Evaluating the Viability, Livability and Sustainability of South-East Queensland*. AHURI.
- Kim, Won Bae 1999. "National Competitiveness and Governance of Seoul, Korea." In John Friedmann (ed), *Urban and Regional Governance in the Asia-Pacific*. Vancouver: Institute of Asian Research, University of British Columbia.
- Kjellstrom, T. and Corvalen C. 1995. "Framework for the Development of Environmental Health Indicators," *World Health Statistics Quarterly*, 48: 144-154.
- Kline, E. (1996). "Sustainable Community Indicators," *Wingspread Journal*, 18(2).
- Maclaren, V. W., 1996. "Urban Sustainability Reporting," *Journal of the American Planning Association*, 62(2), 184-202.
- Maillat, D. 1991. "Local dynamism, milieu and innovative enterprises." In J.F. Brotchie et al. (eds), *Cities of the 21st Century*. Melbourne: Longman Cheshire.
- McAuslan, P. 1993. "The role of law in urban planning." In *Managing Fast Growing Cities*, N. Devas and C. Rakodi (eds). London: Longman.
- McGee, T.G. 1974. "Hawkers in Hong Kong." *A Study of Policy and Planning in a Third World City*. Hong Kong, China: Centre of Asian Studies, University of Hong Kong.
- McGee, T.G. 2000. "The Urban Future of Vietnam Reconsidered," *The Ritsumeikan Journal of Geography*. No. 12: pp. 1-22.
- McGee, T.G and Ira Robinson (eds). 1995. *The Mega-Urban Regions of Southeast Asia*. Vancouver: University of British Columbia Press.
- McGee, T.G. and S.T Scott (eds). 2000. *The Poor at Risk. Surviving the Economic Crisis in Southeast Asia*. Centre for Southeast Asian Studies, Institute of Asian Research, Vancouver: University of British Columbia.
- Moldan, B. and S. Billharz (eds) 1997. *Sustainability Indicators: Report of the Project on Indicators of Sustainable Development*. SCOPE 58. New York: John Wiley & Sons, Chichester.
- Nasar, J. L. 1998. *The Evaluative Image of the City*. Sage Publications.
- Neilson, L. 2000. "Developing the Economies of Urban Centres". In *Proceedings of Cities on the Rebound Conference*, Brisbane, February.
- Newman, P.W.G. et al. 1998. *Sustainability and Global Cities*. Washington, DC: Island Press.
- Newton, P.W. 1998. "Environmental Indicators for Human Settlements," In Eckersley, R. (ed) *Measuring Progress: Is Life Getting Better?* CSIRO Publishing.
- Newton, P. W., J. F. Brotchie and P. G. Gipps. 1997. "Cities in Transition: Changing Economic and Technological Processes and Australia's Settlement Systems." *State of the Environment Australia*, Technical Paper Series, Canberra.
- Newton, P.W., et al. 1998. *Environmental Indicators for National State of the Environment Reporting: Human Settlements*. Environment Australia, Canberra.
- Norconsult. 1997. *A Spatial Development Framework for Thailand*. Bangkok: NESDB/World Bank.
- Oc, T. and S. Tiedell (eds). 1997. *Safer City Centres*. London: Paul Chapman Publishing.
- Organization for Economic Co-operation and Development. 1995. *OECD Environmental Data Compendium 1995*. Paris: OECD.
- _____. 1997. *Better Understanding our Cities. The Role of Urban Indicators*. Paris: OECD.
- _____. 1999. *Environmental Indicators: OECD Core Set*. Paris: OECD.
- Osborne, D. 1992. "Approach to Better Government." Royal Institute of Public Administration, Intl Ltd (mimeo).
- Osborne, D. and T. Gaebler. 1992. *Reinventing Government*. Reading MA: Addison-Wesley.
- Pahl, R. 1975. *Whose City*. Harmondsworth: Penguin.
- Paproski, P. 1993. "Urban Governance Systems—Another Unanalysed Abstraction?" *Development Planning Unit No. 28*. London: University College.
- Peattie, L. 1998. "Convivial Cities," in Douglass, M. and J. Friedmann (eds). *Cities for Citizens: Planning and the Rise of Civil Society in a Global Age*. Chichester: John Wiley and Sons.
- Perrin, B. 1998. "Effective Use and Misuse of Performance Measurement," *American Journal of Evaluation*, 19(3): 367-379.
- Poister, T. and G. Streib. 1999. "Performance Measurement in Municipal Government," *Public Administration Review*, 59(4): 325-335.
- Pressman, N. 1981. "Creating livable cities, contact." *Journal of Urban and Environmental Affairs*, vol. 13, nos. 2 and 3.
- Productivity Commission 2000. *Implementation of Ecologically Sustainable Development by Commonwealth Departments and Agencies*. Canberra [also available at: www.pc.gov.au/inquiry/esd].
- Sandercock, L. 1998. *Towards Cosmopolis. Planning for Multicultural Cities*. Chichester: John Wiley and Sons Ltd.
- Silber, I.F. 1995. "Space, fields, boundaries: The rise of spatial metaphors in contemporary sociological theory." *Social Research*, 62(1), 323-55.
- Spiller, M. 2000. "Australia's Cities and the Intelligent Future," in *Proceedings of Cities on the Rebound Conference*. Brisbane, February.
- Stein, J. (ed) 1993. *Growth Management*. London: Sage.
- Sudjic, D. 1995. Megalopolis Now. *The Guardian Weekend*, 24 June, 27-35.
- Titmuss, R. M. 1958. *Essays on 'The Welfare State'*. London: George Allen and Unwin.
- Troy, P. 1996. *The Perils of Urban Consolidation*. Canberra: Federation Press.
- Tweed C. and P. Jones. 2000. "The Role of Models in Arguments About Urban Sustainability," *Environmental Impact Assessment Review*, 20, 277-87.
- UNCHS. 1994-1996. *Indicators Programme: Monitoring Human Settlements*. Vol 1. Introduction, Vol.2 Urban Indicators Worksheet, Vol 3. Housing Indicators Worksheet, Vol.4 Taking Gender into Account.
- United Nations Development Programme. 1999. *Human Development Report Thailand 1999*. New York: UNDP.

- _____. 2000. *Human Development Report 2000*. New York: UNDP.
- _____. 1999. *Human Development Report 1999*. New York: Oxford U.P.
- _____. 1994a. *Indicators Program. Monitoring the City*, Volume 1. "Introduction- Background and Rationale." Nairobi: UNCHS, October.
- _____. 1994b. *Indicators Program. Monitoring the City*, Volume 2, "Urban Indicators Review." Nairobi: UNCHS, September.
- United Nations, Population Division. 2000. . "Data Tables and Highlights." *World Urbanization Prospects—1999 Revision*. New York. Department of Economic and Social Affairs.
- _____. 1998. *World Urbanisation Prospects—1996 Revision*. New York: UN Economic and Social Affairs Division.
- Vegara, A. 2000. "SmartLands. The New Global Context and a European Response to the Challenges of Globalisation." In *Proceedings of Cities on the Rebound Conference*, Brisbane, February.
- Wackernagel M. and W.E. Rees. 1996. *Our Ecological Footprint: Reducing Human Impact on the Earth*. New Society Publishers.
- Wang, X. 1998. "Conditions to Implement Outcome—Orientated Performance Budgeting: Some Empirical Evidence." *Journal of Public Budgeting, Accounting and Financial Management*, 11(4): 533-553.
- Webster, Douglas. 2000. "Bangkok: Evolution and Adaptation Under Stress" Paper prepared for inclusion in forthcoming book *World Cities in Poor*.
- WHO. 1993. *Healthy City Indicators*. Copenhagen: WHO.
- Williamson, J. 1965. "Regional Inequality and the Process of National Development: A Description of the Patterns." *Economic Development and Cultural Change*, 13/4, 3-45.
- Winston, J.A. 1999. "Performance Indicators—Promises Unmet." *American Journal of Evaluation*, 20(1): 95-99.
- World Bank. 1992. *Governance and Development*. p. 2. Washington, DC: World Bank.
- _____. 1994. *Governance—The World Bank's Experience*. Washington DC: World Bank.
- Yencken D. and D. Wilkinson 2000. *Resetting the Compass: Australia's Journey Towards Sustainability*. CSIRO Publishing.

Appendixes

Appendix 1. Resources on the Internet: A Directory

A. Indicators Systems

Competitiveness

wbln0018.worldbank.org/psd/compete.nsf
www.imd.ch/wcy/methodology/methodology.cfm

Governance

www.transparency.de/

Index-Driven

www.undp.org/hdro/indicators.html
www.who.dk

Needs-Based

www.regeneration.detr.gov.uk/98ild/

Performance-Based

www.telco-cpi.org.uk/
www.reggen.vic.gov.au/
www.anao.gov.au/bpgs.html
www.pc.gov.au/service/gtepubs.html
www.moe.edu.sg/esp/edunews/pr03097.htm
www.info.gov.hk/jud/performance/index.htm
www.urbanobservatory.org/indicators/analysis/
www.hsd.ait.ac.th/ihsa/si/a13lc/bombay/ui.html

Policy-Based

www.ccsd.ca/lp.html
www.obm5.treas.gov.ab.ca/comm/perfmeas/
www.gov.calgary.ab.ca/finance

Poverty Monitoring

www.worldbank.org/poverty/data/povmon.htm

Systems Approach

www.who.dk/healthy-cities/
venus.hq.nasa.gov/iwgsdi/sdi_ol_framework.html

Sustainable Development

venus.hq.nasa.gov/iwgsdi/sdi_ol_framework.html

B. Sustainability Indicators

Agenda 21

The most widespread indicators movement, sustainable development indicators, has been the successful outcome of recommendations from Agenda 21, the policy document of the 1992 United Nations Conference on Environment and Development (UNCED) Rio Conference, which recommends that sustainability monitoring systems be put in place. This has initiated a process of sustainability monitoring in many countries and communities.

www.unep.org/Documents/Default.asp? DocumentD=52

Agenda 21 reporting includes direct reporting through a system of indicators and country profiles developed by the UN

Commission for Sustainable Development (CSD), the United Nations Environment Programme, and a great many independent activities known under the collective title of State of the Environment (SoE) Reports. This has generally involved the publication of yearbooks, and occasionally the development of comprehensive indicators systems, usually making reference to a sectoral, strategic policy, and/or systems approach. The SCOPE Project (Moldan and Billharz 1997) effectively synthesizes all international research in the area.

www.un.org/esa/sustdev/worklist.htm

www.unep.ch/earthw/indstat.htm

COUNTRIES

Most developed countries, and many states/provinces and cities, have independently engaged in sustainable development debates and consultations, and many have produced SoE Reports, which investigate human components of sustainability as well as the physical components. Some of the most noteworthy national activities have been

Canada. SoE reporting through reports and brochures carried out by Environment Canada is generally regarded as state of the art. A comprehensive indicators database has been developed on most environmental aspects and this has been coupled with excellent outreach activities.

www.ec.gc.ca/ind/English/History/histor_e.htm

www.ec.gc.ca/soer-ree/English/tools/ind_data.cfm

The IISDNet Working Group on Sustainable Development Indicators has been working on composite indexes of sustainability using clusters of related variables, similar to the approach used in the Cities Data Book.

iisd1.iisd.ca/cgsdi/

United States. In the US, an Inter-Agency Working Group on Sustainable Development Indicators (IWGSDI) has developed a framework to identify, organize, and integrate national SDIs, selecting 32 key indicators from a much larger set, to monitor the capacity of the US to meet present and future needs.

venus.hq.nasa.gov/iwgsdi/sdi_ol_framework.html

Australia. One national SoE Report (1997) has been published, together with several comprehensive state reports, for Queensland and New South Wales. The national report included a system of indicators developed specifically for human settlements, and this has been subject to considerable peer review and further development (as discussed in Newton et al. 1998).

Hong Kong, China. Hong Kong, China has a system of Social Indicators of Quality of Life and also a system of Sustainability Indicators sponsored by the Government.

http://www.cuhk.edu.hk/hkiaps/INDICA/soc4~1.htm

http://www.info.gov.hk/planning/susdev/report_6/
e_index.htm

CITIES AND MUNICIPALITIES

As well as national sustainability studies, of which there are relatively few at present, an increasing number of cities and municipalities are undertaking community sustainability studies, encouraged by the Local Agenda 21 initiative. In such cases (see for example Besleme and Mullin 1997; Farrell and Hart 1998), the community selects those indicators it considers most important for monitoring issues such as economic security, ecological integrity, and quality of life. The resultant material is used to raise public awareness, identify achievable goals, make trends visible,

and help individuals, communities, and their governments establish priorities (several case studies are found in OECD 1997).

The US maintains an excellent network of city indicators initiatives and newsletters, for example the Urban Quality Indicators newsletter. These local government initiatives are mostly concerned with sustainability, as already discussed, and various performance measurement exercises and community empowerment initiatives. Some of the best known and well developed of these are the Sustainable Seattle, maintained by the YMCA, which sought to establish indicators by public consultation that would “capture the hearts as well as the minds” of Seattle citizens, and included such Seattle-specific indicators as “number of days you can see the Rockies,” or “wild salmon running in streams;” and the Sustainability Plan for San Francisco, which combines an excellent strategic planning approach with sustainability. The Sustainable State of New Jersey indicators are based on a strategic approach to city goals, with indicators divided into thematic goal categories.

people.mw.mediaone.net/cyoakam/index.html

www.andromeda.rutgers.edu/~ncpp/cdgp/commun.htm

www.sustainable-city.org/

www.njfuture.org/HTMLSrc/SSR/GoalsAndIndicators.html

C. Web-Based Statistical Collections

Most of the major multilateral agencies conduct general statistical activities partly as an information function or as part of yearbooks, but increasingly as a formal part of policy goal setting. The indicators programs of these agencies are linked to organizational policy and strategy development, but generally are not associated with a specific indicators approach.

- *World Bank Development Indicators 2000*. This database is available on CD-ROM and diskette. The 1995 *Social Indicators of Development* may be accessed at www.ciesin.org/
- *Regional Social Indicators for East Asia* has been developed as a monitoring system following the East Asia Crisis, at www.worldbank.org/eapsocial/indicat/index.htm.
- *The United Nations Statistical Division* is the ultimate world authority for harmonized international data definitions. It maintains demographic data and social indicators. This can be found at www.un.org/Depts/unsd/statcom/statcom.htm, and maintains links with all member country statistical offices.
- OECD maintains a database of development indicators and extensive data and metadata resources. This can be found at www.oecd.org/dac/Indicators/index.htm and www.oecd.org/std/.
- *UNCHS (Habitat) Statistical Programme* maintains several downloadable collections, including the *Human Settlements Data Collection* (time series of mostly national data) and *Citibase*, the results of a postal data survey of 3,500 cities in 1994/95. This can be found at www.unchs.org/unon/unchs/habredd/statprog.htm.
- *UNICEF Progress of Nations Report* contains a range of social indicators and league tables of country performance against various indicators. These can be found at www.unicef.org/pon97/stat2.htm.
- *World Resources Institute*: The environmental and social database of this influential think tank is available at www.wri.org/facts/data-tables.html, and interactively at

www.ciesin.org/.

- *ESCAP Statistical Division* maintains a time series database of social indicators in the Asian and Pacific region at unescap.org/stat/index.htm.
- *Eurostat*, the statistical arm of the European Union, maintains several extensive databases, including the NewCronos metadata system, which provides a good sectoral cataloguing system for social indicators.

A number of other general and sectoral databases from multilateral organizations including ILO, UNIDO, UNESCO, UNHCR, WHO, and APEC, etc. are detailed in the Web Resources listing, along with a listing of national statistical offices in the Asian and Pacific region.

D. National and Local Collections

At the national or city level, some of the main activities with index links in the Web Resources listing are

- **Australia**. Many national and state departments and authorities maintain websites with sectoral statistics; for example as part of the Australian Productivity Commission evaluation and reporting systems, Environment Australia, Health Indicators in the ACT, the Bureau of Transport Economics, the City of Melbourne, most public utilities, etc.
- **Hong Kong, China**. There are social indicators for quality of life and sustainability indicators.
- **Japan**. There are economic/business and consumer confidence, industrial and business statistics, demographic and employment time series, science and technology indicators, and gender indicators.
- **India**. India was active in the Habitat II Indicators preparation. India has been a focus for Global Urban Observatory training and indicators collection activities.
- **Indonesia**. There are the Asian crisis poverty surveys and health indicators.
- **Nepal**. There are aspects and incidence of Nepal poverty; and the development database for Nepal regions.
- **Singapore**.
- **Taipei, China**. There are urban and regional development indicators, and science and technology indicators.
- **Thailand**. An indicators approach is encouraged by the strength of the central planning agency, the National Economics and Social Development Board, for a comprehensive if rather undirected statistical system, and a move towards more decentralized forms of local government (which until the 1994 reforms were organs of the National Department of Local Administration) involving less control and more accountability. Some of the main activities have been the Rural Database, the Village Basic Needs Indicators, an online Health Indicators system, Poverty Indicators, and a new Performance Indicators for the Local Government scheme which will require submission of financial and other data by all local governments in Thailand by 2000.
- **US**. Many pertinent government and commercial data websites are maintained in the US, including national level databases such as the Department of Housing and Urban Development's *State of the Cities Report and Database*, http://webstage1.aspensys.com/SOCDS/SOCDS_Home.htm.

Appendix 2. The CDB Workshops

Participatory Workshop 13–14 September 1999, Manila

Fifteen representatives from 14 cities participated in the Participatory Workshop on 13–14 September 1999. The cities were: Bangkok, Bangalore, Bishkek, Cebu, Colombo, Hanoi, Hong Kong, Kathmandu, Mandaluyong, Medan, Naga, Phnom Penh, Suva, and Ulaanbaatar. The workshop was the initiating activity for work on the Cities Data Book (CDB). Its objectives were to

- develop a consensus on which urban data are most useful for policy setting and evaluation by local governments;
- establish key indicators for monitoring and evaluating cities in the region; and
- establish a network of cities that can communicate experiences and transfer good practices in urban services, policy development, and data management.

To generate consensus among cities, criteria in selecting indicators were put forward. It was agreed that the exercise will highlight the promotion of cities which are human, sustainable, innovative, efficient, participatory, and effectively managed. The criteria chosen were driven by objectives of

- improving linkages between central and local governments and the private sector;
- improving the management of resources;
- supporting the development of long-term urban sector strategies and plans;
- reducing levels of urban poverty; and
- promoting sound governance.

Under the above guidelines the participants identified and prioritized the sectors.

- From a long list of themes or sectors in the city participants selected the six priority sectors of environmental management, water supply, municipal services, governance, solid waste management, and economy.
- For indicators, the sectors on environmental management and municipal services were merged with solid waste and water supply, respectively. The groups gave most votes to the indicators of

(i) environmental management including degree of pollution and diseases caused by pollution;

(ii) municipal services including connections or collection as for solid waste, expenditures on operations and maintenance, loss or unaccounted for services, consumption per capita, cost to connect, wastewater treated, types of services, modes of travel, and travel time;

(iii) governance including delivery of annual plan, business satisfaction survey, representation of minorities, compliance to regulations, access to information, voter turnout, consumer satisfaction services, and processing and approval time; and

(iv) economy including investment for basic services, employment rate, economic growth, households below the poverty line, cities' land structure, competitiveness as measured by skilled education composition, and tourism.

Indicators selected would be considered in a questionnaire for data collection. Cities will adopt standard definitions of terms

to compare cities' performances. As measures of city performance the indicators should be important, simple, easy to collect, accurate, affordable, available, useful, and sustainable.

The CDB team briefed the cities on the indicative timetable of the exercise. Six months after the workshop the consultants in each city were expected to be in place, and to have completed a draft of the survey results or draft values, a city profile, and documented the sources of the data. The participants noted that the CDB is not a mere collection of statistics. Goals and priorities should be established and the indicators to be used and later maintained should be policy oriented or performance-based.

Dissemination Workshop 15–16 February 2001, Manila

A dissemination workshop was held at ADB headquarters in Manila on 15–16 February 2001 to discuss the major findings of the Cities Data Book: Urban Indicators for Managing Cities. The workshop recapped the regional technical assistance funded by ADB to initiate an urban indicators system to provide useful, timely, and relevant information on urban conditions and trends in Asian and Pacific cities and to establish a network among the cities to exchange good practices. Participating cities included Bangalore, Bishkek, Cebu, Colombo, Dhaka, Hanoi, Hohhot, Kathmandu, Hong Kong, Lahore, Mandaluyong, Medan, Melbourne Naga, Phnom Penh, Seoul, Suva and Ulaanbaatar. Among those present were mayors, city administrators, and senior technical staff from the participating cities and statistics offices, representatives from international development agencies including the World Bank, United Nations Development Programme's Urban Management Programme for Asia and Pacific, Japan Bank for International Cooperation, academic research institutions, and NGOs.

Sir Peter Hall of the University College London, Dr. Peter Newton of the Commonwealth Science Research Organization of Australia, Dr. Terrence McGee of the University of British Columbia, Canada, and Dr. Joe Flood and Mr. Giles Clarke, consultants to the Cities Data Book, comprehensively discussed the development of indicators, adoption of an indicators system in the national policy context, and the use of policy-based indicators at the city level. The resource persons analyzed the cities' development based on data generated by the Cities Data Book exercise and illustrated comparative performance of cities on selected aspects. The mayors and other city representatives likewise shared their cities' experiences in developing a local information system and showed how indicators influenced their local decision making.

Key conclusions and recommendations reached during the workshop were as follows:

- The comparison of cities in the CDB should not be viewed as criticism of the city but rather a challenge to the city to continue to strive to improve performance.
- There was a clear justification for using the urban indicators.
- Parallel work in the application of indicators in city management needed to be pursued and discussed with the stakeholders.

- Ownership of the CDB should be at the city level. At the initial stages of its development, local ownership is more important than quality data.
- Data generated in the CDB exercise should be popularized or packaged from the perspective of stakeholders such as investors and the business community, to promote its wide use.
- Cities need to link urban indicators data to city goals and priorities, and continually refine the process as priorities change over time.
- An information network among cities would promote exchange and sharing of information.

CITIES DATA BOOK WORKSHEET

Cities Data Book: Indicators Worksheet

Welcome to the Cities Data Book indicators worksheet. This is the instrument for entering the data which will be used in the ADB Cities Data Book. In it you will find the indicators and their definitions. More detailed definitions, along with methods of calculation and uses for the indicators, are contained in the companion document, *Indicators Reference*. Notes and references on each indicator must be included in the companion *Notes and Sources* document.

The kit for country consultants consists of

- This *Indicators Worksheet*
- The *Indicators Reference*
- The *Notes and Sources* document
- The *Calculations* software, which provides assistance with the more difficult indicators

All indicators are one of

- *numbers or percents*
- *a list of items*
- *a selection or checkbox*
- *a description*

Please use the *Notes* freely to describe the data and its collection.

Instructions

- * *Please do not use zero to clear a value; use the delete key.*
- * *Enter percentages as a decimal. For example, enter "0.5" to indicate 50%.*
- * *Use a period to indicate decimals, and a negative sign (-) to indicate negative numbers.*
- * *Do not use any other signs, such as currency symbols, percentage signs, thousand decimeters, etc.*
- * *Be patient when saving, it may take several minutes to properly format and save the data.*

Contact Information

City:		Region:	
First name:		Last name:	
Title:		Telephone (1):	
Mailing address:		Telephone (2):	
		Fax:	
		E-mail:	
Country:			

Appendix 3. Cities Data Book Worksheet *(continued)*

1. POPULATION			
1.1 Urbanization			%
1.2 City population			
1.2.1 Resident population of municipal area			'000
1.2.2 Population during daytime working hours			'000
1.2.3 Annual rate of population increase			%
1.3 Annual net migration			
1.3.1 Other parts of the city (Net)			'000
1.3.2 Other parts of the country (Net)			'000
1.3.3 International migration (Net)			'000
1.3.4 Total net migration (1.3.1+1.3.2+1.3.3)			'000
1.4 Population net density			persons/ha
1.5 Age pyramid		Males	Females
1.5.1 Persons 0-14		%	%
1.5.2 Persons 15-59		%	%
1.5.3 Persons over 60		%	%
1.6 Average household size			persons/hh
1.7 Household formation rate			%
1.8 Women-headed households			%
1.9 Minority groups			
1.10 Household types			
1.10.1 Single person			%
1.10.2 Adults only			%
1.10.3 Single parent family			%
1.10.4 Adults and children			%
1.11 Informal settlements			
1.11.1 Population			'000
1.11.2 Households			'000
1.11.3 Land occupied			ha

2. EQUITY		
	Range (US\$)	Ave. Income on Range (US\$)
2.1 Income distribution		
2.1.1 Q5. Top 20%		
2.1.2 Q4. Next 20%		
2.1.3 Q3. Middle 20%		
2.1.4 Q2. Next bottom 20%		
2.1.5 Q1. Bottom 20%		
2.2 Households below poverty line		%
2.3 Women-headed households in poverty		%
2.4 Child labor		%
2.5 Informal employment		%
2.6 Unemployment		%
2.7 Expenditure on poverty reduction (per poor person)	\$	

3. HEALTH AND EDUCATION	
3.1 Persons per hospital bed	
3.2 Child mortality	%
3.3 Life expectancy at birth	years
3.4 Infectious diseases mortality	 per '000 pop.
3.5 Family planning	%
3.6 Adult literacy rate	%
3.7 School enrollment rates	
3.7.1 Primary schools	%
3.7.2 Secondary schools	%
3.8 Tertiary graduates	 per '000 pop.
3.9 Median years of education (years)	years
3.10 School children per classroom	
3.10.1 Primary	
3.10.2 Secondary	

Appendix 3. Cities Data Book Worksheet *(continued)*

4. URBAN PRODUCTIVITY		
4.1 City product per capita		\$
		\$
4.2 Employment by industry		
4.2.1 Secondary and infrastructure (ISIC Divisions 3,4,5,7)		'000
4.2.2 Consumer services (ISIC 6, 7, part of 9)		'000
4.2.3 Product services (ISIC 8)		'000
4.2.4 Social services (ISIC 9)		'000
4.2.5 Others (ISIC 1,2,9)		'000
4.3 Household expenditure		
4.3.1 Food		%
4.3.2 Shelter		%
4.3.3 Travel		%
4.3.4 Others		%
4.4 Investment by sector		
4.4.1 Physical infrastructure	\$	
4.4.2 Housing	\$	
4.4.3 Services	\$	
4.4.4 Others	\$	
4.5 Tourism		
4.5.1 Persons		'000
4.5.2 Expenditure	\$	m
4.6 Major projects		
4.7 Cost of stay		\$ per day
4.8 Corporate headquarters		

5. NEW TECHNOLOGY

5.1 R&D expenditure

\$

5.2 Telephone traffic

(calls per person per year)

5.2.1 Local

5.2.2 International

5.2.3 Mobile or cellphone

5.3 Internet hosts per '000 population

6. URBAN LAND

6.1 Urban land

6.1.1 Residential

ha

6.1.2 Business

ha

6.1.3 Services

ha

6.1.4 Transport

ha

6.1.5 Mixed use

ha

6.1.6 Others

ha

6.1.7 Total area

ha

6.2 Land developer multiplier

6.3 Developer contributions

%

6.4 Median time for planning permission

month

6.5 Vacant land with planning permission

ha

6.6 Public open space

%

6.7 Vacant government land

6.7.1 Amount of land owned by government, parastatals, or enterprises

ha

6.7.2 Proportion of this land which is vacant

%

6.8 Prime commercial land price

£/sq
per m²

6.9 Prime rental and occupancy costs

6.9.1 Prime rental per month

£/sq

6.9.2 Operating costs per month

£/sq

6.9.3 Statutory charges per month

£/sq

6.10 Expenditure on development

£/sq

Appendix 3. Cities Data Book Worksheet *(continued)*

7. HOUSING		
7.1 Dwelling type		
7.1.1 Houses (single family)		%
7.1.2 Medium density		%
7.1.3 Apartments		%
7.1.4 Temporary dwellings		%
7.1.5 Other (institutions, hostels, etc.)		%
7.2 Tenure type		
7.2.1 Owned or purchased		%
7.2.2 Private rental		%
7.2.3 Social housing		%
7.2.4 Subtenant		%
7.2.5 Rent free		%
7.2.6 Squatter - no rent		%
7.2.7 Squatter - paying rent		%
7.2.8 Others		%
7.3 House price to income ratio		%
7.4 House rent to income ratio		%
7.5 Floor area per person		m ²
7.6 Housing in compliance		%
7.7 Mortgage to credit ratio		%
7.8 Houses with mortgages		%
7.9 Mortgage loans for women		%
7.10 Housing production		
7.10.1 On new (vacant) land		unit/'000
7.10.2 Conversions or infill from other uses		unit/'000
7.11 Squatter resettlement or normalization		%
7.12 Net housing outlays by government (per person)	\$	
7.13 Homeless people		'000

8. MUNICIPAL SERVICES

8.1 Water

8.1.1 Household connections		%
8.1.2 Investment per capita	US	
8.1.3 Operations and maintenance expenditures	US	
8.1.4 Cost recovery		%
8.1.5 Output per staff: Water supplied per employee		m ³
8.1.6 List of providers		
8.1.7 Nonrevenue water		
a. Percentage unaccounted for water		%
b. Interruptions in water service		hrs/mo.
8.1.8 Consumption of water per capita		liters per day
8.1.9 Median price of water, scarce season	US	per m ³

8.2 Electricity

8.2.1 Household connections		%
8.2.2 Investment per capita	US	
8.2.3 Operations and maintenance expenditure	US	
8.2.4 Cost recovery		%
8.2.5 Output per staff: Megawatt hours of electricity supplied per employee		MWh
8.2.6 List of providers		
8.2.7 Nonrevenue electricity		
a. Line loss for electricity		%
b. Interruptions in power supply		hrs/mo.

8.3 Sewerage/wastewater

8.3.1 Household connections		%
8.3.2 Investment per capita	US	
8.3.3 Operations and maintenance expenditure	US	
8.3.4 Cost recovery		%
8.3.5 Output per staff: Wastewater discharged or treated per employee		m ³
8.3.6 List of providers		

Appendix 3. Cities Data Book Worksheet *(continued)*

8.4 Telephone		
8.4.1 Household connections		%
8.4.2 Investment per capita	\$	
8.4.3 Operations and maintenance expenditure	\$	
8.4.4 Cost recovery		%
8.4.5 Output per staff: Thousands of calls per employee		'000
8.4.6 List of providers		
8.5 Solid waste collection		
8.5.1 Households with regular service		%
8.5.2 Investment per capita	\$	
8.5.3 Operations and maintenance expenditure	\$	
8.5.4 Cost recovery		%
8.5.5 Output per staff: Collected per employee		m ³
8.5.6 List of providers		

9. URBAN ENVIRONMENT

9.1 Solid waste generated	tons
9.2 Household sewage disposal	% of households
9.2.1 Sewerage pipe	%
9.2.2 Septic tank (treated)	%
9.2.3 Underground pit (untreated)	%
9.2.4 Underground communal	%
9.2.5 Pan collection	%
9.2.6 Open ground trench	%
9.2.7 Others	%
9.3 Wastewater treated	%
9.4 Percent BOD removed from wastewater	%
9.5 Air pollution concentrations	Standard exceeded (days per annum)
9.5.1 SO ₂	
9.5.2 NO _x	
9.5.3 CO	
9.5.4 O ₃	
9.5.5 Suspended particulates	
9.5.6 Lead	
9.6 Energy usage per person	
9.7 Noise complaints	
9.8 Disasters in last ten years	
9.9 Methods of solid waste disposal	
9.9.1 Percent disposed to sanitary landfill	
9.9.2 Percent incinerated (formally)	
9.9.3 Percent dumped or burned in the open	
9.9.4 Recycled	
9.9.5 Others	

Appendix 3. Cities Data Book Worksheet *(continued)*

10. URBAN TRANSPORT		
10.1 Mode of travel	Percent of work trips	
10.1.1 Private automobile		%
10.1.2 Train, tram, or light rail		%
10.1.3 Bus or mini bus		%
10.1.4 Motorcycle (2- or 3-wheel motorized vehicle)		%
10.1.5 Bicycle, including pedicab (pedal-powered vehicle)		%
10.1.6 Walking		%
10.1.7 Others (including boat, taxi, animal, rickshaw)		%
10.2 Median travel time		mins
10.3 Expenditure on road infrastructure	\$	
10.4 Road congestion		%
10.5 Automobile ownership		per '000 pop
10.6 Cost recovery from fares		%
10.7 Port/air activity		
10.7.1 Commercial ships leaving port (freight and passenger)		
	National	International
10.7.2 Commercial flights leaving per month		
10.8 Goods carried	Millions of revenue tons p.a.	
10.8.1 Road		
10.8.2 Rail		
10.8.3 Air		
10.8.4 Sea		
10.9 Transport fatalities	Per '000 pop.	
10.9.1 Transport-related deaths		
10.9.2 Pedestrian deaths		
11. CULTURAL		
11.1 Attendance at public events		%
11.2 Attendance at galleries and museums		%
11.3 Participation in sports		%

12. LOCAL GOVERNMENT FINANCE

12.1 Sources of revenue

12.1.1 Taxes		%
12.1.2 User charges		%
12.1.3 Other own source income		%
12.1.4 Transfers		%
12.1.5 Loans		%
12.1.6 Other income		%

12.2 Capital and recurrent expenditure per person

12.2.1 Capital expenditure	\$	
12.2.2 Recurrent expenditure	\$	

12.3 Collection efficiency, property taxes

12.3.1 Percent of liabilities actually collected		%
12.3.2 Costs of collecting property tax as percentage of receipts passing to the local government		%

12.4 Debt service charge

 %

12.5 Employees

12.6 Wages in budget

 %

12.7 Contracted recurrent expenditure ratio

 %

12.8 Business permits

12.9 Enterprise revenues

12.10 Computerization of functions

Checkbox

12.10.1 Land registration	☐	
12.10.2 Rates collection	☐	
12.10.3 Salaries	☐	
12.10.4 General finances	☐	
12.10.5 Business permits	☐	

13. URBAN GOVERNANCE	
13.1 Functions of local government	
13.1.1 Water	
13.1.2 Sewerage	
13.1.3 Refuse collection	
13.1.4 Electricity	
13.1.5 Telephone	
13.1.6 Public or mass transport	
13.1.7 Emergency (fire ambulance)	
13.1.8 Road maintenance	
13.1.9 Education	
13.1.10 Health care	
13.1.11 Public housing	
13.1.12 Recreation/sports facilities	
13.1.13 Police	
13.1.14 Drainage/flood control	
13.1.15 Livelihood assistance	
13.1.16 Others	
13.2 Delivery of annual plan	
13.3 Voter participation rates, by sex	
13.3.1 Proportion of adult males	%
13.3.2 Proportion of adult females	%
13.4 Independence from higher government	<i>Description (to be included in the City Report)</i>
13.4.1 Closing down the council or removing councilors from office	
13.4.2 Setting local taxes level	
13.4.3 Setting user charges for services	
13.4.4 Borrowing funds	
13.4.5 Choosing contractors for projects	
13.5 Elected and nominated councilors	
13.5.1 Female	
13.5.2 Male	

13.6 Representation of minorities		
13.7 Planning applications refused		%
13.8 Business satisfaction	<i>Description</i>	
13.9 Consumer satisfaction	<i>Description</i>	
13.10 Perception as place to live	<i>Description</i>	
13.11 Reported crimes		per '000 pop.
13.11.1 Murders		
13.11.2 Drug-related crimes		
13.11.3 Thefts		
13.12 Access to information		
13.12.1 Annual report/budget		
13.12.2 City strategy/vision		
13.12.3 Economic strategy		
13.12.4 Social strategy		
13.13 Contact with the public	<i>Number</i>	<i>Attendance</i>
13.13.1 Annual number of public local government meetings		
13.13.2 Breakdown of meetings held by mayor or CEO with business, public, officials, average week		
a. public		
b. business		
c. officials and councilors		
d. others		
13.14 Decentralized district units		
13.14.1 Number of local government units within the metropolis area		
13.14.2 Number of decentralized units in local government		

Appendix 4. Calculations and Statistical Methods

CALCULATIONS AND STATISTICAL METHODS

A. Calculations

Several indicators may need to be estimated by more complex methods. These include various rates of growth, City Product, House Price to Income Ratio, Mortgage to Credit Ratio, and Energy Use. The detailed methodology is given below and was included in the small software package (Calculations Assistance) given to consultants.

1. Rates of growth (indicators 1.1.2, 1.2.3, 1.7, 4.1, 4.2 and others)

The average annual rate of growth may be calculated from the formula

$$G = (B/A)^{1/t} - 1$$

where t is the time between the two observations A and B.

2. City product per person (indicator 4.1)

There are two standard methods of estimation, the first of which uses employment figures, while the second uses average household incomes.

Method A

This method estimates the urban product by presuming that the product of the city in each sector is proportional to employment in the city, possibly adjusted by differential wage rates. It should be used when employment by industry sector is known.

The following table should be filled out for each industry sector.

Sector	National Product (\$m)	National Employment	City Employment	Wage Ratio	City Product (\$m)
	(1)	(2)	(3)	(4)	(5)
a. 1,2. Agriculture and mining					
b. 3,4,5. Manufacturing, utilities, construction					
c. 6,7. Wholesale and retail trade, transport, and communication					
d. 8. Finance, insurance, real estate, and business services					
e. 9. Community, personal and other services, domestic					
f. Government					
g. Others					

Definitions

National product (GNP) by industry sector is contained in National Accounts. These figures should be updated to 1998 values using the \$ price index. The classification used here is an abbreviated form of the SITC standard industry classification, which is used for standard national accounting (see ILO, *International Standard Industrial Classification of All Economic Activities*, Geneva 1968).

National and city employment. This includes economically active persons by industry, preferably including the informal sector. If activity is not customarily defined in these categories, either estimate or group the categories—for example, at the minimum, by agriculture, manufacturing, and total service employment.

Income ratio. If city income and national income are known to be significantly different, then this ratio should be an estimate of average city wage in the industry divided by average national wage (e.g., if city wages are 20% higher, the ratio is 1.2). Otherwise the ratio should be taken as 1.

The city industry product (Column 5) is then estimated as

$$\text{Column (5)} = \text{Column (1)} \times \text{Column (3)} \times \text{Column (4)} / \text{Column (2)},$$

which is the national industry product times the fraction of national employment in the city times the wage ratio.

The final category, row (g), Others, cannot be estimated by this method, since it includes items such as ownership of dwellings, which do not involve employment. It can be estimated by presuming it is the same fraction of city product as for the national product, using the table as follows:

Sum Column (1), row (a) to row (f)	(i)	
Sum Column (5), row (a) to row (f)	(ii)	
Column (1) row (g) Others	(iii)	
Column (5) row (g)	$= (ii)(iii) / (i)$	

The total city product is then obtained by summing Column (5), and the product per person is obtained by dividing by city population.

This is the preferred method of calculation, as it provides important intermediate data about the industry and employment structure of the city, which are key indicators in their own right.

Method B

If industry employment figures are not known, then the city product per person can be taken as the national average, i.e., gross national product (GNP) divided by national population.

GNP	(i)	
Total national household income (from national accounts)	(ii)	
Households (city)	(iii)	
Average household income (city)	(iv)	
City product	$= (i) \times (iii) \times (iv) / (ii)$	

This method is very approximate and takes no account of different industry structures in different cities or in the rural area. It should only be used if there is no other option.

3. House price to income ratio (indicator 7.3)

This indicator is the ratio of median house price to median income. It has been found to be the most useful single measure of the functioning of housing markets. It has also been found that the formal and informal sectors should be estimated separately, especially where the informal sector is large, otherwise misleading results can be generated.

The two components may be estimated as follows:

Median household income

Household income is defined as gross income from all sources, which includes wages, salaries, incomes from businesses or informal sector activities, investment income, and where information is available, income in-kind such as consumption of agricultural produce which might have been sold.

The following methods for calculating median household incomes are suggested:

1. If there is a household expenditure survey or similar, then Indicator 2.1, Income distribution, will be available. The average income in the middle quintile, quintile 3, will be very close to the median household income.
2. Mean incomes are often easier to obtain as a recent estimate (for example, by dividing household income or household expenditure in the National Accounts by the number of households). If a survey is available which is too old to yield good estimates of household income, the ratio of median to mean incomes may still be used because the distribution of incomes does not change as rapidly as incomes themselves.
3. Taxation departments maintain records of gross incomes for taxable purposes, though these are usually on an individual level rather than a household level. An approximate estimate for household income may be made by multiplying the median level of individual income by the mean number of income-earners per household.

Median house price

Housing value is defined as the price at which a house would sell if placed on the market for a reasonable length of time by a seller who is not under pressure to sell.

The median-priced house in the urban area is that house which has 50% of the houses priced below it, and 50% of the houses priced above it. The calculation of the price of the median-priced house should therefore include all housing, both new and old.

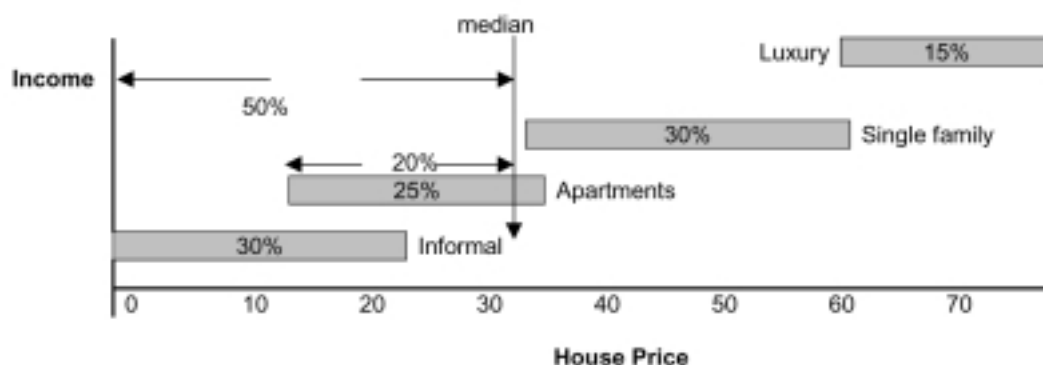
For blocks of apartments or multiple-family dwellings which are usually sold as a single building, the value of one dwelling unit should be estimated as a pro-rata share of the total sale price. This is particularly relevant for countries in Africa where the majority of housing is of this type.

Method 1. For the formal sector, median house price can often be determined directly from published (formal) figures or from recent surveys.

Method 2. If recent average prices are available, they can be converted to median price by using a median/mean ratio from an older household survey. In much of the research done on housing markets in developing countries, it has been found that median prices are generally about 70 percent of the average. This figure is higher when housing is more equally distributed and lower when housing is more unequally distributed.

Method 3. If no direct data are available, then prices need to be estimated for each submarket. Enter percentage of all housing units and price range per unit in a table as follows (one is contained in the calculations assistance diskette):

Type	% of Stock	Price Range
Informal housing		
Low-cost apartment		
Single housing		
Luxury house		



In this example, informal dwelling units are 30% of the total, and apartments are a further 25% up to 55% of the total units. The median price unit will therefore be an apartment. Apartment prices range from 15 to 40 price units. The median priced dwelling will be an

CITIES DATA BOOK WORKSHEET

Cities Data Book: Indicators Worksheet

Welcome to the Cities Data Book indicators worksheet. This is the instrument for entering the data which will be used in the ADB Cities Data Book. In it you will find the indicators and their definitions. More detailed definitions, along with methods of calculation and uses for the indicators, are contained in the companion document, *Indicators Reference*. Notes and references on each indicator must be included in the companion *Notes and Sources* document.

The kit for country consultants consists of

- This *Indicators Worksheet*
- The *Indicators Reference*
- The *Notes and Sources* document
- The *Calculations* software, which provides assistance with the more difficult indicators

All indicators are one of

- *numbers or percents*
- *a list of items*
- *a selection or checkbox*
- *a description*

Please use the *Notes* freely to describe the data and its collection.

apartment for which 50% of all dwelling units will be cheaper, i.e., 20/25% of all apartments will be cheaper.

4. Mortgage loans (indicators 7.7, 7.9)

In Indicator 7.7 outstanding loans may need to be accumulated from the following sources:

Savings and loans (savings banks)	
Commercial or trading banks	
Merchant banks	
Quasi-government institutions	
Credit unions	
Trust or finance companies	
Insurance companies or pension funds	

In Indicator 7.9 numbers of loans and numbers of loans for women will need to be assessed.

5. Energy use per person (Indicator 9.6)

Total energy usage can be calculated by conversion from different forms of energy usage, as in the following table

Type of Energy	Annual Consumption per Person	Conversion Factor	Tons per Annum
Petrol (kiloliters)		1.179	
Kerosene, aviation fuel		1.23	
Natural gas (m ³)		1.328	
Coal (ton)		1.0	
Wood (ton)		0.333	
Electricity (kWh) (hydro or wind)		0.000123	
Total			

Total city usage (including industrial) for each form of energy should be averaged across the population.

Conversion to energy equivalents may be found in reference works, particularly UNSTAT (1994) Energy Statistics Yearbook 1992 (New York: UN), which gives very detailed conversion factors for fossil fuels in every country, or UNCTAD (1993) Handbook of International Trade and Development Statistics (New York: UN). Other conversion factors are: lignite (0.26 to 0.66), coke (0.9), peat (0.325), crude petroleum (1.454 per ton), bagasse (0.264), and charcoal (0.986). Electricity will vary by type of production: raw fossil fuels used for electricity generation should be calculated directly, nuclear energy has a factor of 0.000372 per kWh, and geothermal electricity 0.001228.

B. Statistical Methods

1. Correlation

The formula used to determine the relationship between two variables was the Pearson product-moment correlation coefficient denoted by

$$r_{xy} = \frac{\sum (X - \bar{X})(Y - \bar{Y})}{\sqrt{\sum (X - \bar{X})^2 \sum (Y - \bar{Y})^2}}$$

where

r_{xy} is the estimator, correlation coefficient

X is the independent variable

$\bar{X}$ is the average value of X

Y is the dependent variable

$\bar{Y}$ is the average value of Y

In the 18 cities included in the study, there were 142 pairs of variables analyzed to determine levels of relationship. Cities which lacked sufficient data in certain variables were not included in determining correlations.

2. Regression

The regression model considered is that there is only one independent variable, and the regression function is linear. The model is stated as

$$Y_i = \beta_0 + \beta_1 X_i + \varepsilon$$

where

Y_i is the value of the response variable in i th city

β_0 is the Y intercept of the regression line

β_1 is the slope of the regression line; indicates the change in the mean of the probability distribution of Y per unit increase in X

X_i is a known constant, the independent variable in the i th city

ε is the random error term with mean = 0

3. The F test

The F test was used to test linearity. The F test has its advantages when deciding if there is any genuine relationship at all. This nonlinearity test is most widely accepted and is based on the analysis-of-variance (ANOVA) approach.

The F test of Null hypothesis (or Hypothesis sub o) $B = 0$ versus Alternative (or Hypothesis sub 1) B not equal to 0.

The test statistic is denoted by F^* which compares the regression mean square (MSR) and error mean square (MSE), as follows

$$F^* = \text{MSR} / \text{MSE}$$

MSR = SSR / 1 or regression sum of squares divided by 1

The SSR or the regression sum of squares is often called the "explained variation" in Y.

MSE = SSE / (n-2) or error sum of squares divided by n-2

The SSE or the residual sum of squares is called the "unexplained variation." In the constructed ANOVA tables, the total sum of squares is the "total variation."

The symbol n is the number of cities included, in most cases, 18, in others, 17, 16 or lower.

The constructed decision rule is as follows

If F^* is less than or equal to F (0.95; at degrees of freedom 1, n-2): conclude null hypothesis.

If F^* is greater than F (0.95; at degrees of freedom 1, n-2): conclude the alternative hypothesis; when this conclusion is arrived at, then there exists a linear association between the two variables tested.

4. Points of consideration

While regression analysis is used to make inferences about parameters, to estimate mean responses for a given independent variable, and to predict new observation Y (dependent) for a given X (independent), there are certain points to consider:

- a. The validity of the regression application depends upon whether basic causal conditions in the period ahead will be similar to those in existence during the period (1998) upon which the regression analysis was based.
- b. The statistical test that leads to the conclusion B is not equal to 0 or 1 does not establish a cause and effect relationship between the independent and dependent variables. Both X and Y variables may be simultaneously influenced by other variables or other factors not included in the regression model.

Appendix 5. Summary of ADB's Urban Sector Strategy

A. The Context of the Strategy

- **Asia's future is urban.** Within a generation developing Asia will be predominantly urban. In 1966, only 1 in 5 Asians lived in cities; today, with an urban population of 1.3 billion, the ratio is 1 in 3. By 2020, every other Asian will live in a city. Six (Beijing, Kolkata (formerly Calcutta), Jakarta, Mumbai (formerly Bombay), Shanghai, and Tianjin) of the world's megacities (continuous urban areas with over ten million people) are located in the region, and 11 more Asian megacities are projected to emerge by 2025 (Bangalore, Bangkok, Chennai (formerly Madras), Dhaka, Hyderabad, Karachi, Lahore, Manila, New Delhi, Shenyang, and Yangon).
- **The challenges are great.** Today, 830 million people in developing Asia lack safe drinking water; two billion lack sanitation facilities. Well-managed urbanization can facilitate and sustain economic growth and broadly support improved quality of life and increased opportunities for people. Conversely, weak policies, ineffectual management, and low levels of investment will prevent cities from achieving their full potential and erode previous gains. Without proper management and planning—for land, water, transportation, housing, and the environment—Asia's cities face the prospect of becoming unmanageable sprawling slums.
- **We must reach the urban poor.** Increasing urban poverty and inequality threaten to undermine the promise of sustainable urban development. Two thirds of the world's poor live in Asia, surviving on less than one dollar a day, with an ever-increasing proportion living in cities, or on the peri-urban rim. Urban poverty is multidimensional and complex; the effect of cumulative deprivation brought on by lack of employment and livelihood opportunities, poor education, inadequate shelter and squalid living conditions, health risks from poor sanitation, air pollution, crime, and the absence of social safety nets.
- **We must enhance capacity and support partnerships.** Local governments are in the frontlines of this urban transformation, and serve as the interface between policy and people. Decentralization and devolution of authority to local governments have strengthened their role in the urban development process, but central governments have not always provided the resources to allow local governments to fulfill the new roles. Local governments are transitioning from their traditional role as a provider of urban services to that of an enabler, which in turn is creating opportunity for the private sector. Increasingly, private sector participation is being relied on to meet financing demands and to introduce efficiencies in the delivery of services. Communities and nongovernment organizations (NGOs) also play a vital role. Enhancing capacity and building partnerships are essential.
- **We must think in new and innovative ways.** The lessons being learned in Asia's megacities provide an opportunity to address the same problems being replicated on a smaller scale in rapidly growing secondary cities. At the

same time, urban and rural sectors should be viewed as an interlinked, interdependent continuum in the development process. We must begin looking past stand-alone projects and seek holistic, integrated solutions.

B. The Challenges

The challenges that the Asian Development Bank (ADB) faces in preparing an urban strategy are as follows:

- **Reducing urban poverty.** This goal is best achieved through well-targeted, integrated interventions in government strategies for poverty reduction, which provide a framework for ADB assistance. Better efforts must be made at understanding the multidimensional nature of urban poverty, where it occurs (through poverty mapping exercises), and causes and characteristics of poverty (which vary from country to country). Slum upgrading and providing low-cost housing present good entry points into urban poor communities and a platform to deliver other services. Addressing urban poverty through urban development will require attention for (i) promoting income and wealth poverty (through micro-finance and employment creation); (ii) improving quality of life poverty (infrastructure, services provision and shelter); and (iii) reducing vulnerability of the poor (through targeted fiscal policies such as subsidized user charges).
- **Improving urban services.** The goal is to achieve market-based provision of urban services based on delivery of appropriate and affordable services using, as possible, market competition and effective private sector participation. An important element is cost recovery through economic pricing, enterprise reform, corporatization, and exploring private sector participation (privatization, management contracts, build-operate-transfer and biological oxygen demand schemes, etc.).
- **Promoting good governance.** In the frontline of the urban development process, cities must pursue good governance through strengthened legislation, regulation, monitoring, enforcement, accountability, participation, predictability, and transparency. Performance indicators and benchmarking can measure the effectiveness of policies. Support for political and fiscal decentralization helps to empower local governments, who often lack capacity, with greater authority to deliver urban services.
- **Strengthening urban management.** Local governments have essential roles in providing urban services, facilitating the efficient and equitable access to urban land and promoting sound, balanced urban development through effective planning and policy. With an increasing array of responsibilities on the shoulders of local government under decentralization, there is a need to improve capacity, skills and expertise, while incorporating best practices and innovation.
- **Protecting the environment.** Environmental improvements require institutional coordination between public and private sector organizations, which have been difficult to achieve. Lack of political commitment and environmental awareness and poor enforcement are cited as major causes of low levels of investment in environmental man-

agement facilities. The challenge is to move beyond remedial actions for cleaning up pollution to preventative actions that can forestall future environmental degradation without imposing impossible financial burdens on government.

- **Achieving greater development impact.** ADB urban projects and programs should promote lasting improvements in outcomes, particularly in improving the quality of life for the poor. ADB must improve its ability to work at the strategic level while designing selective interventions for maximum development impact. Through consultation and stakeholder participation, responsive and appropriate interventions should be prioritized.

C. Urban Development Objectives and Priority Sectors

The overall objectives for the strategy are summarized as follows. The current priority for ADB to respond to the economic crisis and its aftermath is highlighting the key role of urban projects in reducing urban poverty.

1. Maximizing the economic efficiency of urban areas through
 - a. increased contribution to gross domestic product;
 - b. easier market entry for small businesses;
 - c. creation of employment;
 - d. attraction of inward investment; and
 - e. availability of suitable land, infrastructure, energy and services to meet business demand.
2. Reducing urban poverty through
 - a. reduced unemployment; and
 - b. increased number of households with access to land, infrastructure, and services.
3. Improving quality of life through
 - a. reductions in environmental pollution levels;
 - b. improved support mechanisms for the disadvantaged;
 - c. enhanced role for gender development;
 - d. reduced crime levels;
 - e. reduction in serious illnesses; and
 - f. availability of suitable land, infrastructure, and services to meet demand.
4. Achieving sustainable urban development through
 - a. reduced use of non-replaceable natural resources;
 - b. increased use of energy taxation, pricing and energy saving forms of land use and construction;
 - c. increased social equity in the distribution of social benefits;
 - d. reductions in environmental pollution levels; and
 - e. improved management systems, including good governance, decentralization, private sector involvement, funding mechanisms, and community participation.

The following are the proposed core sectors for urban operations and where new opportunities are expected to emerge. Over the next two- to three-year time frame, the mix of work between and within these sectors will require some level of refocusing and refinement to respond to the crosscutting concerns of poverty reduction, governance, gender equity, and private sector participation.

- **Water supply and sanitation.** Water and sanitation projects aim to provide universal access to adequate, reliable and

affordable supplies of clean water with commensurate sanitation facilities for wastewater management that improve social welfare, environmental integrity, and economic productivity, with projects in both larger urban centers and rural towns. Increasing participation among stakeholders is vital, particularly for women, NGOs, and the private sector. Meeting rising demand, addressing affordability, improving the management of systems, implementing measures for demand management, and achieving full cost recovery through economic pricing are challenges to be met. For wastewater, there is a high need but low demand, with low levels of willingness to pay. Low cost sanitation approaches must be developed.

- **Urban development and urban management.** Investments in municipal infrastructure help unlock the potential of cities. Efforts must be made to improve operations and maintenance (O&M) to maintain existing systems for urban service delivery, transport, drainage and flood control, and to protect investments already made. Capacity building by urban managers and policymakers is closely linked to the long-term sustainability of investments and interventions. Urban planning systems must be strengthened, with improved processes for resource allocation, prioritizing development, and reaching the urban poor. Regional cooperation in benchmarking skills, networking, and cooperation is important to allow one city to learn from another.

- **Housing and housing finance.** ADB has carried out relatively few housing projects. Slum upgrading and improving access to basic services in urban poor communities are gateways for reaching the poor. Squatter communities often need to be relocated from areas not fit for human habitation. Opportunities exist for strengthening national housing finance systems to place them on sustainable footings, to attract private sector capital and expertise, and better involve community-based organizations. Interventions in the housing sector offer a good opportunity to address the three main crosscutting themes of poverty reduction, governance, and private sector participation.

- **Solid waste management.** Efficiency of systems needs to be improved through private sector partnerships, and integrating informal waste collection to extend services to the urban poor. Cost recovery, waste recycling and minimization measures, and support for inter-local cooperation are tools to create sustainable solid waste management systems.

- **Urban land management.** Land management is critical to successful business, social, and residential development in the city or megacity and where relevant, to the wider extended metropolitan region. Related to the shelter sector and housing for the poor, effective policies require a sound understanding of urban land markets, developing the legal and institutional structures, land use planning, zoning tenure, cadastral surveys, and titling. Capacity building actions are needed to accelerate the delivery of serviced land, using a variety of mechanisms. Geographical information systems (GIS), with in-depth relational databases, are powerful decision-making tools for urban planners and policymakers, and can be utilized for poverty mapping.

- **Urban transport.** There is scope for ADB to provide efficiency improvements through traffic management, municipal-level public transit systems, and municipal road projects. Urban air quality issues can be addressed through improved fuel quality, reduced vehicular emissions, and improved traffic flow. ADB can also assist in establishing clear roles for the public and private sectors and in generating competitive market, including competition between modes.
- **Urban environmental management.** This is a growth area to be addressed through the introduction of market-based instruments, improved coordination across boundaries and jurisdictions, and by promoting holistic, multipronged approaches to be applied by strong institutions in a well-grounded legal and regulatory environment. In many instances, the poor have the greatest exposure to environmental pollution, and benefit the most through interventions in this sector. ADB is building good experience in wastewater management, environmental cleanup of river basins, and comprehensive approaches that bring both environmental and human development benefits.
- **Municipal finance.** ADB needs to work more in this important area to improve fiscal autonomy, including computerization of accounting, billing and collection procedures, contracting out some services, and developing management information systems. In addition, ADB should assist in improved funding for municipal infrastructure through financial intermediaries, strengthen capital investment planning and budgeting processes, improve local resource mobilization (cost recovery, revenue mobilization, and financial management), develop credit ratings and municipal bond markets, and introduce credit enhancement mechanisms.
- **Tourism infrastructure.** Development of tourism plans, programs, and related infrastructure in close cooperation with the private sector, are important for increasing incomes and employment opportunities for the poor.

D. Achieving the Strategy

We will ensure a future of sustainable, equitable Asian cities by

- adopting pro-poor strategies, which will ensure that the fruits of development and quality of life are extended to all;
- thinking of cities as complex, living organisms that must be addressed in a holistic manner, with comprehensive solutions that deliver interrelated programs;
- providing support for decentralization, the empowerment of local governments that brings the decision-making and the provision of services closer to the people served, in a more accountable, participatory fashion;
- involving civil society in a more broad, transparent way, through partnerships with universities, NGOs, beneficiary communities, and other stakeholders;
- promoting private sector participation to narrow the financing gap to be met and bring increased competition and efficiency to the delivery of urban services;
- embracing the digital revolution, and information and communications technology that is transforming the way cities are managed;
- pursuing enhanced networking and cooperation to pro-

mote the sharing of best practices and innovation in urban environmental management; and

- developing a new urban management agenda that promotes public awareness, targets the poor, and helps clients phase-in programs on the basis of available resources. Sound urban development must be viewed as a process, not a result.

E. Implementing the Strategy

In summary the recommended strategy is a combination of several options considered by ADB and its developing member countries and comprises

- developing comprehensive urban sector policy frameworks;
- formulating improved integrated urban development projects;
- expanding subsector programs in priority new areas such as poverty reduction, land management, and housing finance;
- providing policy-based loans;
- supporting private sector investments;
- promoting cooperation with NGOs and community-based organizations (CBOs); and
- catalyzing information dissemination.

The strategy also identifies the implications for ADB operations including lending and technical assistance, staff resources and research priorities, including collaboration with other agencies in the region (external support agencies, academic institutions and NGOs/CBOs).

Appendix 6. City Hologram Ranking Scale

National Context Indicators

- A. Urbanization Level, 1998 (percent of national population living in urban places)
- B. National Population, 1999
- C. Human Development Index Ranking, 1998
- D. GNP Per Capita, 1999

City Context Indicators

- A. City Development Index
- B. City Population Density (persons per hectare)

City Indicators

Sector A. Demographic Indicators A

- 1. City Size (in million)
 - 1 = < 1
 - 2 = 1–2.4
 - 3 = 2.5–5.0
 - 4 = > 5
- 2. Annual Rate of Population Increase (%)
 - 1 = < 1
 - 2 = 1–2.9
 - 3 = 3–4.0
 - 4 = > 4
- 3. Annual Household Formation Rate (%)
 - 1 = < 1
 - 2 = 1–2.9
 - 3 = 3–4.0
 - 4 = > 4

Sector B. Demographic Indicators B

- 4. Life Expectancy at Birth (years)
 - 1 = > 70
 - 2 = 65–69
 - 3 = 60–64
 - 4 = < 60
- 5. Proportion of Total Population 0–14 years of Age (%)
 - 1 = < 20
 - 2 = 21–27
 - 3 = 28–35
 - 4 = > 35
- 6. Child Mortality: (the probability that a child will die before five years as a percentage)
 - 1 = < 3
 - 2 = 3.1–5.9
 - 3 = 6.0–9.0
 - 4 = > 9

Sector C. Economic Characteristics and Productivity A

- 7. City Product Per Capita 1998 (\$)
 - 1 = 4,000–26,000
 - 2 = 2,000–3,999
 - 3 = 1,000–1,999
 - 4 = < 1,000

- 8. City Product (PPP Adjusted) Per Capita (\$)
 - 1 = > 20,000
 - 2 = 5,000–19,999
 - 3 = 2,000–4,999
 - 4 = < 2,000
- 9. Gross Domestic Product Per Capita 1997 (Same as Indicator 8)

Sector D. Economic Characteristics Employment/Competition

- 10. Informal Population as Percent of Total City Population (%)
 - 1 = < 9
 - 2 = 10–19
 - 3 = 20–30
 - 4 = > 30
- 11. Secondary Employment Percent of Employed Population (%)
 - 1 = < 15
 - 2 = 16–22
 - 3 = 23–30
 - 4 = > 30
- 12. Services Employment (total of consumer, producer, social) (%)
 - 1 = > 60
 - 2 = 40–59
 - 3 = 20–39
 - 4 = < 20
- 13. Cost of Business Stay Overnight (\$)
 - 1 = > 140
 - 2 = 111–139
 - 3 = 80–110
 - 4 = < 80
- 14. No. of International Flights per Month
 - 1 = > 1,000
 - 2 = 500–999
 - 3 = 100–499
 - 4 = < 100
- 15. Cost of Commercial Land (\$ per m²)
 - 1 = > 2,000
 - 2 = 1,000–1,999
 - 3 = 500–999
 - 4 = < 500

Sector E. Poverty

- 16. Percent of Households Below Poverty Line (%)
 - 1 = < 20
 - 2 = 21–29
 - 3 = 30–40
 - 4 = > 40
- 17. Percent of Households Below Poverty Line \$1 a day (same as Indicator 16)
- 18. Percent of Total Work Force Unemployed (%)
 - 1 = < 5
 - 2 = 5.0–9.9
 - 3 = 10–15.0
 - 4 = > 15

19. Percent of Household Expenditure on Food (%)
- 1 = < 30
 - 2 = 30–39
 - 3 = 40–50
 - 4 = > 50

Sector F. Social Infrastructure

20. School children per Classroom, Primary
- 1 = < 30
 - 2 = 30–39
 - 3 = 40–50
 - 4 = > 50
21. Persons (City Population) per Hospital Bed
- 1 = < 200
 - 2 = 200–399
 - 3 = 400–600
 - 4 = > 600
22. Percent Housing In Compliance with Local Government Regulations (%)
- 1 = 75–100
 - 2 = 50–74
 - 3 = 25–49
 - 4 = 0–24
23. Floor Area per Person (m²)
- 1 = > 30
 - 2 = 20–29
 - 3 = 10–19
 - 4 = 9

Sector G. Sustainability, Physical Infrastructure, and Governance

24. Water Household Connections (%)
- 1 = > 86
 - 2 = 73–85
 - 3 = 60–72
 - 4 = < 60
25. Electricity Household Connections (%)
- 1 = > 75
 - 2 = 50–74
 - 3 = 25–49
 - 4 = < 25
26. Sewerage Household Connections (%)
- 1 = > 75
 - 2 = 50–74
 - 3 = 25–49
 - 4 = < 25
27. Automobiles per '000 Population
- 1 = > 225
 - 2 = 150–224
 - 3 = 75–149
 - 4 = < 75
28. Local Government Employees per '000 Population
- 1 = < 20
 - 2 = 20–29
 - 3 = 30–40
 - 4 = > 40

29. Local Government Wages as a Percentage of Recurring Budget
- 1 = < 25
 - 2 = 25–49
 - 3 = 50–74
 - 4 = > 75
30. Source of Local Government Revenue: Proportion from Taxes
- 1 = 75–100
 - 2 = 50–74
 - 3 = 25–49
 - 4 = 0–24
31. Source of Local Government Revenue: Proportion from Transfers
- 1 = 0–24
 - 2 = 25–49
 - 3 = 50–74
 - 4 = 75–100

References

- Allardt, E. 1993. "Having, Loving, Being: An Alternative to the Swedish Model of Welfare Research." In Nussbaum, M. and A. Sen (ed), *The Quality of Life*, 88-94. Oxford: Clarendon Press.
- Analysis of the Data Collection. *Report to Commission for Human Settlements*, April 1997.
- Anon. 1994. *Migration News* 1 (8), August.
- Asian Development Bank. 2000. *ADB Basics*. February, Manila.
- _____. 1999. *Fighting Poverty in Asia and the Pacific: The Poverty Reduction Strategy*. Manila.
- _____. 1999. *Urban Sector Strategy*. Agriculture and Social Sectors Development (East). July, Manila.
- Australian National Audit Office. 1997. *Building Better Cities*. Audit Report No. 9, 1996-97. [www.anao.gov.au/rptsfull_97]
- Besleme, K. and Mullin M. 1997. "Community Indicators and Healthy Communities." *National Civic Review*, 86(1): 43-53.
- Bliss, C. 1993. "Life-Style and the Standard of Living." In Nussbaum, M. and A. Sen (ed), *The Quality of Life*, 417-436. Oxford: Clarendon Press.
- Boeninger, E. 1991. *Governance and Development. Proceedings of the World Bank Annual Conference on Development Economics*. Washington, DC: World Bank.
- Brotchie, J., M. Batty, E. Blakely, P. Hall, and P. Newton. 1995. *Cities in Competition*. Melbourne: Longman.
- Brotchie, J., P. Newton, P. Hall, and J. Dickey (eds). 1999. "East West Perspectives on 21st Century Urban Development." *Sustainable Eastern and Western Cities in the New Millennium*. Aldershot: Ashgate.
- Castells, Manuel. 1991. *The Informational City*. Oxford: Basil Blackwell.
- _____. 1966. *The Rise of the Network Society*. Malden and Oxford: Blackwell Publishers.
- Centre National Francais de la Recherche Scientifique. 1959. *Étude sur les Conditions de Vie et les Besoins de la Population du Vietnam*. Paris. 2 vols.
- Chameides, W.L., et al. 1994. "The growth of continental scale metro-agro-plexes: Regional ozone pollution and world food production." *Science*. 264, April.
- Clark, J. 1991. *Democratizing Development*. London: Earthscan.
- Close, A. and B. Foran. 1998. "Canberra's Ecological Footprint." Working Document 98/12, CSIRO, *Wildlife and Ecology*.
- Cohen, G.A. 1993. "Equality of What? On Welfare, Goods, and Capabilities." In Nussbaum, M. and A. Sen (ed), *The Quality of Life*, 9-29. Oxford: Clarendon Press.
- Corden, C. 1977. *Planned Cities*. Beverly Hills: Sage.
- Council for Urban Economic Development. 1999. *Performance Monitoring. Achieving Performance Excellence in Economic Development*. Washington, DC: CUED.
- Davis, Kingsley. 1972. "World Urbanization 1950-1970, Volume II: Analysis of Trends, Relationships and Development." Population Monograph Series No. 9. Institute of International Studies. Berkeley: University of California.
- Desai, M. 2000. "Portrait: Amartya Sen." *Prospect*, July, 46-50.
- Department of the Environment, Transport and the Regions. 1999. *A Better Quality of Life. A Strategy for Sustainable Development for the United Kingdom*. London: The Stationary Office. [also available at: www.environment.detr.gov.uk/sustainable]
- Devas, N. and C. Rakodi. 1993. *Managing Fast Growing Cities. New Approaches to Urban Planning and Management in the Developing World*. New York: Longman Scientific and Technical.
- Dick, Howard W. and Peter J. Rimmer. 1998. "Beyond the Third World City: The new urban geography of South-east Asia." *Urban Studies*, vol. 1, no. 12, pp. 2303-2321.
- Douglass, Michael. 1998. "A Regional Network Strategy for Reciprocal Rural-Urban Linkages: An Agenda for Policy Research with Reference to Indonesia." *Third World Planning Review*, vol. 20 no. 1, pp. 1-33.
- Economic Commission for Asia and the Pacific (ESCAP). 1993. *State of Urbanization in Asia and the Pacific*. New York: United Nations.
- Elkington, J. 1999. "Triple Bottom Line Reporting: Looking for Balance." *Australian CPA*, 69(2): 18-21.
- Erikson, R. 1993. "Descriptions of Inequality: The Swedish Approach to Welfare Research." In Nussbaum, M. and A. Sen (ed), *The Quality of Life*, 67-83. Oxford: Clarendon Press.
- Estes, R.J. 1988. *Trends in World Social Development: The Social Progress of Nations 1970-87*. New York: Praeger.
- Fainstein, S., I. Gordon, and M. Harloe. 1992. *Divided Cities: New York and London in the Contemporary World*. Oxford: Blackwell.
- Farrell, A. and M. Hart. 1998. "What Does Sustainability Really Mean? The Search for Useful Indicators." *Environment*, 40(9): 4-12.
- Flood, J. 1992. "Housing Indicators in Australia: A Consultative Method." *Netherlands Journal of Housing and the Built Environment*, 8, pp. 95-124. 1992.
- _____. 1997. "Urban and Housing Indicators." *Urban Studies* 34 (10), 1635-1665.
- _____. 1997. UNCHS Indicators Programme 1994-96. *Programme of Activities*.
- _____. 1999a. "Poverty and Governance Indicators." Keynote Paper, Workshop on Poverty and Governance Indicators, April 1999. UNCHS, Nairobi.
- _____. 1999b. "Urban Indicators for Thailand." Working Paper 1. Background Issues, December.
- Flood, J. and Spiller Gibbins Swan 1999. *Methodology for Developing Benchmarking for Housing Outcomes*. AHRF 208, Final Report.
- Friedmann, John and Michael Douglass. 1978. "Agropolitan Development: Towards a new strategy for regional planning in Asia." In Fu-Chen Lo and Kamal Salih (eds), *Growth Pole Strategy and Regional Development Policy*. New York: Pergamon Press. pp163-192.
- Gakenheimer, R. 1994. Six Strategic Decisions for Transportation in Mega-cities in (eds.) R Fuchs et. al., *Mega City Growth and The Future*. Tokyo: United Nations University Press. pp332-348.
- Gaye, M. 1996. *Entrepreneurial Cities*, ENDA, Third World, Dakar.
- Ginsburg, N., B. Koppel and T. G. McGee (eds). *The Extended Metropolis. Settlement Transition in Asia*. Honolulu: University of Hawaii Press.
- Gore, A. 1993. *The Gore Report on Reinventing Government*. Times Books.
- Gottman, Jean. (1961) *Megalopolis: The Urbanized Northeastern Seaboard of the United States*. New York: The Twentieth Century Fund.
- Hall, P. 1998. "Planning for the mega-city – A new East Asian urban form." In J.F. Brotchie et al. (eds), *East-West Perspectives on Urban Development*. Aldershot: Ashgate.
- Hall, P. 2000. Creative Cities and Economic Development, *Urban Studies*, 37(4): 639-649.
- Harpham, T. and K.A. Boateng. 1997. Urban Governance in Relation to the Operation of Urban Services in Developing Countries. *Habitat International*, 21(1): 65-77.
- Harvey, D. 1973. *Social Justice and the City*. London: Edward Arnold.
- Hatry, H. 1999. "Mini-Symposium on Intergovernmental Comparative Performance Data," *Public Administration Review*, 59(2):101-104.
- Hauser, Philip M. and Otis Dudley Duncan (eds). 1959. *The Study of Population. An Inventory and Appraisal*. Chicago, Illinois.

- Hoang, Huu Phu. 2000. "Competitiveness of Cities and the Changing Urban Form: The Residential Dynamics of Central Hanoi." Paper presented at the Workshop on Southeast Asian Urban Futures. Centre for Advanced Studies, University of Singapore.
- Housing and Urban Development. 1999. *The State of the Cities 1999*, US Department of Housing and Urban Development. Washington, DC.
- Huey, J. 1991. "The Best Cities for Business," *Fortune*, 4 November, 38-59.
- Jenks, M., E. Burton, and K. Williams (eds). 1996. *The Compact City: A Sustainable Urban Form*. London: E&FN Spon.
- Jensen, R. 1974. *Cities of Vision*. Sydney: ANZ Book Company.
- Jonsson, Asa and David Satterwaite. 2000. "Income based-poverty lines; How well do the levels set internationally and within each country reflect (a) the cost of living in larger/ more prosperous/more expensive cities; and (b) the cost that the urban poor have to pay for non-food items." Draft paper prepared for the Panel on Urban Population Dynamics, Committee on Population, National Research Council/ National Academy of Sciences.
- Kakwani, N. 1980. *Income Inequality and Poverty: Methods of Estimation and Policy Applications*. New York: Oxford University Press.
- Kemp, D., M. Manicaros, P. Mullins, R. Simpsons, R. Stimson, and J. Western. 1997. *Urban Metabolism: A Framework for Evaluating the Viability, Livability and Sustainability of South-East Queensland*. AHURI.
- Kim, Won Bae 1999. "National Competitiveness and Governance of Seoul, Korea." In John Friedmann (ed), *Urban and Regional Governance in the Asia-Pacific*. Vancouver: Institute of Asian Research, University of British Columbia.
- Kjellstrom, T. and Corvalen C. 1995. "Framework for the Development of Environmental Health Indicators," *World Health Statistics Quarterly*, 48: 144-154.
- Kline, E. (1996). "Sustainable Community Indicators," *Wingspread Journal*, 18(2).
- Maclaren, V. W., 1996. "Urban Sustainability Reporting," *Journal of the American Planning Association*, 62(2), 184-202.
- Maillet, D. 1991. "Local dynamism, milieu and innovative enterprises." In J.F. Brotchie et al. (eds), *Cities of the 21st Century*. Melbourne: Longman Cheshire.
- McAuslan, P. 1993. "The role of law in urban planning." In *Managing Fast Growing Cities*, N. Devas and C. Rakodi (eds). London: Longman.
- McGee, T.G. 1974. "Hawkers in Hong Kong." *A Study of Policy and Planning in a Third World City*. Hong Kong, China: Centre of Asian Studies, University of Hong Kong.
- McGee, T.G. 2000. "The Urban Future of Vietnam Reconsidered," *The Ritsumeikan Journal of Geography*. No. 12: pp. 1-22.
- McGee, T.G and Ira Robinson (eds). 1995. *The Mega-Urban Regions of Southeast Asia*. Vancouver: University of British Columbia Press.
- McGee, T.G. and S.T Scott (eds). 2000. *The Poor at Risk. Surviving the Economic Crisis in Southeast Asia*. Centre for Southeast Asian Studies, Institute of Asian Research, Vancouver: University of British Columbia.
- Moldan, B. and S. Billharz (eds) 1997. *Sustainability Indicators: Report of the Project on Indicators of Sustainable Development*. SCOPE 58. New York: John Wiley & Sons, Chichester.
- Nasar, J. L. 1998. *The Evaluative Image of the City*. Sage Publications.
- Neilson, L. 2000. "Developing the Economies of Urban Centres". In *Proceedings of Cities on the Rebound Conference*, Brisbane, February.
- Newman, P.W.G. et al. 1998. *Sustainability and Global Cities*. Washington, DC: Island Press.
- Newton, P.W. 1998. "Environmental Indicators for Human Settlements," In Eckersley, R. (ed) *Measuring Progress: Is Life Getting Better?* CSIRO Publishing.
- Newton, P. W., J. F. Brotchie and P. G. Gipps. 1997. "Cities in Transition: Changing Economic and Technological Processes and Australia's Settlement Systems." *State of the Environment Australia*, Technical Paper Series, Canberra.
- Newton, P.W., et al. 1998. *Environmental Indicators for National State of the Environment Reporting: Human Settlements*. Environment Australia, Canberra.
- Norconsult. 1997. *A Spatial Development Framework for Thailand*. Bangkok: NESDB/World Bank.
- Oc, T. and S. Tiedell (eds). 1997. *Safer City Centres*. London: Paul Chapman Publishing.
- Organization for Economic Co-operation and Development. 1995. *OECD Environmental Data Compendium 1995*. Paris: OECD.
- _____. 1997. *Better Understanding our Cities. The Role of Urban Indicators*. Paris: OECD.
- _____. 1999. *Environmental Indicators: OECD Core Set*. Paris: OECD.
- Osborne, D. 1992. "Approach to Better Government." Royal Institute of Public Administration, Intl Ltd (mimeo).
- Osborne, D. and T. Gaebler. 1992. *Reinventing Government*. Reading MA: Addison-Wesley.
- Pahl, R. 1975. *Whose City*. Harmondsworth: Penguin.
- Paproski, P. 1993. "Urban Governance Systems—Another Unanalysed Abstraction?" *Development Planning Unit No. 28*. London: University College.
- Peattie, L. 1998. "Convivial Cities," in Douglass, M. and J. Friedmann (eds). *Cities for Citizens: Planning and the Rise of Civil Society in a Global Age*. Chichester: John Wiley and Sons.
- Perrin, B. 1998. "Effective Use and Misuse of Performance Measurement," *American Journal of Evaluation*, 19(3): 367-379.
- Poister, T. and G. Streib. 1999. "Performance Measurement in Municipal Government," *Public Administration Review*, 59(4): 325-335.
- Pressman, N. 1981. "Creating livable cities, contact." *Journal of Urban and Environmental Affairs*, vol. 13, nos. 2 and 3.
- Productivity Commission 2000. *Implementation of Ecologically Sustainable Development by Commonwealth Departments and Agencies*. Canberra [also available at: www.pc.gov.au/inquiry/esd].
- Sandercock, L. 1998. *Towards Cosmopolis. Planning for Multicultural Cities*. Chichester: John Wiley and Sons Ltd.
- Silber, I.F. 1995. "Space, fields, boundaries: The rise of spatial metaphors in contemporary sociological theory." *Social Research*, 62(1), 323-55.
- Spiller, M. 2000. "Australia's Cities and the Intelligent Future," in *Proceedings of Cities on the Rebound Conference*. Brisbane, February.
- Stein, J. (ed) 1993. *Growth Management*. London: Sage.
- Sudjic, D. 1995. Megalopolis Now. *The Guardian Weekend*, 24 June, 27-35.
- Titmuss, R. M. 1958. *Essays on 'The Welfare State'*. London: George Allen and Unwin.
- Troy, P. 1996. *The Perils of Urban Consolidation*. Canberra: Federation Press.
- Tweed C. and P. Jones. 2000. "The Role of Models in Arguments About Urban Sustainability," *Environmental Impact Assessment Review*, 20, 277-87.
- UNCHS. 1994-1996. *Indicators Programme: Monitoring Human Settlements*. Vol 1. Introduction, Vol.2 Urban Indicators Worksheet, Vol 3. Housing Indicators Worksheet, Vol.4 Taking Gender into Account.
- United Nations Development Programme. 1999. *Human Development Report Thailand 1999*. New York: UNDP.

- _____. 2000. *Human Development Report 2000*. New York: UNDP.
- _____. 1999. *Human Development Report 1999*. New York: Oxford U.P.
- _____. 1994a. *Indicators Program. Monitoring the City*, Volume 1. "Introduction- Background and Rationale." Nairobi: UNCHS, October.
- _____. 1994b. *Indicators Program. Monitoring the City*, Volume 2, "Urban Indicators Review." Nairobi: UNCHS, September.
- United Nations, Population Division. 2000. . "Data Tables and Highlights." *World Urbanization Prospects—1999 Revision*. New York. Department of Economic and Social Affairs.
- _____. 1998. *World Urbanisation Prospects—1996 Revision*. New York: UN Economic and Social Affairs Division.
- Vegara, A. 2000. "SmartLands. The New Global Context and a European Response to the Challenges of Globalisation." In *Proceedings of Cities on the Rebound Conference*, Brisbane, February.
- Wackernagel M. and W.E. Rees. 1996. *Our Ecological Footprint: Reducing Human Impact on the Earth*. New Society Publishers.
- Wang, X. 1998. "Conditions to Implement Outcome—Orientated Performance Budgeting: Some Empirical Evidence." *Journal of Public Budgeting, Accounting and Financial Management*, 11(4): 533-553.
- Webster, Douglas. 2000. "Bangkok: Evolution and Adaptation Under Stress" Paper prepared for inclusion in forthcoming book *World Cities in Poor*.
- WHO. 1993. *Healthy City Indicators*. Copenhagen: WHO.
- Williamson, J. 1965. "Regional Inequality and the Process of National Development: A Description of the Patterns." *Economic Development and Cultural Change*, 13/4, 3-45.
- Winston, J.A. 1999. "Performance Indicators—Promises Unmet." *American Journal of Evaluation*, 20(1): 95-99.
- World Bank. 1992. *Governance and Development*. p. 2. Washington, DC: World Bank.
- _____. 1994. *Governance—The World Bank's Experience*. Washington DC: World Bank.
- Yencken D. and D. Wilkinson 2000. *Resetting the Compass: Australia's Journey Towards Sustainability*. CSIRO Publishing.