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Nepal
Public Expenditure Review
(In Five Volumes) Volume IV: Transport Sector

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Infrastructure Sector Unit
South Asia Region

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CURRENCY

Currency	NRs/US$
1980	12.00
1981	12.34
1982	13.24
1983	14.55
1984	16.46
1985	18.25
1986	21.23
1987	21.82
1988	23.29
1989	27.19
1990	29.37
1991	37.26
1992	42.72
1993	48.61
1994	49.40
1995	51.89
1996	56.69
1997	58.01
1998	65.97
1999	68.25

Note: **The Nepali fiscal year runs from July 16 through July 15.**
Source: **IMF, International Finance Statistics (IFS), line "rf" (period average).**

[a] **Starting November 30, 1985, the Nepali Rupee was linked to a basket of currencies. Subsequently in early 1992, a two-tier exchange rate system with partial convertibility was introduced. In February 1993, the dual exchange rate system was replaced by a unified market-determined exchange rate system providing de facto convertibility for all current account transactions.**

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ABBREVIATIONS AND ACRONYMS

ADB	-	Asian Development Bank
CAAN	-	Civil Aviation Authority of Nepal
CBO	-	Community-based organizations
DCA	-	Department of Civil Aviation
DDC	-	District Development Committee
DOLIDAR	-	Department of Local Infrastructure Development & Agricultural Roads
DOR	-	Department of Roads
DTMP	-	District Transport Master Plan
FNNCI	-	Federation of Nepalese Chambers of Commerce
HMGN	-	His Majesty's Government of Nepal
HMIS	-	Highway Management Information System
IDA	-	International Development Association
MLD	-	Ministry of Local Development
MOF	-	Ministry of Finance
MOTCA	-	Ministry of Tourism and Civil Aviation
MOWT	-	Ministry of Works and Transport
MRCU	-	Maintenance and Rehabilitation Coordination Unit
NDC	-	National Development Council
NPC	-	National Planning Commission
NTC	-	Nepal Transport Corporation
PER	-	Public Expenditure Review
PIP	-	Priority Investment Plan
RMFRIC	-	Road Management and Finance Reform Implementation Committee
RMDP	-	Road Maintenance and Development Project
RMRP	-	Road Maintenance and Rehabilitation Project
RNAC	-	Royal Nepal Airlines Corporation
SMD	-	Strengthened Maintenance District
STOL	-	Short Take-off and Landing
TIA	-	Tribhuvan International Airport
VDC	-	Village Development Committee

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This report was prepared by a team led by Guang Zhe Chen (Task Leader) under the guidance of Frannie Leautier (Sector Director) and Hans M. Rothenbühler (Nepal Country Director) comprising of Juan Gaviria, Surrendra Joshi, Para Suriyaarachchi, Heng-Fu Zou, Johana Thapa, and Douglas Gray of the World Bank. The report benefited from discussions held with government officials in Nepal during various occasions in 1999 and a background paper with statistical annexes prepared by Mr. Sharad K. Sharma, local consultant, in December 1998. We gratefully acknowledge the cooperation extended by government officials, especially in the National Planning Commission, Ministry of Finance, Ministry of Works and Transport and the Civil Aviation Authority of Nepal.

ECONOMIC DEVELOPMENT DATA

GNP Per Capita (US$, 1998): 210 **a/**

Gross Domestic Product (FY99) b/

	FY99		Annual Growth Rate (% p. a., constant prices)		
	US$ Million	% of GDP	FY86-90	FY91-94	FY95-99
GDP at Factor Cost	4754	96.5	4.8	5.6	3.9
GDP at Producers' Prices	4926	100.0	4.6	5.6	3.9
Gross Domestic Investment	956	19.4	19.8/c	21.9/c	22.8/c
Gross National Saving	700	14.2	12.2/c	14.2/c	14.2/c
Current Account Balance	-256	-5.2	-7.6/c	-7.6/c	-8.6/c

Output, Employment and Productivity

	Value Added, FY 99b/		Labor Force d/		V.A. per Worker	
	US$ Million	% of Total	Million	% of Total	US$	% of Average
Agriculture	1906	40.1	7.2	76.1	265	52.7
Industry	998	21.0	0.9	9.8	1072	213.5
Services	1849	38.9	1.3	14.0	1391	277.0
Total	4754	100.0	9.5	100.0	502	100.0

Government Finance e/

	NRs. billion	% of GDP	As % of GDP		
	FY99		FY86-90	FY91-94	FY95-99
Revenue Receipts	37.2	11.1	9.0	9.2	11.1
Total Expenditures	63.2	18.9	18.8	17.4	18.4
Regular Expenditures	31.8	9.5	6.4	6.5	9.0
Development Expenditures	31.4	9.4	12.4	10.9	9.5
Overall Deficit	-24.7/f	-7.4/f	-9.8	-8.2	-7.4
External Assistance	18.7	5.6	7.4	6.2	5.5
Domestic Borrowings	6.0	1.8	2.4	2.0	1.9

Money, Credit , and Prices g/

	FY94	FY95	FY96	FY97	FY98	FY99
			NRs. Billion outstanding, end of period			
Broad Money (M2) **h/**	69.8	81.0	92.7	103.7	126.5	152.9
Bank Credit to Government (net)	23.5	25.2	27.5	29.2	31.8	35.5
Bank Credit to Private Sector	32.3	44.9	57.7	64.7	76.8	90.8
			Percentage or index number			
Broad Money as % of GDP	35.0	36.9	37.2	37.0	42.6	45.7
Consumer Price Index (1983/84=100)	284	305	330	356	370	417
Annual Percentage Changes in:						
Consumer Price Index	9.0	7.6	8.1	7.8	4.0	12.7
Broad Money (M2)	19.6	16.1	14.4	11.9	21.9	20.9
Bank Credit to Government (net)	0.2	7.3	9.3	6.2	8.6	11.7
Bank Credit to Private Sector	35.1	38.8	28.7	12.0	18.8	18.2

a/ World Development Report 2000, The World Bank.

b/ National Accounts of Nepal 1999, Central Bureau of Statistics.

c/ Data for Gross Domestic Investment, Gross Domestic Savings and Current Account Balance are as percentage of GDP.

d/ Nepal Labor Force Survey 1998/99, Central Bureau of Statistics.

e/ Economic Survey FY99, Ministry of Finance.

f/ After "non-budgetary receipts" of Rs. 1.3 billion.

g/ Nepal Rastra Bank.

h/ Includes money supply (M1) and time deposits.

Balance of Payments (US$ Million)

	FY97	FY98	FY99
Exports of Goods & NFS	1295.0	1108.3	1061.9
Merchandise, fob	397.4	444.6	525.3
Imports of Goods & NFS	1854.7	1645.7	1495.9
Merchandise, cif	1642.3	1439.1	1290.6
of which POL products	126.5	154.0	128.6
Trade Balance	-1244.9	-994.6	-765.3
Non Factor Services (net)	685.2	457.2	331.3
Resource Balance	-559.7	-537.4	-434.0
Net Factor Income	5.0	13.0	25.0
Net Transfers	94.5	103.0	152.9
Current Account Balance	-460.3	-421.4	-256.1
Official Grants	170.8	176.3	171.4
Medium & Long Term Capital			
Gross Inflows	197.0	229.8	195.2
Principal Repayments	49.8	62.4	61.3
Miscellaneous Capital Flows	198.5	254.8	95.5
Overall Balance (-Increase)	-56.1	-177.0	-144.8
Gross Reserves (end year)	865	969	1128
Rate of Exchange			
Period Average Rate (US$/NRs.)	57.03	61.95	67.95

Merchandise Exports (Average FY95 - FY99)

	US$ Million	% of Total
Woolen Carpets	147.9	35.5
Readymade Garments	112.1	26.9
Others	156.5	37.6
Total	416.4	100.0

Total External Debt,1998 a/

	US$ Million
External Debt	2646.0

Debt Service Ratio for 1998 a/

	% of current Receipts
Debt Service	7.1

IDA Lending, January 2000 i/

	US$ Million
Outstanding & Disbursed	1211.1
Undisbursed	253.6

i/ The World Bank.

Nepal Social Indicators

	Latest single year			Same region/income group	
	1970-75	1980-85	1992-97	South Asia	Low-income
POPULATION					
Total population, mid-year (millions)	12.8	16.5	22.3	1,281.3	2,035.6
Growth rate (% annual average)	2.4	2.6	2.5	1.5	1.7
Urban population (% of population)	5.0	7.8	10.9	27.0	28.4
Total fertility rate (births per woman)	6.3	6.1	4.4	3.5	4.0
POVERTY					
(% of population)					
National headcount index	..	..	42.0	..	..
Urban headcount index	..	..	23.0	..	..
Rural headcount index	..	..	44.0	..	..
INCOME					
GNP per capita (US$)	120	170	220	380	350
Consumer price index (1995=100)	17	35	114	117	122
Food price index (1995=100)	..	33	111	..	..
INCOME/CONSUMPTION DISTRIBUTION					
Share of income or consumption					
Gini index	..	..	36.7	..	..
Lowest quintile (% of income or consumption)	..	..	7.6	..	..
Highest quintile (% of income or consumption)	..	..	44.8	..	..
SOCIAL INDICATORS					
Public expenditure					
Health (% of GDP)	..	..	1.2	0.8	1.0
Education (% of GNP)	1.5	2.6	2.8	3.0	..
Social security and welfare (% of GDP)	0.1	0.1	..	..	..
Net primary school enrollment rate					
(% of age group)					
Total	..	58	..	..	..
Male	..	79	..	..	..
Female	..	36	..	..	..
Access to safe water					
(% of population)					
Total	8	24	59	81	69
Urban	85	78	61	84	80
Rural	5	20	59	80	66
Immunization rate					
(% under 12 months)					
Measles	..	34	85	81	74
DPT	..	32	78	87	76
Child malnutrition (% under 5 years)	69	..	47	53	..
Life expectancy at birth					
(years)					
Total	43	49	57	62	59
Male	44	50	58	62	58
Female	43	48	57	63	60
Mortality					
Infant (per thousand live births)	160	125	83	77	82
Under 5 (per thousand live births)	234	180	117	100	118
Adult (15-59)					
Male (per 1,000 population)	482	376	274	219	274
Female (per 1,000 population)	476	395	314	212	255
Maternal (per 100,000 live births)	..	..	..	..	..

1999 World Development Indicators CD-ROM, World Bank

Nepal: Public Expenditure Review
Transport Infrastructure Sector
Executive Summary

General Overview

The Public Expenditure Review (PER) for the transportation infrastructure sector summarizes analyses and governmental actions undertaken in Nepal to increase the effectiveness of public expenditures. Given the minor role played by other modes of transportation in Nepal, the transport infrastructure sector PER focuses primarily on road transportation and civil aviation and aims at identifying ways of increasing the effectiveness of public expenditures in the sector.

The Ninth Plan (road sub-sector). Planned expenditures for roads under the Ninth Plan (1998-2002) appear to be overly optimistic. The total road development budget under the Ninth Plan amounts to Rs.23 billion, which is a sizable increase from actual expenditures achieved under the Eighth Plan (Rs.12 billion). This ambitious program does not appear to be realistic given current resource constraints and weak governmental project implementation capacity. It is suggested that it would be more appropriate to cap the annual road budget at levels achieved last year in real terms. Accordingly, the successful implementation of the Ninth Plan would require a modest increase of investments in physical works and considerable improvements in institutional strengthening complemented by considerable improvements in institutional and implementation capacity building in the roads and civil aviation sub-sectors.

The Ninth Plan (airport sub-sector). Planned allocations for the airport sub-sector amount to 14.5% of the total transportation budget. The Ninth Plan allocations are slightly lower than those under the Eighth Plan based on expectations that once the Civil Aviation Authority of Nepal (CAAN) is operationalized, it will be financially self-sustainable. The lower allocation amounts also reflect HMGN's encouragement of increased private sector participation in the sub-sector. The immediate challenge for HMGN is to ensure CAAN can operate as an autonomous and financially self-sustaining entity with improved financial controls and a higher degree of accountability.

The Road Sector

Expansion of the road network. During 1960-1990s, investments in Nepal's road sector focused on the construction of new roads. Nepal's road network was expanded from a total length of about 2,000 km in the mid-1960s to almost 12,000 km by 1997. Today, despite efforts to extend the road network, 17 out of 75 Districts in Nepal are still inaccessible by motorized vehicles. Demand for new roads continues to be strong and successive governments have made the extension of the road network to connect all districts key priorities in their development plans.

Road sector planning. Until the early 1990s, Nepal lacked a national master plan for the development of transport infrastructure. Road sector investments were often influenced by ad hoc decisions rather than planned systematic operations. In 1997, a Priority Investment Plan (PIP) was developed with IDA assistance to rationalize road sector planning and investments during 1997-2006. The completion of the PIP provided the starting point for the formulation of a

medium-term expenditure framework for the sector. The PIP was prepared primarily using a project-based approach, as opposed to a policy-based strategy; hence, no clear long-term national road policy was determined and road sector investment planning did not necessarily account for other approaches adopted in other sectors. Consequently, there are some planning gaps between the PIP and the Agricultural Perspective Plan (APP) of 1995 (which also outlined a medium-term development plan for rural roads in Nepal) that require coordination.

Complications associated with road network expansion. Due to difficult geographical conditions, road construction and maintenance activities in Nepal are difficult and expensive. Additionally, the low level of economic activity and low traffic volumes limit economic returns on new road projects in rural areas. Strong political demands for balanced regional development and the expansion of the road network have also contributed to insufficient attention and funding for road maintenance. In order to maintain a sustainable road network, it is estimated that Nepal must spend about Rs.1.0 billion per annum to carry out periodic and routine maintenance. Since the 1980s, there has been growing recognition in Nepal that the annualized cost of road construction and rehabilitation equals 3 to 4 times the cost of foregone maintenance; accordingly, maintenance funding has gradually increased. Although maintenance funding has increased since the 1980s, in fiscal year 1998/99, the budget allocation for road maintenance was about Rs.420 million (excluding donor funding) which is about half of estimated requirements.

Road maintenance. HMGN has placed greater attention on developing initiatives that will strengthen the sustainability of past investments by investing in road maintenance; about 60% of the total road sector budget is directed at these activities. Substantial efforts have been underway to improve road maintenance management capacity, planning and monitoring capabilities, and environmental and traffic safety practices through partnerships between HMGN and donors.

Road sector finance and Road Fund Board. Efforts are underway to establish a joint government/private sector Road Board to oversee the collection and expenditure of road user funds for maintenance of both the strategic and local road networks, as well as to initiate the process of commercialization of road management. The amended Road Board and Fund Act which is to be presented to Parliament for approval is expected to assist the establishment of adequate and sustainable funding for road maintenance and would be used to strengthen HMGN's capacity to more effectively manage the road network. In addition to establishing a 'second generation' road fund, HMGN has also encouraged private sector participation to develop commercial road transportation projects. It is not realistic in the near future, however, to expect the private sector to finance major road investment projects in Nepal due to the low volumes of traffic.

Road sector budget. The transport sector is recognized as a key component for promoting broad-based economic growth and poverty reduction in Nepal. Average annual budget allocations for the past ten years have been about 10% of total budget expenditures. The overall road sector development budget during 1998/99 was Rs.5.1 billion; Rs.1.3 billion (61% of which was financed by donors) was allocated for new road construction and Rs.3.3 billion (75% of which was financed by donors) was allocated for road rehabilitation and maintenance with the balance going to other miscellaneous activities. As donor assistance has shifted to road maintenance and

rehabilitation, HMGN allocations have concentrated on extending and upgrading the network with relatively low efficiency.

Allocations versus expenditures for roads. Although budget allocations for the road sector have been increasing, actual expenditures have been consistently below allocations. During the period from 1992/93 to 1997/98, actual annual expenditures in the road sector averaged about 72% of the annual sector budget. Considering that this percentage has significantly increased from 50% in 1992/93 to 87% in 1997/98, which is encouraging, the data suggests a need to further increase institutional capacity. Continuous gaps between budget allocations and actual expenditures highlight HMGN's weak budgetary processes which undermine the predictability and transparency of a sound financial management system.

Airport Sector

Airport infrastructure. Nepal has an extensive but rudimentary network of 44 airports. Tribhuvan International Airport in Kathmandu is the central hub and is complimented by five regional airports. The remaining airports consist of either short-landing strips and/or helipads. For many remote mountainous towns and villages, air transportation is often the only practical transportation option. In 1992, HMG/N adopted a liberalization policy for air transport. Accordingly, private sector air transport operators have considerably increased their service to remote areas not serviced by roads. During the Eighth Plan, Nepal witnessed a substantial increase in aircraft fleet (+70%) and passenger movement (+57%). The rapid expansion of the civil aviation sector during the Eighth Plan demonstrates its strong growth potential for air transport especially in remote regions.

CAAN. The establishment and operalization of the Civil Aviation Authority of Nepal (CAAN) is central to HMG/N's strategy to reform the aviation sector. CAAN was officially established in 1998 to replace the Department of Civil Aviation (DCA) and operate as an autonomous civil aviation authority. The transition phase (from the DCA to CAAN) was expected to last at least 12 months but it is likely to take longer. Once CAAN is operationalized, it is expected that the organization will be financially self-sustainable (although this is not realistic in the short-term). The transition of the DCA to CAAN is uncertain and may have an adverse impact on the implementation of public investment programs in the airport sector. Under the new arrangement, CAAN will be responsible for building, operating, and maintaining regional airports. At present CAAN lacks appropriate financial, managerial, and supervisory skills to effectively perform as a regulatory agency and considering that most regional airports are operating at a loss, it is expected that CAAN will have to rely on governmental subsidies in the short-term, as the institution builds appropriate financial, managerial, and supervisory skills. The majority of Nepal's airports are operating at a loss and consequently provide a minimal level of service. Rapid growth and inadequate maintenance are challenging the sustainability of Nepal's airport network.

Airport sector budget. There do not appear to be any clear budgetary trends in the airport sub-sector. During 1993/94 to 1997/98, total annual budget allocations were about Rs.670 million (the development budget accounted for about Rs.580 million). Budget allocations were recently increased in the airport sub-sector to account for the establishment and operationalization of

CAAN. HMGN anticipates that CAAN will be able to obtain financial sustainability after its first two years of operation. Under the Ninth Plan, CAAN is expected to finance its operations and development of the sector from collected revenues. Actual expenditures in the airports sub-sector have been lower than budgeted allocations. During 1993 to 1997/98, average annual expenditures accounted for 78% of the allocated budget. Reasons for the gap are similar to the road sector (over-programming, project implementation delays, and delays in releasing funds).

Other Issues

Revenues and expenditures of public corporations. Three public corporations were reviewed in conjunction with the PER: the Nepal Transport Corporation (NTC), the Sajha Yatayat, and the RNAC, all of which are operating at a loss. None of these corporations attract investments and their revenue-expenditure ratios are very unfavorable. Recently, HMGN has decided to close down NTC. The experience of other public corporations in Nepal should be taken into account during the operationalization of CAAN.

Decentralization. In 1992, HMGN began efforts to shift many responsibilities traditionally managed by the Central Government to local district and village authorities under a decentralization framework. Among these, construction and management of the local road network (district and village roads) was a key element. However, the political decentralization process has not been adequately supported by the increase of planning and management capabilities at the local level. Consequently, the weak institutional capacity of local government agencies has placed additional constraints on enhancing the effectiveness and efficiency of limited public resources. Implementation of the Decentralization Act (1993) has not been realized and the future success of the recently-passed Self Governance Act (1999) which empowers local governments to collect more taxes will depend on (i) local initiatives to strengthen institutional capacity and technical and financial management expertise and (ii) the ability of the central government to improve monitoring capabilities and guidance to the local governments.

Conclusions and Recommendations

Coordination between the airport and roads sectors. Institutional coordination is needed to improve the operation and delivery of governmental services among the different sectors in Nepal. Institutional coordination is required to efficiently target road and airport development. It is suggested that the Ministry of Works and Transportation (MOWT) manage the policy dimension of the air transportation sector in addition to the road network. It is recommended that the Ministry of Tourism and Civil Aviation (MOTCA) transfer the operational management of the airport sector to CAAN after it is operationalized. Under the new paradigm, MOTCA would not play a role in managing civil aviation. It is expected that CAAN will benefit from institutional strengthening efforts and its autonomy.

Transport infrastructure for Nepal's remote regions. At present, the most economically feasible option to provide basic transport facilities for Nepal's most remote districts would be the construction and upgrading of a network of airport landing strips. It is suggested that viable airstrips be paved and/or lengthened to provide a higher degree of accessibility and safety.

Improve donor coordination. Currently, there are more than a dozen donor organizations involved in Nepal's road sector which contribute up to 60% of the present sector budget. A common road development policy and framework for donor investments would greatly improve development investment efficiency and effectiveness. It is recommended that HMGN use the PIP as the basis for designing a consistent sector development policy and strategic investment plan to implement national development priorities highlighted in the Ninth Plan.

Resource mobilization (road-sector). Resource mobilization has been performing below expectations. General revenues allocated the road sector are supplemented with revenues from toll collection. Total collected toll revenues decreased from Rs.14.6 million in 1995 to Rs.7.8 million during 1997/98. The decline was due mainly to problems associated with toll collection stemming from a shortage of staff and weak enforcement of non-paying vehicle operators. Toll collection operations in Nepal are inefficient and leakage is expected to remain high. A penalty system is being considered for defaulters and collection through private contractors is planned. The establishment of a 'second generation' road fund under the amended Road Board and Fund Act is viewed as a better alternative to generate sustainable revenues for planned and unplanned maintenance.

Resource mobilization (airport-sector). The outstanding balance of aviation-related development loans will be passed onto CAAN. This decision was based on the assumption that CAAN will be a viable public corporation with financial and commercial autonomy. CAAN will not be able to sustain itself without financial support from HMGN for a minimum of 18 months and HMGN should provide sufficient support to guarantee its sustainability. Public corporations have not fared well in Nepal and active measures should be undertaken to ensure that CAAN do not share the same fate.

Public corporations. Current Ninth Plan financing provisions are grossly inadequate in view of the serious capital investment needs of these corporations and their lack of autonomy in pricing policy and management and staffing. Considering the initiatives taken by the HMGN to close down NTC, it is recommended that serious efforts should be undertaken to restructure or privatize the remaining transportation corporations.

Local resource mobilization. The PER confirmed that local resources exist at the DDC and VDC levels. The DDC block grants as well as other financial assistance through the MLD and donors are currently available. The local Self-Governance Act (1999) further institutionalized DDC's capabilities in resource mobilization. It order to improve the efficiency and effectiveness of public expenditures, it is important that local governments focus on building greater institutional capacities to manage their local infrastructure and the central government agencies strengthen their abilities to monitor and provide guidance on decentralization efforts including infrastructure management.

Institutional strengthening. The institutional capacity of various players in project implementation has had a major impact on the effectiveness of public expenditures in the transport sector. The key players in the sector include the Department of Roads (DOR) and the Department of Local Infrastructure Development and Agricultural Roads (DOLIDAR). DOR is still handling many responsibilities that had been transferred to the DDCs and Municipalities

under the Decentralization Act of 1992/93. The recent establishment of DOLIDAR in the MLD was an important step to facilitate the effective transfer of the central responsibility of managing district and village roads from DOR to local governments, with DOLIDAR at the center providing guidance and support. Much work still has to be completed before DOLIDAR and the DDCs will have the capacity to manage their respective responsibilities. Effective institutional strengthening is critical to transform DOR into a service-oriented organization and improve DOLIDAR's ability to manage the road network. Institutional strengthening efforts should be coordinated with civil service reform.

I. INTRODUCTION

1. The review of Public Expenditures in the Transport Sector has been carried out as part of a general Public Expenditure Review (PER) of Nepal which is underway by the Bank in collaboration with His Majesty's Government of Nepal (HMGN) and other stakeholders. The scope of the subject study covers the transport infrastructure sector, focusing mostly on roads and airports since other modes of transport play only minor role in Nepal. The study examines 1) sector planning, 2) budget allocations, 3) resource mobilization, 4) decentralization, and 5) project implementation capacity. The PER aims at identifying ways of increasing the effectiveness of public expenditures in the transport sector by identifying strategies that address the aforementioned constraints.

2. In Nepal, public expenditures in the transport sector have averaged about 10% of the government's expenditure. The large sector allocations reflect the fact that the development of the transport sector has been recognized as a key component in the government's development plans for promoting broad-based economic growth and poverty reduction. As one of the poorest countries in the world, Nepal has limited resources to develop and maintain its transport infrastructure. The resource constraint is becoming tighter in recent years because of the worsening fiscal situation in the country. Improving the effectiveness of Nepal's public investment program in the transport sector thus has very important implications for the development of the sector and for the country as a whole. Against this background, the present study was undertaken to help the government formulate and implement a sustainable public expenditure program in the transport sector in coordination with general public expenditure improvement efforts which addresses Nepal's development/poverty reduction objectives more effectively. The paper includes six main sections covering: sector planning, budget allocation, resource mobilization, expenditure management and project implementation, decentralization and recommendations.

II. TRANSPORT SECTOR OVERVIEW AND PLANNING

3. ***The road network.*** Nepal's transport infrastructure mainly consists of roads and civil aviation. Until the end of 1950s, foot paths and trails used for human portage were the principal means of transport. Investments in transport infrastructure from the mid-1960s to 1980s focused on the construction of new roads which emerged as the principal mode of transportation. The road network has expanded from a total length of about 2,000 km of basic roads in Nepal in the mid 1960s, to a total length of 11,867 km in 1997 (consisting of 3,660 km black-top roads, 3,098 km of gravel roads and 5,109 km of earthen roads). In addition to the main road network, there are about 7,000 km of main trails. Despite efforts to extend the road network throughout the country, 17 of Nepal's 75 districts are still inaccessible by motorable roads. Demand for new road construction continues to be strong and successive governments in recent years have made the extension of the network and the construction of new roads connecting all districts as their key priorities in their development plans. The political decentralization process since 1992 has also raised strong local demand for extension and upgrading of district and village level access roads.

4. Road construction and maintenance in Nepal is difficult and expensive. The fragile mountainous terrain, coupled with numerous rivers and streams crossing, presents many physical and technical challenges. As one of the poorest countries in the world, there are always competing demands on the limited resources of the country, resulting in hard budget constraints for the sector. The low level of economic activities and low traffic volume on the majority of the country's rural road network further limit the economic return for new road projects, making major investment and prioritization in the road network difficult.

5. A country-wide road condition survey in 1996[1] indicated that 80 percent of the bituminous paved sections of the strategic road network (which comprises of National Highways and Feeder Roads) were in good or fair condition. A more detailed survey carried out by the Department of Roads (DOR), which manages the strategic road network, in 1997 revealed that almost 90% of the bituminous paved sections of the strategic road network were in good or fair condition which is a remarkable achievement in recent years. These findings indicate a substantial improvement in the overall condition of the strategic road network as compared to a 1992 estimate[2] which found that only 48% of the strategic road network was in good or fair condition. However, it should be recognized that this achievement was a result of substantial road rehabilitation programs funded by major donors throughout the 1990s. Despite the gradual improvement in the condition of the network, road funding and maintenance continue to be key issues to ensure the sustainability of roads which constitute one of the largest stocks of capital in the country. The recent achievement in the road condition will only be sustainable if the government continues to prioritize road maintenance and undertake planned maintenance of the strategic network, which are now mostly in maintainable condition after the major rehabilitation effort in the 1990s.

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[1] The survey was carried out as part of the work under the preparation of the Priority Investment Plan by the Department of Roads.

[2] Nepal: Expenditures in the Road Sector. Report No. 10988-NEP. January 12, 1993.

6. ***Road sector management.*** In the past, road sector management focused on discrete project interventions led by the requirements of each funding agencies. In that context, project management capabilities were slow in developing and implementation and preparation were often delayed as a result of bureaucratic decision making under an environment of political instability. However, substantial efforts have been underway, through partnership between HMGN and various donors, as part of ongoing projects to assist the DOR to improve its road maintenance management capacity, planning and monitoring capability, and environmental and traffic safety practices. The results are noteworthy, especially with respect to improvement in planning and implementation. The main efforts have consisted of a series of specialized training and studies, services of in-house technical and policy advisors, and technical reviews and audits as part of project monitoring and evaluation. As a result, DOR has been able to develop and improve its basic capabilities to better manage the road capital and resources allocated to the sector. Among others, the recent achievements include (i) establishment of a maintenance planning and programming capacity within DOR, (ii) establishment of a Road Sector Skills Development Unit to address human resource constraints, and (iii) establishment of an effective field program of strengthened maintenance divisions to improve the capacity to program and execute maintenance at the local (division) level.

7. An important development during the past five years is the substantial progress that has taken place in bolstering DOR capacities for environmental assessment, geo-technical and bio-engineering with the establishment of the Geo-Environmental Unit in the DOR. This unit has generated interest among the engineers of DOR and is now an example in the region. The unit has been successful in starting to train and deliver the message to DOR staff of the relevance and importance of addressing environmental aspects of road sector activities early on and throughout the project cycle. More recently DOR has prepared Environmental Assessment Guidelines which includes simple and practical information on environmental processes, mitigation measures and sensitive areas. Geo-technical guidelines are also being developed.

8. ***Road sector finance.*** As part of a world-wide trend of commercializing road management, efforts are underway in Nepal to establish a joint government/private sector road board to oversee the collection and expenditures of road user funds for the maintenance of both the strategic and the local road networks, as well as to initiate the process of commercialization of road management. The amended Road Fund Act to be presented to the Parliament for approval will assist to establish an adequate and stable source of funding for maintenance and will strengthen sector oversight and the effectiveness and efficiency of road maintenance expenditures. However, as with other new initiatives introduced in Nepal, it remains to be seen how effective the Road Fund initiative would be implemented.

9. ***Airport infrastructure.*** Nepal's road transport system is supplemented by an extensive but rudimentary network of 44 airports, with the Tribhuvan International Airport (TIA) in Kathmandu as the central hub of Nepal's aviation system. In addition to the TIA, there are five other regional airports, and the rest of Nepal's 44 airports are either short take-off and landing (STOL) air-strips or Helipads. Given its geographical constraint, air transport is the only practical transportation option for many remote towns and villages in the mountainous areas of the country. Following the Government's adoption of a liberalization policy in 1992, air services

to remote areas not served by roads have seen considerable growth in recent years, with private sector operators providing the bulk of the services. Despite substantial growth and improvements since 1992, the condition of most airports and airfields remains rudimentary. The majority of the small airports including 25 STOL airfields have only minimal level of services, basic physical infrastructure and navigation aids and safety standards are typically low. As a result of the rapid growth and inadequate maintenance, the sustainability of airport facilities have increasingly become a major concern, which has to be strengthened with public investment.

10. *CAAN.* In addition to the physical expansion, civil aviation has been undergoing a major reform in recent years. The central theme of which is the establishment and operationalization of the Civil Aviation Authority of Nepal (CAAN) as a government-owned autonomous and commercial entity to manage the country's civil aviation system. On the financial side, apart from the TIA, all regional airports and small airfields are operating at a loss. The viability of CAAN is therefore seriously threatened by the requirement that it has to build, operate and maintain unprofitable regional airports. Cross-subsidization is considered necessary because of civil aviation's mandate for social equity and balanced regional development. The CAAN currently lacks the appropriate financial, management and supervisory skills to effectively and profitably deliver a high level of airport and regulatory service to the industry.

11. ***Prioritization in the transportation sector.*** The Government has given high priority to improving the transportation network. Recent data indicate that substantial investment has been achieved in the transport sector in development expenditure programs. Between 1991 and 1998, expenditures in the transport sector accounted for an average of about 10 percent of total government expenditures. This compares to the average sector expenditures of about 8% per year during the period of 1985-1991, reflecting higher emphasis in the sector. Development of roads and airports constitutes two basic areas of transport sector development. Compared with roads and civil aviation, other modes of transport play only minor roles, and they will not be the subject of this study.

12. Despite the importance of the sector in the government's public expenditure program and the strong demand for the expansion of transportation infrastructure, until the early part of the decade of the 1990s there had been an absence of a nationally-accepted master plan for the development of the transport infrastructure. Past road sector plans had been very ambitious and unrealistic in the context of limited institutional capacities and resource availability. Investment decisions were often made based on political considerations. There had not been a medium-term expenditure framework for the development of the sector that links the sector investment program with the identified development priorities of the government's five-year development plans. Because of the high degree of dependence of the road development budget on donor funds, investment decisions were often made when donor funds were available. To improve the effectiveness of the public investment in the sector, it is imperative that investment priorities be linked to growth and poverty reduction by focusing on projects that would sustain growth, generate employment, and increase agricultural production.

13. ***Priority Investment Plan.*** In an effort to provide a rational basis for road sector planning, a Priority Investment Plan (PIP) was developed with International Development Association (IDA) assistance in early 1997 as a master plan for the development of the strategic and rural road network for the period of 1997-2006. The PIP assessed resource constraints,

funding requirements, the sustainability of investment projects in Nepal, and the environmental impact and policy considerations of road construction and maintenance. The PIP has gained acceptance from Government, the Bank and other donor agencies, and has been adopted as the guide for road development activities during the next decade. The criteria recommended in the PIP should help create a basis for the selection of high priority road projects. The completion of the PIP provided the much-needed support for effective planning in the road sector. The challenge in the coming years is the execution of the public expenditure program in the transport sector in accordance with the PIP. For the strategic network, the DOR needs to strike a better balance among new feeder road construction, maintenance of the existing roads, and making expenditure decisions based mainly on technical and economical criteria as defined in the PIP, together with the objective of social equity and balanced regional development. In the rural transport network, under the responsibility of local bodies, decentralization of decision-making process at the local level has to be supported by capacity building of local government entities, making them responsible and accountable.

14. The completion of the PIP provided the starting point for the formulation of a medium-term expenditure framework for the sector. However, the PIP was prepared primarily using a project-based approach rather than a policy-based approach. There was no clear long-term national road policy for the country to guide the preparation of the PIP. As a result, there are still some gaps that would require better coordination between the PIP and the Agricultural Perspective Plan (APP) of 1995 which also outlined a medium-term development plan for the rural roads network in the country.

15. ***Construction versus maintenance.*** Until recently, government policies for transport sector development favored spreading thinly the public resources of the development budget for construction of new roads rather than properly maintaining the existing road network. This reflected the political rather than the economic realities. In the airports sector, emphasis has been on improving the existing airfields and main attention has been given to the improvement in the Tribhuvan International Airport (TIA). The rapid expansion of the road network in Nepal between the 1960s and 1990s was achieved, to some extent, at the expense of road maintenance and rehabilitation, resulting in rapid deterioration of the road network. The strong political demand and balance regional development consideration for expansion of the network, coupled with resource constraints, contributed to insufficient attention and funding for road maintenance. To some extent, this problem has recently been corrected in the case of the strategic road network through a combined effort of DOR and the external funding agencies involved in the strategic road network. Furthermore, the design and construction standards adopted at times can be unnecessarily high compared to traffic demand, thus requiring high level of maintenance, which exacerbated the maintenance problems.

16. It is estimated that Nepal needs to spend up to about Rs. 1.0 billion per annum to carry out recurrent and periodic maintenance of its road network. In the fiscal year of 1998/99, the budget allocation for the maintenance is about Rs. 420 million (excluding donor-funded road maintenance projects), less than half of the estimated requirement. Differentiating between strategic and rural road networks, maintenance allocations are substantially higher in the case of the strategic road network, and implementation capacity for the strategic roads is distinctively better than that for local roads. Budget allocations for road maintenance during the Eighth Plan

were also similarly well below requirements. At times, allocations of local resources for maintenance were diverted to new road construction and road upgrading. Since the late 1980s, there has been a recognition by HMGN and the main donor agencies involved in the strategic road network that the annualized cost of road reconstruction and rehabilitation was three to four times the cost of foregone maintenance. Therefore substantial efforts have taken place during the last ten years to rehabilitate the existing strategic road network to a maintainable condition and then to execute planned maintenance. These efforts have resulted in gradual improvement in the efficiency and effectiveness of use of limited resources for maintenance.

17. The overemphasis on new construction and upgrading during the 1980s and during the Eighth Plan, and the lack of a sound roads development policy at the national level led to: (i) construction of roads on a discrete basis using donor funds as and when available; and (ii) limited road maintenance activities often resulting in rapid degradation of road pavement, and premature rehabilitation /reconstruction needs. Until the development of PIP, there was no master planning practice in the road sector, and there was no data-based roads management information system for the construction and maintenance of the road network. This situation is similar to that in other sectors of the public expenditure program where activities are often influenced by *ad hoc* decisions rather than planned systematic operations. For instance, the Ninth Plan document indicates that during the Eighth Plan 1,092 km of roads were completed against the planned target of 1,778 km; but an additional 1,771 km of unplanned roads were built in that period. This is a clear indication of resource allocation at an ad hoc basis, often based on political intervention. Recently, however, and as a result of efforts by HMGN and donors during the last five years, there is a more coherent sector priority plan, and a basic maintenance capacity for planning, programming, budgeting, prioritization and execution of all types of maintenance activities (i.e., periodic, routine, and emergency) of the strategic road network.

18. ***The Ninth Plan.*** The current Ninth Plan (1998-2002) sets the following priority orders in the development of transport sector:

i). Maintenance of national highways and north south feeder roads;
ii). Completion of strategic roads in the West;
iii). Extension of agricultural and rural Roads;
iv). Construction of access roads to the projects of national importance;
v). Development of inland container depots;
vi). Institutional strengthening of department transport management;
vii). Vehicular emission control;
viii) Strengthening construction industry and contract administration;
ix) Development of potential transport infrastructure for tourism development.

19. In the road sector, the long-term Plan (1998-2017) of the National Planning Commission (NPC) states that in the next 20 years priority should be given to construction of roads connecting district headquarters (HQ), agricultural and other roads connecting production and market centers and tourist routes. It aims at, by the end of the Twelfth Plan (2013-2017), completing additional 12,000 km of roads with an annual construction of 600 km including district HQ connecting roads. The major policies for roads sector during the Ninth Plan includes a 20-point program which contains the following main components: upgrading of roads with high traffic, construction of roads contributing to the development of agricultural and other production

centers, identification of social roads contributing to poverty alleviation, initiation of low cost and environment friendly road system, development of an integrated transport system network plan, measures towards reduction in vehicle operating costs through proper maintenance of roads. While the policy objectives of these long term plans may be sound, they were not prepared within the framework of a resource envelope, and appear to be unrealistic as in the past. More emphasis is required on developing initiatives that will secure the sustainability of past investments.

20. ***Decentralization.*** Since 1992, the Central Government of Nepal has shifted many responsibilities to the local district and village authorities under the decentralization framework. In Nepal, rural development through local initiatives has been emphasized by successive governments. These initiatives are based on the observed experience that local communities are more responsive to their own needs, and thus are more effective in undertaking development projects to reduce poverty as compared to the Central Government. Along with the increased responsibilities, local authorities have also obtained more resources from the central government. Competing demands for limited public sector resources, however, often result in difficult budget constraints between the central and local governments. The weak institutional capacity of local government agencies places additional constraints on enhancing the effectiveness and efficiency of limited public resources. Mechanisms designed for improving the effectiveness and efficiency of public expenditures must take into account the changing environment where local authorities are increasingly responsible for managing and/or providing government services. A competitive environment for resource access, based on responsibility and accountability, should be created in order to achieve efficiency and greater impact on poverty reduction.

III. BUDGET ALLOCATIONS IN THE TRANSPORT SECTOR

21. ***The road sector budget.*** Resource allocation for roads is made under two types of budgets: regular (recurrent) and development. Regular budget allocations fund mainly routine maintenance and administrative expenses for central, regional and divisional offices. The development budget consists of programs for new construction, upgrading and rehabilitation, periodic maintenance, bridges, equipment, and training. The annual road sector budget has increased at an average rate of around 12 percent during 1991 to 1999 in nominal terms. However, its share in the total national budget has dropped from around 10 percent during 1991/92 to around 8 percent during 1998/99. If this trend continues, the total annual budget for the roads sector should increase from the present annual level of Rs.5.3 billion to around Rs.6.0 billion at the end of Ninth Plan (2002). In addition, donor contributions (including loans and grants) for the road sector have increased from Rs. 1.3 billion during 1991/92 to Rs. 3.6 billion during 1998/99 (an annual increment of 16 percent). In the 1990s, donor agencies have contributed to over 60% of Nepal's road sector budget. Similarly in the 1970s and the 1980s, donor funding had been at the level of supporting about two thirds of Nepal's road budget, indicating Nepal's heavy dependency on donor support for the development of its transport sector. A summary of this trend is illustrated below in Table 1.

Table 1 : Trend of Road Sector Budget and Financing (1991/92 - 1998/99)

(Rs. million)

	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99*
Road Development Budget	2400	2809	2634	3115	3887	4667	4662	5145
Road Regular Budget	161	118	118	148	174	172	178	184
Total Roads Budget	2561	2927	2751	3264	4061	4839	4840	5328
HMG/N Contribution	1246	1126	947	1012	1725	1706	1713	1733
Donor Contribution	1315	1793	1816	2156	2321	3132	3127	3595
Donor Contribution(%)	(51.35)	(61.26)	(66.01)	(66.06)	(57.15)	(64.73)	(64.60)	(67.47)
Total National Budget	26418	30898	33597	39060	46542	50724	57707	69693
Percentage on Road	(9.69)	(9.47)	(8.19)	(8.36)	(8.73)	(9.54)	(8.39)	(7.65)

* Allocation only.

Source: DOR, Ministry of Finance, and Priority Investment Plan, 1997.

22. As for the composition of the road budget as well as their financing, Table 2 shows a detailed analysis of the pattern in the last two years. The overall annual road sector budget during 1998/99 was Rs. 5.3 billion, of which Rs.1.3 million was allocated for new construction under development expenditure of which donors funded Rs. 796 million (61%). A total of Rs. 3.3 billion was to be spent on reconstruction and periodic maintenance, from which the donors would fund 75%. This pattern reflects the donors' increasing emphasis on supporting the rehabilitation and maintenance of the existing network. As the donors have moved towards funding the maintenance and rehabilitation of existing roads, HMG resources have concentrated on network extension and upgrading on many fronts with relatively low efficiency.

Table 2: Composition of Road Sector Budget and Financing (1997/98 - 1998/99)

(Rs. million)

	Allocated Budget of 1997/98				Allocated Budget of 1998/99			
	Total	HMG/N	Foreign Grant	Foreign Loan	Total	HMG/N	Foreign Grant	Foreign Loan
Regular Expenditure	**178**	**178**	**0**	**0**	**184**	**184**	**0**	**0**
Ministry of Works & Transport	5	5	0	0	5	5	0	0
DOR	156	156	0	0	161	161	0	0
Routine Maintenance	40	40	0	0	40	40	0	0
Dept. of Transport Management	16	16	0	0	17	17	0	0
Development Expenditure	**4662**	**1536**	**1114**	**2013**	**5145**	**1550**	**1225**	**2370**
New Construction	1190	625	281	284	1301	505	266	530
	(25.53)	(52.55)	(23.61)	(23.84)	(25.28)	(38.84)	(20.45)	(40.71)
Reconstruction and Maintenance	2834	728	509	1597	3328	833	670	1826
	(60.78)	(25.69)	(17.96)	(56.35)	(64.69)	(25.01)	(20.13)	(54.86)
Bridges	505	129	321	55	429	156	268	5
	(10.83)	(25.52)	(63.59)	(10.89)	(8.33)	(36.40)	(62.43)	(1.17)
Miscellaneous	133	53	3	78	87	56	21	10
	(2.86)	(39.90)	(1.88)	(58.22)	(1.69)	(64.37)	(24.14)	(11.49)
Grand Total	**4840**	**1713**	**1114**	**2013**	**5328**	**1733**	**1225**	**2370**

Note: The numbers in the parentheses are percentage of total.
Source: DOR and Ministry of Finance as cited in Priority Investment Plan, 1997.

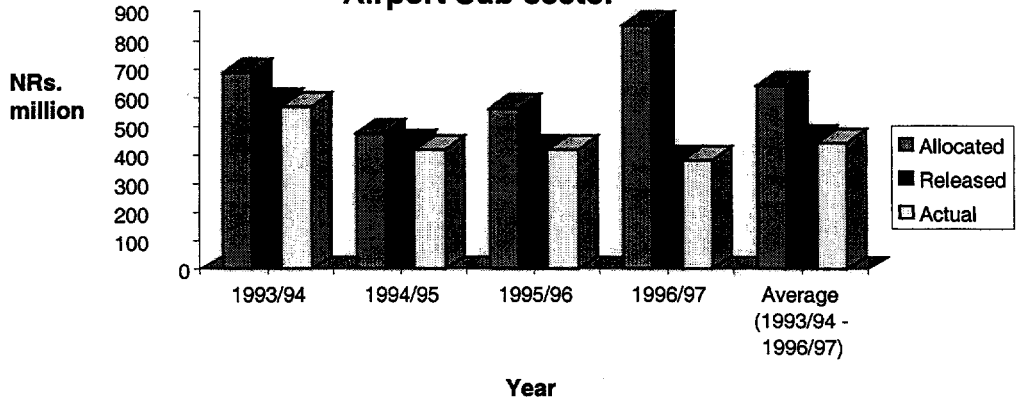
23. ***Allocations versus expenditures for roads.*** Although budget allocations for the road sector have been increasing, actual expenditures have been consistently below allocations. During the period from 1992/93 to 1997/98, actual annual expenditures in the road sector averaged about 72% of the annual sector budget, although this percentage has significantly increased from 50% in 1992/93 to 87% in 1997/98, indicating an increased capacity for execution especially in the strategic road network. The consistent gaps between allocations and expenditures can be attributed to: (i) over-programming in comparison with available resources; (ii) project implementation delays as a results of poor contractor capabilities and coordination among different line agencies; and (iii) delays in releasing funds by the Ministry of Finance (MOF). Due to financial resource shortfalls, the MOF at times withholds or delays the release of allocated budgets, which often leads to project implementation delays. The continuous gaps between budget allocations and actual expenditures have been a sign of weakness in the budget process. It undermines the principles of predictability and transparency of a sound budgeting system.

24. ***The airport sector budget allocations.*** Resource allocation for airports is made under two types of budgets: regular (recurrent) and development. In recent years, the annual airport sector budget has varied from the low of Rs 474 million in 1994/95 to Rs. 1,329 million in 1998/99. There does not appear to be a clear trend in the growth rate of the budget for the sub-sector. On average, during the period 1993/94 to 1997/98, the annual total budget allocations for the airports sector was about Rs. 670 million, of which the development budget accounted for about Rs. 580 million. The sudden increase in budgetary allocation in 1998/99 for the sector reflected the need for the establishment and operationlization of the CAAN in the same fiscal year. After government's budgetary support for CAAN in the initial two years of operation, it is

anticipated that CAAN will be able to obtain financial self-sufficiency, and there will not be continued budgetary support for the sector. CAAN is expected to finance its operations and the development of the sector from the revenues collected from the sector.

25. ***Allocations versus expenditures for airports.*** Similar to other sectors, the actual expenditures in the airports sector have been lower than the budgeted allocation. For the period of 1993/94 to 1997/98, the average annual allocation for the sector was Rs.670 million, while the actual average annual expenditure was Rs. 512 million, representing 76% of the budget allocation. The causes for the gap between budget allocation and expenditure in the civil aviation sector (over-programming, project implementation delays, and delays in the release of funds) are similar to those in the road sector. Figure 1 shows the consistent gaps among allocated, released and actual expenditures in the airport sector.

Fig. 1 : Allocated, Released and Actual Expenditures in Airport Sub-sector



Source: Department of Civil Aviation.

26. ***Sustainable airport infrastructure.*** Airport sector development in Nepal has been recent and the emphasis of the Seventh Plan was on improvement of the existing airfields rather than the construction of new ones. Special attention has been given to the development of TIA in Kathmandu. With the promotion of air traffic in the existing regional airports and the STOL airfields, the government has aimed at strengthening tourism and facilitating air transport to mountainous and remote areas in all development regions. STOL airports, vital for tourism industry, particularly in Khumbu, Mustang, Langtang and Annapurna regions, have been developed for more reliable and regular air services.

27. During the Eighth Plan, a total of Rs. 2,690 million (at 1991/92 prices) was spent in the airports sector which was 17.3 percent of the total expenditure on transport sector, and 3.1 percent of the total development expenditure made under the Eighth Plan. Most markedly, the liberalization of civil aviation policy adopted by HMG during the Eighth Plan period led to the opening up of private airlines in 1992 in the aviation. Since then, fourteen domestic private airlines have entered into the domestic operations, breaking up the monopoly of Royal Nepal Airlines Corporation (RNAC). In 1998, one private domestic airlines started international route

services to India. During the Eighth Plan, Nepal witnessed a substantial increase in aircraft fleet strength of 70%, and a significant growth of passenger movement of 57%. It was also noted that despite the existence of relatively extensive road link, traffic movement in the airports at Terai plains (e.g. Bharatpur, Biratnagar and Nepaljung) had increased by more than 100 percent during 1993-94. Civil aviation has played an increasingly important role for promoting tourism and connecting remote areas where roads are not accessible. The rapid expansion of the civil aviation sector during the Eighth Plan demonstrated its strong growth potential to complement road transport specially in remote areas.

28. It was realized during the Eighth Plan period that due to unprecedented growth in civil aviation activities, consequently resulting in excessive pressure to the regulatory authority, the Department of Civil Aviation (DCA) faced tremendous challenges in coping with immediate improvements of airports, upgrading and additions to aeronautical facilities besides the need for developing appropriate operational and flight safety standards. Thus, in addition to undertaking a number of physical improvement projects in the TIA and some major regional airports, the HMG also embarked on transforming the DCA to an autonomous and commercially-oriented authority. A comprehensive national Civil Aviation Policy was introduced in 1993, covering a wide range of provisions for the safe and efficient development of air transport, commensurate with liberal sky policy and deregulatory environment.

29. ***Budget allocation decisions.*** As per the HMG Financial Rules (1985) the concerned ministries are responsible for the decision-making for their respective plans and programs. The Central Government provides guidance to the ministries in the National Plans (the five-year plans) which outline objectives, targets, plans, and programs for each fiscal year. The Ministry of Works and Transport (MOWT) makes decisions regarding new construction, maintenance and rehabilitation of the road network, while Ministry of Tourism and Civil Aviation (MOTCA) is responsible for the airports. Donor agencies are consulted in the decision process particularly through consortium meetings. Increasingly, the lead in investment planning is originating from HMGN's own initiatives, reducing the donor push for individual initiatives.

30. The National Planning Commission (NPC) has the overall responsibility for preparing medium term plan strategies and guidelines to be finally approved by National Development Council (NDC) represented by various political parties, academicians, trading institutions, Government departments etc. and chaired by the Prime Minister. The NDC issues broad guidelines and strategies for national development in close consultation with MOF. The NPC makes preliminary resource requirement assessments based on the external resource availability and the domestic resource mobilization potential. The NPC also has the responsibility for inter-ministerial coordination, and for consultation with civil society and private sector bodies. The DOR and DCA prepare annual action plans, projection of financial, manpower and other resources requirements after internal discussion within their departments. Then the NPC finalizes the plan document and submits it to cabinet meetings for final approval. The document finally becomes a basis for annual sectoral plans and programs.

31. A tentative budget ceiling is set by MOF for MOWT and MOTCA based on recommendations of the resource committee constituted of representatives from MOF and NPC.

The MOF has the authority to approve or to alter it, on the basis of resource availability and annual budget ceiling. MOWT and MOTCA then co-ordinate their departments to determine the priorities and targets. The central, regional and division level plans are prepared for rehabilitation and maintenance expenditure of national highways and feeder roads. The planning of district and village level roads since 1993 were in theory to be implemented by the DDCs and VDCs under the Decentralization Act and DOR no longer assumes responsibility for the construction of these roads. In practice, DOR still has a considerable role in the planning and construction of local roads because of the weak capabilities of DDCs.

32. The budget release process starts with an advance fund release of one sixth of the proceeding year's expenditures at the beginning of each fiscal year followed by trimesters (July-August, November-December, and March-April) conditional to the submission of expenditure statements. The Financial Comptroller General's Office, upon receipt of authority letter from the MOF, authorizes the District Treasury and Account Control Offices to release funds to divisional and regional offices of the line ministries based on approved annual expenditure programs.

33. There are three main concerns regarding the budget planning and allocation process in the road sector in Nepal. First of all, stated government policies/criteria often contradict actual budget allocations (which are often based on political influence and reflect the need for a nationally-endorsed plan for strategic road development). Secondly, road sector development strategies have traditionally favored the extension of the road network as opposed to rehabilitating and maintaining the existing network. However, there has been a recent initiative to allocate budget for maintenance of the strategic network based on road condition and traffic. Thirdly, procedural, regulatory, and administrative constraints have led to unnecessary budget planning and processing delays.

34. ***The road sector under the Ninth Plan.*** Due to continued emphasis placed by the donors for road maintenance and rehabilitation needs, around 60% of total roads sector budget has been directed towards these activities. The Ninth Plan expenditure breakdown for the road sector shows that road reconstruction, upgrading and maintenance have received 47% of the total roads development budget against 27 % for new construction and rehabilitation. A summary of the road sector development budget allocation under the Ninth Plan is shown in Table 3.

35. The total road development budget for the Ninth Plan amounted to Rs. 23 billion. Comparing to an allocated development budget of Rs. 17 billion and actual expenditures of Rs. 12 billion for the Eighth Plan, the Ninth Plan road development budget represented a drastic nominal increase of 40% and 90%, respectively, over the allocated budget and actual expenditure of the Eighth Plan. This ambitious program does not appear to be realistic given the constraints on resource availability and on implementation capacity of the government agencies. As in the past, actual expenditures in the sector during the Ninth Plan are likely to be lower than the Plan budget target.

36. To address the problems confronting the transport sector, the Ninth Plan promised concrete steps regarding the reduction of cost in construction and maintenance of the national transport system, development of a complementary transport network, and construction of roads in remote area to alleviate poverty and regional disparities, linking roads to production and

tourism areas, etc. A total of Rs. 29,440 million has been allocated to the transport sector which constitutes around 15 percent of total development expenditure of Rs. 189,580 million; of the total allocation for transport, 85 percent is earmarked for the roads network. Of the sources of financing for transport sector development, 47 percent of the funds are envisaged to be provided by external donors under the Plan, which indicates the downward trend of dependency on donor funding for the strategic road network. This is expected after the strategic road network has been completed and well developed. Moreover, the funding by external donors has in recent years shifted away from large projects (strategic road network rehabilitation and maintenance) to smaller interventions (local and rural road maintenance, upgrading and some construction).

Table 3: Road Infrastructure Budget Allocations Under the Ninth Plan

(1997/98-2001/02)

Programs	Total Allocation (Rs. million)	Share of Total Allocation
1. **Road reconstruction upgrading and maintenance**	**10,916**	**47.25**
Upgrading and rehabilitation	8,915	38.59
Other maintenance	2,001	8.66
Natural disaster road and bridge rehabilitation	728	3.15
Off-road maintenance	546	2.36
Routine maintenance	546	2.36
Protection and control of road encroachment	182	0.79
2. **New road construction and rehabilitation**	**6,182**	**26.77**
District headquarters link road	3,275	14.17
Other roads	2,183	9.45
Kathmandu valley Urban roads	728	3.15
3. **Bridge construction and protection**	**1,637**	**7.09**
4. **Village/Rural road construction**	**3,710**	**16.06**
Other road construction and rehabilitation (Local agricultural roads)	2,183	9.45
Suspension bridge (main road)	255	1.10
Local Rural/Village road (tractor roads) survey and maintenance	525	2.27
Trail road survey, construction and maintenance	34	0.15
Suspension bridge (Local road)	714	3.09
5. **Miscellaneous**	**655**	**2.83**
a. Survey, design and study	109	0.47
b. Machinery equipment management and repair	327	1.42
c. Others	218	0.94
Grand Total	**23,104**	**100.00**

Source : Ninth Plan Roads Development Draft Committee, National Planning Commission, 1998.

37. ***The airport sector under the Ninth Plan.*** Under the Ninth Plan, a total of Rs. 4,280 million has been allocated to the airports sector which is 14.5 percent of the total expenditures allocated to the transport sector and 2.26 percent of the total development expenditures under the Plan period. These percentages are slightly lower than those under the Eighth Plan, probably

reflecting the government perception that the CAAN, once operationalized, is expected to become financially self-sustaining, and will rely less on public expenditure financing (although this is not realistic in the short term). It also reflects the government's emphasis on encouraging private sector participation in the provision of airport services. It was also planned that a feasibility study for a second International Airport will be completed and construction started during the Ninth Plan. At present, the CAAN has just been officially established and is not yet fully operational. CAAN is to proceed with normal government budget arrangement until its full financial self-sufficiency aimed to be attained after 18 months of its operation. The immediate challenge for the government is to ensure CAAN operates as a truly autonomous and financial self-sustaining entity for managing the civil aviation sector, with improved financial control and higher degree of accountability in comparison with a government bureaucracy.

38. In the airport sector, under the Ninth Plan, the broad policy framework for the Tourism and Civil aviation development has specifically outlined the airports development policy which includes: National/foreign capital investment in internal/external air services; privatization of airport services, trans-Himalayan air services, and the extension of air transport complex in the airports. Hub airport development in Biratnagar, Bhairahawa, Nepaljung and Pokhara is being prioritized and four new airports in remote areas are being planned.

39. The commitment for the establishment of CAAN was made by the Government in the budget for FY 1998/99, and the CAAN was officially established in December 1998. However, CAAN is yet to be operationalized. A number of administrative and financial issues have been raised which include difficulties associated with the recruitment and adjustment of staff to the CAAN as the CAAN provision fully empowers the DCA staff to elect CAAN; initial financial commitment of the Government for the establishment of CAAN at least for its 18-month period because all other airports were in loss except the TIA. Although the administrative issues can be addressed through certain adjustments in the forms of by-laws and regulations, the financial issues seem very crucial and need adequate attention by the Government.

40. Other transport development policies under the Ninth Plan include strengthening public transport corporations in surface and air transport, including rope-way, railway and vehicle services, as well as feasibility studies towards waterways.

IV. RESOURCE MOBILIZATION

41. In recent years, actual budget allocations for the road sector have been consistently below the planned allocation for the sector as indicated in the Eighth Plan. Although the difference can be partly explained by the over-programming of the Plan, the major reason for the shortfall in the actual budget allocations has been the result of a resource gap and hard budget constraints. Domestic resource mobilization has been performing below expectations. Project implementation delays have led to delays in the release of donor funds which are tied to project implementation progress. The Ninth Plan envisaged that a total of Rs. 23 billion will be required for the development budget of the road sector, an annual average of Rs. 4.6 billion in 1997 prices. In contrast, the estimated actual expenditure for the road sector in 1996/97 was Rs. 3.9 billion, for which donors funded 64% (or Rs. 2.5 billion). Assuming donor assistance to the sector remains flat at 1996/97 levels, there will be an expected resource gap between the planned expenditure and actual resources available in the sector.

42. ***Revenues and budget allocations for roads.*** Revenue and expenditure in the road sector are not related as they are treated under separate income and expenditure categories of the national treasury. Revenue from the road sector, including custom duties and taxes on vehicles, spare parts, road tools, amounted to Rs. 397.5 million during 1985, and rose to Rs. 1,058 million during 1991, and to Rs. 2,321 million in 1996/97.

43. The general revenues of the road sector are supplemented by the revenues from toll collection in a few strategic highways. The toll revenue totaled Rs. 14.6 million in 1995 but decreased to Rs. 7.8 million during 1997/98. The decline was mainly due to problems associated with toll collection which included shortage of staff and weak enforcement on non-paying vehicle operators. The efficiency of toll collection in open access facilities is often low. Moreover, with low volumes of traffic the leakage are expected to remain high. Strict measures of penalty system are being considered for defaulters and collection through private sector contractors is being planned.

44. ***Revenues and budget allocations for airports.*** In the airport sector, an annual average revenue from the airports was recorded as Rs. 461 million compared to the average annual expenditure of Rs. 446 during 1993/94-1996/97. The revenue generated was larger compared to the HMG expenditure, but they are not directly related as the aviation sector was managed by DCA as a government department. However, the HMG expenditure in the airport sector excluded interest and principal payment obligations HMG accumulated in the past for financing the expansion of TIA and a few regional airports. After transformation of DCA into a commercially viable and market oriented CAAN, the Government has stated that the outstanding balance of aviation-related development loans (foreign exchange loans) will be passed on to CAAN. This decision was based on the perception that CAAN is to be established as a viable public corporation with financial and commercial autonomy. However, there has to be a governmental commitment towards CAAN's financial resource needs during CAAN's initial set-up phase of at least 18 months. Without drastic change or government support, the cash flows of CAAN will not be in a position to support its outflows in the initial period.

45. ***Revenues and expenditures of public corporations.*** The three public corporations studied in the transport sector, i.e. the Nepal Transport Corporation (NTC), the *Sajha Yatayat* (an autonomous transport cooperative), and the RNAC show that these corporations in general seriously lack investment and that their revenue-expenditure ratios are largely unfavorable. In view of the serious capital investment needs of these public corporations and their lack of autonomy in pricing policy,

management and staffing, the current Ninth Plan financing provision seems to be grossly inadequate. Several possibilities exist regarding enhancement of their efficiency and revenue: capital investment, greater autonomy in their operations, or privatization of these entities.

46. To examine the revenue-expenditure ratio in the transport sector during the Eighth Plan period, the following Table 4 was constructed.

Table 4: Revenue and Expenditure in Roads, Airports and Public Transport Corporations During the Eighth Plan Period (1992/93 – 1996/97)

(Rs. '000)

Headings	1992/93	1993/94	1994/95	1995/96	1996/97	Average
Transport Sector						
Roads Sub-sector						
Expenditure on Roads Sub-sector	1468676	1449053	1871736	3329859	5135301	2650925
Regular Expenditure (Actual)	104176	104036	133442	147817	152061	128307
Development Expenditure (Actual)	1364500	1345017	1738294	3182042	4983240	2522619
New Construction	423782	657072	924151	1162376	1876381	1008752
Reconstruction and Maintenance	857420	673093	742896	1876297	2962555	1422452
Other expenditure	83298	14852	71247	143369	144304	91414
Revenue from Roads Sub-sector	1351360	1428370	1744040	2059330	NA	1645775
Revenue/Expenditure Ratio in Roads in %	92.01	98.57	93.18	61.84		86.40
Airports Sub-sector						
Expenditure on Airports Sub-sector	NA	565901	418804	419249	379360	445828
Regular Expenditure (Actual)	NA	57967	62506	69787	79998	67565
Development Expenditure	NA	507934	356298	349462	299362	378264
Revenue from Airports Sub-sector	NA	354400	394500	532700	563400	461250
Revenue/Expenditure Ratio in Airports Sub-sector in %	NA	62.63	94.20	127.06	148.51	103.46
Public Transport Corporations						
Nepal Transport Corporation (NTC)						
Expenditure	NA	132526	78107	121191	80400	103056
Income	NA	125820	73352	101876	51359	88102
Income/Expenditure Ratio of NTC in %	NA	94.94	93.91	84.06	63.88	85.49
Sajha Yatayat (Transport Cooperative)						
Expenditure	75108	80361	99865	120276	126049	100332
Income	107520	85839	106385	116232	117029	106601
Income/Expenditure Ratio of Shaja Yatayat	143.15	106.82	106.53	96.64	92.84	106.25
Royal Nepal Airlines Corporation (RNAC)						
Operating Expenses	3029148	3334694	3769207	4421075	4453242	3801473
Operating Revenue	3370547	3500002	4109663	4791433	5044273	4163184
Revenue/Expenditure Ratio of RNAC in %	111.27	104.96	109.03	108.38	113.27	109.51

Source: DOR; Department of civil Aviation; Nepal Transport Corporation, Kathmandu; Shaja Yatayat, Lalitpur; RNAC Central Office.

* The sources of revenue from roads sector include custom duties, Indian excise duty, fuel and lubricant taxes, road and bridge maintenance tax, vehicle tax, fuel custom duties, DOR road toll etc.

47. The revenue-expenditure ratio shows that there was a small deficit in the road sector during the Eighth Plan period based on the estimates of revenue available. The road sector income accounts for about 86.4 percent of the actual expenditure but has a potential to generate more than what was spent in the sector. The growth rate of actual expenditure in the road sector was much higher than the growth rate of revenue due to the high demand for network development. In the airports sector, however, the revenue is increasing. Table 4 indicates that the actual expenditures in the airport sector were higher than income in the initial years of the Eighth Plan period (1993/94 and 1994/95) but at the later period of the Plan (1995/96 &1996/97), the income was higher than the expenditure. In the public transport corporations, all entities are in loss in most of the years. Since the mid 1990s, the financial position of RNAC has also deteriorated rapidly in recent years, with its operating loss reported at Rs. 121 million in FY 1996/1997. The average income-expenditure ratio of *Shaja Yatayat* shows that it made little profit during the Plan period, and its average income-expenditure ratio was 106.5 percent. *Shaja Yatayat* was in high profit in the initial year of the Plan, but at the later period it went on decreasing and faced loss in the year 1995/96 and 1996/97. Similarly, the income expenditure ratio of NTC shows that it has been in loss and the expenditure has been growing faster than the income in recent years.

48. Facing the growing financial burden of NTC on the government's budget, in August 1999, the Government decided to adopt a strategy of gradually curtailing NTC's operation and dissolving it by May 2000, on the basis of the recommendations of a committee constituted in April 1999 to find a permanent solution to the loss-making organization. The NTC has four service wings under it: rope-way, truck and container, trolley, and railway. The ropeway and trucking and container services were to be closed in two months; while the trolley and railway services were to be converted into separate autonomous companies in four months, and the central office of NTC was to be closed in one year. The outstanding loan of the NTC was to be paid off by selling NTC's assets and property.

49. ***Ensuring adequate funding for maintenance through a road fund.*** Currently, the main road user revenues are fuel tax and vehicle licensing, taxes and duties, but road user charges in Nepal do not relate directly with road expenditure nor road maintenance. A modest complement to the road user revenues has been established by a toll road fund enacted in 1995. The current toll revenues amount to only 2-3% of maintenance requirements and the HMG is currently considering expanding toll collection. To address the problem of chronic insufficient funding for maintenance, a mechanism for earmarking road user revenues for maintenance is considered prudent. In this respect, a more substantial approach to capture additional revenues for the sector is being developed through the enactment of a Nepal Roads Board Act and establishment of a road fund board under the principles of the "second-generation" road fund. The Roads Board Bill to be passed by parliament will assist in establishing an adequate and stable source of funding for maintenance and will strengthen the sector oversight and the effectiveness and efficiency of road maintenance expenditures. This effort will be supported during the implementation of the Road Maintenance and Development Project (IDA Credit 3293-NEP) and will help increase the efficiency of road sector revenues and expenditures.

50. Under the Nepal Roads Board Act, a joint government/private sector road board will be established to oversee the collection and expenditures of road user funds for the maintenance of both the strategic and the local road networks. The main functions of the board, as per the draft legislation, would be to administer and manage the Road Fund, improve arrangements for collecting the road-user charges, recommend readjustments in road tariffs, and allocate funds to various road agencies. The legislation proposes to raise funds in the form of road user charges and a fuel levy. To prepare for the establishment of the Road Board, the Government formed an 11-member Road Management and Finance Reform Implementation Committee under the convenorship of President of the Federation of Nepalese Chambers of Commerce and Industry (FNNCI) in February 1999. This Committee has presented the draft legislation for consideration by the Government.

51. ***Private sector participation.*** The Government is trying to encourage private sector investment to develop commercial road transport projects, although it is not envisaged that with the low level of traffic private sector investments would become a viable alternative to public investment for road construction or maintenance. None of the country's key highways carry a traffic volume of over 5,000 vehicles per day, hardly enough to attract private sector interest in exploring concession arrangements. The exception may be a proposed tunnel concession between Kathmandu and Hetauda, for which an BOT agreement has been initiated. Overall, it is not realistic in the near future to expect private sector to finance major investment projects in the road network. However, there is ample scope for private sector involvement in the sector to improve the efficiency and effectiveness of public expenditure. In recent years, private sector contractors have been encouraged to enhance their capabilities and carry out the civil works financed by various donors through competitive tendering processes. Project management assistance has been made available to contractors through local consultants under the supervision of internationally experienced consultants. Furthermore, in the process of establishing the Road Fund Board and Act, it is necessary to develop a viable partnership between the public and private sector and to obtain private sector support. It should be recognized that private sector transport entrepreneurs have their interest in a well maintained road network, which results in low vehicle operating costs. The maintenance fund should also help to strengthen the private sector in the form of more jobs and continuous contracts for maintenance.

52. ***Local resource mobilization.*** The Study confirmed that local resources exist at the DDC and VDC levels for roads construction, rehabilitation, and maintenance. The DDC block grants, VDC block grants each year, as well as several other forms of financial assistance through MLD and donors are currently utilized mostly on road projects. With proper training and adoption of labor-based technology, locally available manpower resources can be utilized in implementing roads projects with reasonably high efficiency. In addition, some districts have been able to mobilize considerable local financial resources for road development. The enhanced financial authority of DDCs through levying Local Development Tax as provided for under the Local Self-Governance Act (1999) further institutionalized DDCs' capability in local resource mobilization.

53. The DDC Acts have made the district level elected officials to function as policy makers and implementers. As members of DDC are usually involved in local conflicts over strident resource allocation issues, it is reasonable to expect that there is political incentive to maximize the flow of resources towards one's own territory and constituents, which tend to create conflict

in the utilization of limited financial resources. The preparation of District Transport Master Plans (DTMPs) would be an effective tool to reduce such conflicts within the district council, and also to provide the necessary data and information for making rational decisions. Preparation of DTMPs opens a new forum for them to understand the contents of the Plans and the issues they represent. The DTMPs should clearly identify the district resource base and the access to various opportunities in their execution. Moreover, it would be necessary for the central ministry responsible for coordinating local road development to provide consistent policy guidance to the DDCs and to develop a strong ownership for local roads by the DDCs.

V. DECENTRALIZATION

54. Expenditure in local roads has been one of the most important areas of public investment at the local government level. The decentralization policy initiated by the Government since 1992/93 has significant impact on the investment allocation and expenditure for development of the rural transport network. Although the implementation of the policy has been slow, it has gained momentum in recent years. Decentralization thus has had major implications on public expenditure on transport infrastructure at the local level.

55. ***Local Development Acts.*** The policy of decentralization, which was promulgated under the District and Village Development Committee Act of 1992 (referred to as Local Development Act), provides the legal framework for the local governance system in Nepal. Under the Act, district governments are legally self-regulating and autonomous bodies responsible for all development activities, including the construction and maintenance of rural infrastructure facilities in all 75 districts. The local user groups are to act as the main agents for undertaking development projects. However, the adoption of the decentralization policy has not been supported by the strengthened capabilities of local government entities in the planning and managing of development projects, nor in mobilizing local user groups who will undertake the works. Consequently, the ineffective use of scarce resources and a lack of accountability at the local level threaten to undermine public support for the decentralization policy. In view of the expanded responsibilities and augmented resources, there is an increasing need to strengthen the technical and managerial capabilities of District Development Committees (DDCs) and Village Development Committees (VDCs).

56. Prior to 1992, the entire road network including District and Village roads had been the responsibility of DOR. From 1992/93, after the introduction of the Decentralization Act, the responsibility for District and Village roads was handed over to the respective DDCs. The Ministry of Local Development (MLD) has been mandated to assist the DDCs in planning and execution of infrastructure projects including roads by providing funding and technical support including provision of engineering staff. The MLD is also responsible for coordinating and monitoring DDCs' development activities. However, the implementation of the decentralization policy has been constrained by the limited institutional and technical capacities of the MLD and DDCs, and by the weak co-ordination mechanism between the central and local governments.

57. The Decentralization policy of HMG integrated in the Eighth Plan (1993-97) pointed out that the elected local bodies of the VDC, municipality, and the DDC are the principal agents for local development with authority to plan, allocate resources for, execute, and maintain development projects and share the project benefits. Funding for the local government programs are from the following sources:

- general block grants from the Central Government through MLD;
- grants for specific purpose from central line ministries;
- imposition of levies and fee collection from appropriate sources;
- capital formation at the local level; and
- Donor funding to the local government and non-government entities.

58. The Local Development Acts can be interpreted in their four objectives: (i) decentralized authority; (ii) establishment of effective planning and implementation; (iii) institutional development of the local bodies through democratic exercise from the lowest level; and (iv) balanced distribution of development benefits. The basic objective of local development is stated as to "improve the socio-economic condition of people living in rural areas and to achieve self-reliance", with maximum participation of local communities in development works, development of infrastructure and reduction in regional and ecological imbalances. The rural development works are mainly oriented towards development of rural infrastructure, i.e., local roads construction, drinking water supply, school building, health posts and small hydroelectric projects. The emphasis has been given to the creation of income generating and productive employment opportunities; maximum mobilization of local resources; special programs aimed at women and disadvantaged groups; encouragement to NGOs; strengthening of existing training centers; environmental conservation; and collection and processing of local level data. An important aspect of the decentralization policy was its emphasis on transparency of the financial transactions. A development fund amounting to Rs. 4.0 billion (3.5 percent of total development outlay) was allocated in the Eighth Plan for local development through directly productive and infrastructure activities.

59. The decentralization and local development policies have opened up very encouraging promises in recent years. However, there has been inadequate attention given to the establishment of a mechanism to effectively monitor project implementation at local level. There has been very little monitoring and impact evaluation on those promises during the Eighth Plan period which has hindered the optimal utilization of available resources.

60. The Local Development Acts are well-designed documents adequately reflecting the need for mobilizing community participation in the construction as well as O&M of development projects to assure their sustainability. However, the Acts tend to assume local communities in rural Nepal are well aware of their needs and serious in their participation at all levels of project implementation. It can be inferred from past experience that the rural areas in general have a very low economic base, very low social awareness (found in the insignificant level of male literacy), and extremely poor local organizational and managerial capability. Unless a sound mechanism is developed at the District, Municipal and Village levels to motivate people towards management of these projects, efforts to mobilize local resources are bound to fail. Such mechanism should involve continuous efforts at the grassroots level by a team of dedicated people mainly representing sector-related agencies at the District level. An obvious conclusion here is that despite repeated emphasis at the national level for local development encompassing various sectoral activities, the sectoral efforts were ineffective in the absence of a consolidated action program at the grassroots level. Adequate preparation including financial and administrative rules is yet to be made for the implementation of the VDC, Municipality and DDC Acts. Thus, there are a number of constraints in the Local Development Acts with respect to the implementation of local roads and other development projects.

61. ***The Local Self Governance Act.*** Recognizing the constraints to decentralization, a more updated and well-defined Local Self-Governance Act was passed by Parliament in September 1998 and enacted in May 1999. The new Act encourages people to maximize their participation in governance through decentralization of power and enable them to benefit from development

through democracy. The Act tries to increase the participation of all ethnic, lower-caste and socio-economically backward people in local resource mobilization and allocation, balanced development, equal distribution of benefits, and social equality. It also tries to institutionalize the development activities through development of the local bodies, and to enable them to assume responsibility of plan formulation and implementation.

62. The Act provides the authority to the local bodies (Village, Municipality and District Development Committees) to levy tax, service charges, and other charges. The local bodies can levy house tax, land tax, local market tax, vehicle tax (toll), rent tax, advertisement tax, business tax, television and video tax, natural resources use tax and other taxes fixed by VDC/Municipality/DDC councils. According to the Act, the VDCs should submit 25 percent of land tax revenue to the respective District Development Committee. The DDCs should give 35-50 percent of income received from these taxes to the respective VDC/Municipality.

63. The local bodies can also negotiate loans with various national and international organizations. The Act has a provision for setting-up funds for local bodies. The VDC/Municipality funds consist of money received from HMG and DDC; charges, fees and rent; funds received by selling VDC/Municipality assets; money received on the private use of public water sources; funds received from grant, aid, donations and gifs; money received from control of forest product misuse; money received from income generating activities; loans taken from bank or other financial institutions; and funds fixed by HMG or received from legitimate institutions according to the general law.

64. The law specifically makes the local bodies very authoritative in the exercise of fund collection as well as its use for local development. The user groups formed in the present context are more legal authorities who can directly levy fines and charges against those committing offenses in development projects. Previously no such authority was assigned to the local level user groups. However, it remains to be seen, given the poor grassroots level institutional infrastructure and resource and technical expertise, to what extent these provisions can be effectively administered and enforced at the local level.

65. ***Allocating funds to local governments under the decentralization framework.*** As the transitional phase of DOR withdrawing from the local level road construction and maintenance is continuing, a portion of the DOR budget is allocated to the local expenditure, under the heading of District/Village roads maintenance mainly for construction of suspension bridges and District/Village roads. For instance, out of total DOR budget in 1996/97, Rs. 190 million from the reconstruction and maintenance heading was allocated for district road construction. The MLD fund is the major growing source combined with a number of Rural Development Programs with roads component. In supporting the decentralization process, a number of projects have been initiated or planned in recent years with assistance from HMG and major donors. A sample of ongoing and planed local infrastructure development programs with road components are presented in the Table 5.

Table 5: Local Development Programs With Expenditure on Roads

Programs	Funding Agency	Allocated Budget (Rs. million)
A. Program for Road and Bridges		
1. Local Development Construction Program	MLD	125
2. Bridge Building at Local Level (BBLL)	MLD	58
3. Suspension Bridge Project (SBP)	DOR/SDC	100
4. Pilot Labor based District Roads Rehabilitation Project. (PLRP)	IDA/MLD/DOR	239
5. Postal Roads Improvement Program	DOR	10 (per year)
6. Rural Infrastructure Project (RIP)	IDA/MLD	340
7. District Road Support Program	SDC/MLD	102
8. Rural Road Development Program	DfID/DOR	816
9. Rural Infrastructure Development Program (RIDP)	ADB	2.3
B. Program with Road Component		
10. Grant Aid to DDCs	MLD	750
11. Rural Self-Help Program (RSHP)	HMG	2014
12. Electorate Development Program (EDP)	MLD	97
13. Local Development Fund (LDF)	NPC	10
14. Integrated Rural Development Project (IRDPs)	Donors/HMG	46
15. Remote Area Development Project (RADP)	MLD	80
16. Infrastructure Development Project (IDP)	WFP	25
17. Flood Rehabilitation Project	MLD	131

Source: Department of Local Infrastructure Development and Agricultural Roads (DOLIDAR), MLD.

66. During 1995/96, the RIDP, PLRP, LDCP, BBLL, PRIP and SBP altogether allocated around Rs. 250 million to rural road projects which constituted 61.4% of their total budget for the year (Rs. 407 million) and around half of the allocated amount was channeled through the DOR. From other projects and programs with roads component, Rs. 1.0 billion could be estimated for the DDC/VDC roads. Thus, it is estimated that a total of Rs. 1.25 billion was spent on construction and upgrading of district and village roads in 1995/96 and this magnitude remains roughly the same in recent years. By comparison, the estimated total expenditure by local bodies in 1995/96 was about R.s 2.0 billion. Thus expenditure on local roads accounted for about 63% of the local government expenditure, which is a substantial share and reflects the importance of roads in the public expenditure program at the local government level.

67. ***Block grants.*** The main central resource transfer to DDCs and VDCs are the centrally allocated annual block grants of about Rs 3-4 million per DDCs. In addition, there are self-help grants of Rs. 0.5 million annually for all 3,912 VDCs, and a Rs. 0.4 million grant for development under each of the electorate belonging to the 265 members of Parliament. All centrally allocated grants to the local governments are channeled through the MLD. Some DDCs have the means to mobilize their own resource through levies and local taxes. Figures 2-3 below present the budget allocations to DDCs and VDCs during 1994-96 through MLD.

Fig. 2: Regular Budget Allocation to DDCs/VDCs: Average (1994/95 - 1995/96)

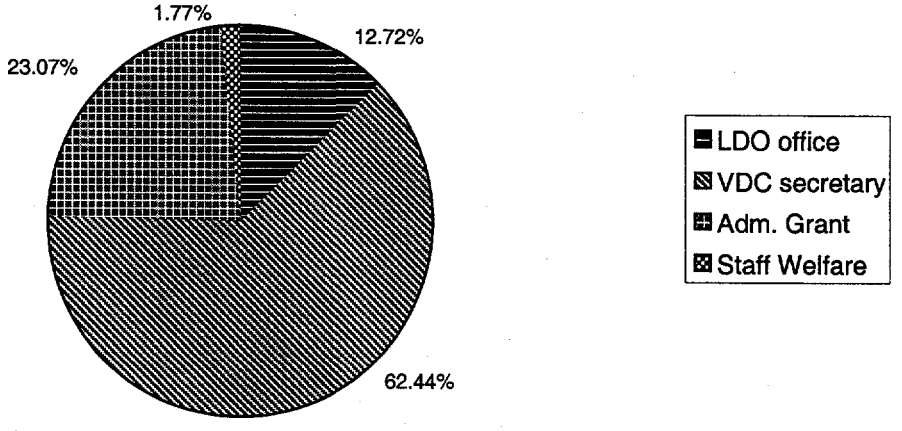
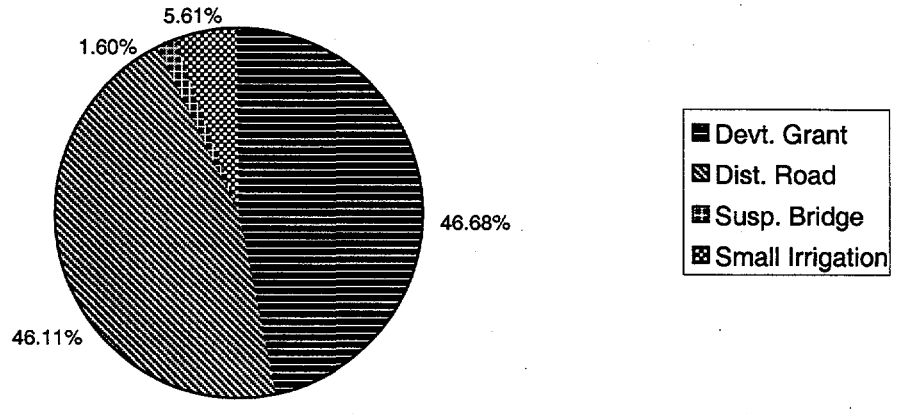


Fig. 3 : Development Budget Allocation to DDCs/VDCs: Average (1994/95 - 1995/96)



Source: Department of Local Infrastructure Development and Agricultural Roads (DOLIDAR), MLD.

68. ***Local ownership.*** Recent experience in the planning and implementation of District/ Village road projects in the Hills and the Terai of Nepal indicated that the most significant local level resource is the commitment and ownership of road projects by local leadership and communities. Roads are very tangible assets, and the benefits can be clearly observed. They generate investment and marketing opportunity as well as employment of labor during various stages of their construction and maintenance. With strong commitment and ownership, it is feasible to mobilize physical and financial contribution at the community level for the sustainable implementation of local road projects.

69. ***Managing rural transport infrastructure development.*** Since the implementation of the decentralization policy, local roads have emerged as one of the most important areas in the expenditure programs of local governments. In recent years, it is estimated that up to 50% to 60% of the centrally-allocated block grants to DDCs and VDCs have been spent on construction

and upgrading of district and villages roads. However, these resources have not been put into effective use in the sector, and the outcomes of these investment have been unsatisfactory. This Study has identified two areas of constraints regarding planning and management of local roads under the decentralization framework, as well as the effectiveness of resource utilization at the local level.

70. ***Constraints of planning and technical capability at local level.*** Thus far, the implementation of decentralization policy has not been adequately supported with the parallel development of local government capacity in carrying out their new responsibilities. Specifically, the following constraints have been identified.

(a) DDCs lack knowledge and experience in district road planning, contracting and supervising, construction/rehabilitation and maintenance as well as in institutionalizing regular maintenance work. Thus, the basic need is to train the DDC staff in planning, supervision and execution of labor intensive road construction, maintenance and rehabilitation works.

(b) In order to expand the institutional capacity at the local level, it is necessary to establish a District Roads Technical Unit (with at least one engineer and two overseers) under DDC for planning and management of construction, rehabilitation and maintenance of District and Village roads with active participation of VDCs.

(c) The preparation of a District Transport Master Plan (DTMP) using participation approach is an effective means to establish a planning framework for road development in the districts. The DTMP should contain road inventory data in the district, consensus on to road priority ranking, annual rolling plans for construction, rehabilitation and maintenance of the road network, and available resources. The process of DTMP preparation should help strengthen the capacity of DDC and involve broad stakeholders in road planning and ensure ownership. A District Roads Coordination Committee could be formed in the district to facilitate the planning process. The road master planning should clearly delineate the level of responsibilities and the scope of work of elected officials and the technicians but also effectively integrate them. The technical issue of designing and implementing road projects by the Technical Unit under DDCs should be integrated with policy decisions for resource allocation made by the elected DDC officials following specific criteria.

(d) Department of Local Infrastructure and Agricultural Roads (DOLIDAR) should develop a set of technical specifications and standards for road design, based on road functions and traffic volumes, as well as simple standard tender documents, terms of reference and contracts for design and supervision consultants, guidelines for addressing environmental and social impact for road development. Classification and responsibility for village and district roads should be further clarified. As the locally based small contractors are in general rarely educated, considerable simplification is needed in the design of the District roads. In this context, the main challenge is to build capacity at the DDCs and VDCs level for road construction/rehabilitation/

maintenance through the integrated team of technical people drawn from the DOLIDAR.

(e) Training programs in the following areas should be developed and delivery with DOLIDAR's support:

- Promotion of appropriate labor based technology for construction, rehabilitation and maintenance and their dissemination.
- Technical and management capability of local contractors, local road user groups, NGOs, and other community based organizations.
- Use of appropriate equipment in roads construction.
- Improvement in working conditions, work culture/discipline for unskilled/semi-skilled works.
- Financial management and monitoring for efficient and proper book/record keeping.
- Preparation of DTMPs using participatory approach to involve all stakeholders.
- Coordination of road development with income-generation activities.

71. ***Institutional constraints.*** More fundamentally, the institutional constraints for the implementation of the decentralization policy are identified below. The most important factor for successful decentralization is total political support and commitment from all levels. This is particularly important in view of the feudocratic administrative structure of Nepal. Moreover, decentralization of administrative powers should be accompanied by decentralization of political power as well. However, the decentralization of political power is at the very beginning stage in Nepal.

(a) The local development Acts are to be enforced with the past experience of local bodies, heavily dependent on resources made available by the Government in the form of budgetary grants to the Districts, Municipalities and the Villages. Authority given to VDCs and DDCs for local resource mobilization is limited in practice. This may constrain the VDCs and the Municipalities to mobilize local resources and people's participation for growing development needs.

(b) Local bodies lack technical and management expertise in Nepal. Implementation of the Acts require a pool of trained and experienced professional personnel at the local level. The educated people holding salaried positions in Nepal are not seen motivated to serve rural areas without much incentives.

(c) The personnel of line agencies in district offices are responsible to their parent Ministries for all sectoral, central or regional level projects. They are only under the authority of the DDCs for those projects managed by the DDCs. This creates a problem of divided loyalty and distracted authority-responsibility relationships. The development projects at the local level may become the victim of this administrative irregularity.

(d) The District Development Council is a political institution. Local political rivalries and frictions are natural and this may constrain the equitable distribution of

resources received from the Government to local bodies. This is particularly important in view of the early stage of democratic practice in the country. Some locations may be favored at the cost of others depending on alignments and preferences of the leaders of the dominant political parties.

(e) The planning exercise at the local level is to be completed half a year in advance, based on preliminary estimates of resource availability from the center. However, the actual resource allocated in the Government budget may not match the estimates on which plans are based, constraining the achievement of planned targets.

(f) Although it is frequently recognized at the central level that monitoring and evaluation are essential management tools, the Acts have not clearly provided for a management information system to be followed among the Village, District, Regional and Central levels. This has led to the lack of reliable updated information on the status of many local development projects in Nepal. There is a lack of adequate accountability and transparency in the use of funds at the central and, especially, at the local levels.

(g) Neglect on road maintenance. It is observed that most of the district and village roads are in a state of disrepair, even in Terai districts where the road network is relatively extensive and maintenance activities are easier to complete than in the hill districts. Part of this problem stems from limited resources, but it is primarily related to a strong political preference for constructing new roads as opposed to maintaining the existing network, as well as the lack of capability in managing maintenance work. Although DOR has transferred its responsibility to the local governments for district roads, the dependency attitude of the local governments toward the DOR in maintaining the network remains.

VI. PROJECT IMPLEMENTATION CAPACITY

72. Enhancing the efficiency and effectiveness of public expenditure in the transport sector has been recognized as one of the major challenges facing the Nepalese economy. Even if we assume that budgetary allocations were made optimally on a prioritization basis considering resource constraints, the effectiveness of the public expenditure still depends critically on the implementation of the expenditure programs. Problems with project implementation affecting the effectiveness of public expenditure have been common in Nepal. They include procurement delays, frequent transfer of project staff, poor contract management, diversion of resources to political priorities and political interference, and at times, corruption. The institutional capacity of various players in project implementation thus has a major impact on the enhancing the effectiveness of public expenditure in the transport sector. The key players for project implementation in the sector are: DOR, CAAN, DOLIDAR, technical units of the DDCs, other coordinating agencies, as well as private contractors and consultants.

73. ***Institutional strengthening of DOR.*** In 1995, the DOR reorganized its institutional structure and District road offices were converted into 25 divisions and 6 Regional offices. The construction and maintenance of district roads are now in principle under the jurisdiction of the DDCs which draw funds in a form of centrally-allocated block grants from the HMG through the MLD. The DOR is mainly responsible to complete additional feeder road construction (if they are part of the strategic road network) to serve the non-connected district HQs. Despite the introduction of Decentralization Acts 1992/93 and the decision of HMG that the District/Village road construction and maintenance and the Urban road maintenance should form an integral part of total responsibilities of DDCs and the Municipalities, a large part of such tasks is still being handled by the DOR. This arrangement was the result of the lack of capacity for rural road construction and maintenance in the MLD, as well as in DDCs and municipalities. The recent establishment of DOLIDAR in MLD was a step to effectively transfer the central responsibility for village and district roads from DOR to MLD, consistent with the decentralization framework. DOR is in the process of handing over the local road network which will allow it to concentrate on the strategic roads (highways and feeder roads) with greater efficiency.

74. A series of institutional strengthening activities were launched since the mid 1990s to help DOR transform itself from a traditional public sector oriented organization to a service-oriented modern organization. In addition to MRCU and SMD, a number of units were established in DOR including Road Sector Skill Development Unit, Geo-environmental Unit, Monitoring and Evaluation Units, etc. all of which have helped strengthened DOR's overall capacity to manage the strategic road network in response to users' needs. The outcome so far has been encouraging, and further effort is required to expand and sustain these initiatives. Under the proposed Road Maintenance and Development Project, IDA, in cooperation with other donors, will continue to support these initiatives and further strengthen DOR's maintenance capabilities.

75. ***Development of an effective planned maintenance system in DOR.*** An effective planned maintenance system needs to be established so that timely maintenance is carried out. Various donor-funded programs have been launched since the early 1990s for resealing, rehabilitation and reconstruction of about 1,712 km of the strategic network, aiming at bringing the

strategic network to a maintainable condition prior to execution of planned maintenance. A Maintenance and Rehabilitation Coordination Unit (MRCU) was established, with assistance from DFID and SDC, within DOR in 1992 to assist the development of a planned maintenance system and capacity building in DOR for improving its efficiency for road maintenance. As part of the MRCU activities, DOR has established a Highway Management Information System (HMIS) for the strategic network. A Strengthened Maintenance Division (SMD) program was also launched in 1992/93, which aimed at making the DOR's regional divisions more accountable for the maintenance of the strategic network under their control. Under the Road Maintenance and Rehabilitation Project (RMRP) supported by IDA, a series of institutional development activities were launched through the collaboration of IDA, DFID, SDC and DOR. All these initiatives have gradually helped strengthen DOR's maintenance capabilities and improve the maintenance performance of the strategic network in recent years. Recent survey data indicated that the condition of the strategic network has generally improved in recent years, compared with the condition in the late 1980s and early 1990s. The challenge for DOR now is to internalize the planning and management systems developed under the MRCU and SMD initiatives to further strengthen its planned maintenance system and ensure adequate funding for maintenance. At various levels of the DOR's system, the maintenance responsibility and accountability have to be clearly defined and enforced.

76. ***Institutional strengthening of MLD and DOLIDAR.*** To implement this decentralization policy, the MLD has recruited 84 graduate engineers and posted one engineer in each of the Districts to plan and supervise all infrastructure projects including road projects undertaken by DDCs. In order to fulfil its function of providing policy guidance, coordination and technical assistance to DDCs, the Government established a DOLIDAR in MLD in September 1998. It is envisaged that all engineers assigned to DDCs will be managed by DOLIDAR when it becomes fully operational. Most of the engineers are new graduates and face various challenges in that their work load is too large, compounded by unending requests for surveys and estimates for a multitude of irrigation, water supply, trails, bridges, buildings and road projects. The MLD is conducting orientation services and overall guidelines to streamline district engineers' works in DDCs. In addition, the Government has been trying to staff all VDCs with basic level technical staff.

77. ***The role of DOLIDAR.*** Under the National Strategy for Rural Infrastructure Development formulated in October 1997, DOLIDAR was to be established within the MLD with branches in the districts to provide engineering and other technical support to DDCs in planning and implementing rural infrastructure projects. The strategy reaffirmed that DDCs will be the focal points of planning and implementation of district infrastructure development. The key function of DOLIDAR is to provide coordination and monitoring support to the districts. Although the DOLIDAR was formally established in 1998, it is not yet fully staffed nor fully operational, and the implementation capability remains to be developed. It is important that DOLIDAR's establishment does not lead to the centralization of planning and managing responsibilities away from the local government entities. It should also be made clear that the DOLIDAR is a coordinating agency that provides guidelines for the preparation of local transport plans, coordinates plans, assists with capacity building and resource mobilization.

78. At the local government level, various studies confirmed that technical and planning capability at DDCs, VDCs and Municipalities are typically low. The implementation of decentralization policy since 1992 has not been adequately supported by the development of institutional capability at the local level. The dependency attitude of local government entities towards central government agencies remains strong, while the support mechanism of central government for local government entities is not yet fully established. Efforts have been underway to mitigate these deficiencies by the government and with support of various donors. Consistent with the decentralization policy, in which the district technical units are to serve as focal points to provide technical expertise for local infrastructure development, it is considered appropriate and necessary for the DDCs to strengthen the capability of their technical units by employing additional engineers and managerial staff using their own budget.

79. ***Operationalization of CAAN.*** The CAAN was officially established in December 1998 but it is yet to be fully operational as an autonomous civil aviation authority as envisaged under the CAAN Act. A number of administrative and financial issues has to be resolved during the transitional period. One administrative issue involved the recruitment and adjustment of the DCA staff to the CAAN, as the CAAN provisions fully empower the DCA staff to elect CAAN. There were also some apparent conflicts between the CAAN provisions and the Nepal Civil Service Rules regarding the appointment of CAAN head. These administrative issues have to be addressed within the context of existing rules and regulations through certain adjustments in the forms of by-laws and regulations, and need adequate attention by the Government. The uncertainty regarding the role of DCA and CAAN during this transitional period will have an adverse impact on the implementation of the public investment programs in the sector.

80. ***Civil service reform.*** Despite recent efforts in the institutional strengthening of the various government agencies responsible for the transport sector, it is generally acknowledged that the Government's human resource development policies remain weak. The deficiency of the human development system is manifested in the selection, placement and transfer of project manager/staff, district engineers, division engineers, compounded with political influence in staffing-decision and the absence of output-related performance evaluation. These deficiencies all contributed to delays in decision making, slow project implementation, lack of financial discipline, and corruption; which in turn frequently lead to late submission of project accounts and statement of expenditures as well as financial irregularities which adversely affected the release of funds. To tackle these problems, a system for defining responsibility and accountability and for performance review has to be in place as the basis for proper placement promotion of staffs.

81. The institutional and human development constraints pointed to the need for civil service reform as the fundamental means to improve the institutional capacity of the agencies and to involve all stakeholders in the transport sector. Recognizing the need for a drastic improvement in its civil service system, the Government, with support from IDA, Asian Development Bank (ADB) and other donors, has committed itself to initiate civil service reform and implement anti-corruption measures, which have been identified as one of the key outcomes of IDA's Country Assistance Strategy in Nepal. However, as with other initiatives of the Government, the Government's commitment in this regard has not yet been demonstrated with observable implementation measures.

82. ***Capacity building of private contractors, consultants and community-based organizations.*** The domestic construction industry has generally limited capital, engineering and managerial capacity in implementing road construction and maintenance projects. Many large-scale consultancy and civil works contracts have been executed by foreign consultants and contractors, with Nepali counterparts as associates or junior partners. This has started to change in recent years, with Nepali consultants and contractors beginning to assume more significant roles in consultancy and civil works contracts. Also, community-based organizations (CBOs) have been active in the implementation of district and village level projects. However, it is generally acknowledged that the capacity of these domestic contractors, consultants, and CBOs remain limited in terms of their managerial and engineering skills, which adversely affect project execution and cause delays in project implementation. Targeted training programs will help mitigate this problem, and should be supported under the public expenditure program. Moreover, it is important that the government provide a medium- and long-term plan for the development of the road network to the private sector, showing the stream of future pipeline projects that would be tendered, so as to encourage the private sector contractors in investing in construction equipment and training. In this regard, consistent policy and support from both the government and the donors would be a prerequisite.

VII. RECOMMENDATIONS

83. The preceding chapters outlined various constraints and the changing environment which have influenced the management of public expenditures for transportation infrastructure in Nepal. The recommendations outlined in this chapter are aimed at increasing the effectiveness of public expenditures and improving the efficiency of government operations.

Sector Planning

84. ***Donor coordination.*** Currently more than a dozen multilateral and bilateral donors are found actively involved in the road sector and they contribute up to 60% of the present road budget. A common road development policy and a medium-term expenditure framework are needed for effective co-ordination among various donors. The HMG itself, with donors' support, has to take the lead in coordinating donor assistance with a clear direction and planned utilization of donor funds. The PIP should form the basis for the common road development policy and plan. The HMG should develop a set of effective policy instruments to implement National Development priorities highlighted in the Ninth Plan.

85. ***Institutional coordination.*** Major challenges in the transport sector addressed in the Ninth Plan include: improving the inter-relationship between different transport sectors by strengthening the coordination among government institutions and identifying an integrated development framework to better evaluate, implement, and monitor the achievement of proposed development objectives. To address this situation, particularly in the road and airport sectors, much improved institutional co-ordination is needed to manage the operation of appropriate transportation facilities and services.

86. The two Ministries most concerned with transport network are the MOWT and MOTCA. Although air transport plays a the key role in catering tourism growth, the majority of domestic passengers are not tourists and the majority of domestic airports do not cater for tourists only. In view of a smooth coordination required for the demand-based development of road and airport facilities, it may be sensible if air transport matters are also managed by the MOWT. After the operationlization of CAAN, MOTCA is not envisaged to play an active role in the management and operations of the civil aviation. CAAN should benefit from its institutional strengthening and a great deal of autonomy in its operation while the policy decisions at the national level could be made at the MOWT.

87. ***An integrated air transport infrastructure development strategy.*** Due to weak coordination between the two sectors, the road system has been developed in many areas to the extent that proposed investments in nearby Terai airports may be deemed redundant. In areas where the comparative advantage of air transportation is greater than expected returns from new road construction, development strategies must review the option of airport construction and rehabilitation. Strategic planning can identify an efficient balance of different transportation infrastructure options. In many mountainous areas of the Nepal, air transport is the only means of mechanized transportation and bears a significant responsibility of transporting not only passengers but also consumer goods, medicine, gasoline, and construction materials to remote areas. There are many remote areas where road access is unlikely to materialize for many years

and improved sector co-ordination is needed to coordinate appropriate airport development planning for optimizing the inter-modal transport system.

88. The cost of road construction in Nepal is high, and time of completion is long. The maintenance requirements are also high as considerable flood damage occurs frequently during monsoon months. Construction of sub-standard roads in the past with accompanying problems of erosion and landslides and limited impacts on economic uplifting in the road corridors are notorious features of the transport sector development in Nepal. Also the limited financial/ economic viability of mountainous roads in Nepal have often been largely eroded by the actual scenario during and after the completion of road projects whereby construction costs and recurring maintenance and rehabilitation costs have been very high, while benefits have been smaller due to the under-utilization of the completed road infrastructure. Some four million people in the hills have no road access and construction of rural roads is mostly carried out under political mandate. Given these factors together, a policy of "affordable risk management" should be applied to all roads. This implies adopting minimum standards for road construction and maintenance and a network approach to resource allocation and revenue generation.

89. Construction of new unpaved STOL field airports in the mountainous areas of Nepal costs Rs. 60 to 80 million for each airport[3] which is the equivalent of the cost of 6 to 12 km of road construction. In comparison, improvement in the existing STOL fields to bring them up to the paved standards with additional navigation and communication aids would cost about Rs. 30 to 80 million. Improvement in the existing HS-748 (Avro) capability airports such as Pokhara, Bhairahawa, Nepaljung and Simara would cost about Rs. 150 to 300 million each. These comparisons indicated that the total cost of the improvements necessary for the 43 domestic airports come to about Rs. 2 billion which is equivalent to the construction of about 200 to 400 km of new road in the mountainous areas of Nepal.

90. ***Meeting infrastructure demand in Nepal's remote regions.*** Also, regarding the remote areas, the options considered in a study[4] covering Surkhet, Jumla and Simikot, looking at the options available and the alternative system of costs to provide basic transport accessibility, air services are at present the least costly option compared to roads, ropeway and waterway development. The study has indicated that on an annualized cost basis, the costs of providing a STOL airstrip and air services for passenger and freight are estimated to be less than the costs of providing a road and road transport up to traffic volume of 30 buses/trucks a day. However, in remote areas, air services to many Hill and high Hill areas will continue to be the only form of modern transport access for many years to come, and selected STOL airstrips should be paved and or lengthened to provide a higher degree of accessibility, greater safety and more aircraft operation. The only other form of access to these areas will continue to be the trails, low cost dry-weather roads (in a few cases) and the program of building and upgrading pedestrian suspension bridges should continue in these areas. The airport in Jumla could be considered for upgrading to serve as a hub for remote areas around it.

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[3] DCA : Nepal Civil Aviation Report, 1994.

[4] TECNECON 'Transport Sector Profile Study' Jan 1988, Report to Asian Development Bank.

91. In parallel with a strategy of improving accessibility to major agricultural/foodgrain surplus areas, a continuous program for construction of low cost fair weather farm-to-market roads in the Terai should be considered with overall target of providing roads aligned to North-South from the East-West Highway at 20 km intervals. Development of air transport should concentrate on expanding the number of STOL airfields in remote areas starting initially with economic and technical feasibility studies to assess potential air transport demand and estimate the costs to be incurred in this.

92. ***Road maintenance.*** Over-investment in new road construction and limited road maintenance activities led in the past to the overall deterioration of Nepal's road network. Effective road sector planning at the national level requires a comprehensive road maintenance system. Now that a large proportion of the strategic road network is in good or fair condition, an ideal road maintenance system should be one that is developed with reliable quantitative and qualitative data specific to each maintenance activity, and supported by all players involved in the sector. The planned maintenance practice recently developed should be systematically strengthened to cover the entire strategic road network, with increasingly more involvement of private sector using long term contracting. Tender rates should be screened based on prevailing cost figures/procurement rates to ensure the efficient selection of adequate contractors and requires a careful updating of checklist concerning procurement items, their competitive prices, and taxes, etc. The financial auditing capacities of government agencies need to be strengthened, and the third-party independent technical audit of completed projects should become a routine practice.

93. It is generally reported[5] that, where fiscal control is weak and revenue allocation and disbursement are subject to seepage or long delay, earmarking can ensure that the government's decision to maintain and rehabilitate roads is translated into practice. In such a context, short circuiting the budget may make sense for a more rational use of resources.

94. ***Rural transport services.*** While the construction and maintenance of rural roads have received much attention from the government and the donors, it should be recognized that provision of sustainable rural roads is only one aspect of rural infrastructure development. The impact of rural roads investment would not be fully materialized without corresponding development of rural transport services, including non-motorized transport services. In the foreseeable future, the majority of rural people in Nepal will still be deprived of modern transportation facilities, such as trucks and buses. As a result, in parallel with the development of rural road network, the government and the donors should also focus attention on the development and improvement of appropriate types of traditional mean of transport services.

95. ***The operatinalization of CAAN.*** The transformation of DCA into CAAN has raised several issues relating to staff placement which necessitated the Board and Management to consult with staff on the proposed transition. Certain modifications in CAAN Act may also be necessary regarding recruitment of senior level staff. CAAN presently lacks appropriate financial, management and supervisory skills to effectively and profitably deliver a high level of services to its customers and to act as a regulatory organization. To this end, Donor support

[5] World Bank, 1998: Road Deterioration in Developing countries, causes and remedies.

seems urgent in view of transforming CAAN from a bureaucracy into a service oriented organization. During the transition phase of at least 12 months from DCA to the CAAN, in which significant improvement in services should become viable, CAAN should establish a mechanism for regular industry consultation.

96. ***Financing of CAAN.*** The main financial threat to CAAN is expressed in terms of its responsibility to build, operate and maintain unprofitable regional airports which are recovering presently at less than 33% cash costs and at around 5% of full commercial costs. One possible source of working capital for CAAN would be the assets replacement reserve built up by the Air Transport Support Center (ATSC) which currently totals around Rs 33 million and would cover most likely cash flow deposits faced by CAAN during its inception period.

97. The assets to be held by CAAN will generate depreciation charges of about Rs 472 million. Annual interest on outstanding loans will initially total about Rs 300 million and this amount will double if the repayment liability to the new ADB loan for the improvement of TIA is transferred to CAAN. These costs, directly related to provision of services and facilities to the aviation industry were not recognized in the DCA accounting system. In addition to these, there will be increased insurance costs as few assets are currently insured and higher maintenance and salary costs will accrue. Also provision should be made regarding future major periodic maintenance such as a runway overlay at TIA which would approximately cost Rs 100 million.

98. Thus, applying these commercial, accrual and accounting principles, annual operating expenses of CAAN could be estimated in total at about Rs 1,130 million, against the estimated revenue generation from current revel of fees and charges of Rs 650 million. This financial estimate of CAAN is realistic in view of the past trend that aviation infrastructure was extended without consideration for commercial costs and their financial consequences. Funding was made either through grants or soft loans with low interest rates and on long deferred payment requirement.

99. In the short run, CAAN can not function on a commercial basis if it bears costs and service and debts of the past investments in the civil aviation sector. Currently, TIA is the only profitable airport subsidizing the losses of other airports. The CAAN can only be fully operatinoalized if the Government determined to meet its financial needs during its start-up and to ensure continued sustainability. Three options about financial viability of CAAN with their direct bearing upon the government expenditure and revenue can be pointed out. The first option would be the increase in service charges to achieve a breakeven point to meet the currently estimated annual expenses of Rs. 1,130 million (including interest payments on loans borrowed by the HMG for the development of TIA). The second option would be to reduce operating costs of CAAN through waiver in land tax and interest payments on loans by the Government. The third option would be a combination of the above two. However all these options will have far reaching implications on the expenditure and revenue aspects of the central government and need to be addressed carefully. It is essential for the government to ensure a successful transition to CAAN and that the transition does not fall victim of change resistance.

100. ***CAAN technical and legal issues.*** The Nepal Civil Aviation Regulations have been modified to reflect change of name to ensure legal form of DCA to CAAN to serve the legal

requirements. But the key regulations are technically inadequate for effective administration and need complete review and re-issue. Operating manuals should be developed and statutory authority of International Civil Aviation Organization in consistence with Civil Aviation Administration of SAARC countries should be obtained.

Budget Allocations

101. ***Budgeting.*** Consolidation of budget preparation procedures with adequate planning exercise is necessary. The need for meaningful classification of the budget allocation by type of expenditure through program budget is urgently needed. The recent initiatives of HMGN towards re-introducing the rolling three year Plan may be one encouraging step, but needs careful monitoring of its implementation. The experience of rolling plan implemented during 1992-95 suggest that annual plans should be tied up within the framework of the three year rolling plan cycle and decisions should not be made on *ad hoc* basis. The practice of unplanned and fragmented allocations of budget resources in the Eighth Plan has to be corrected. To improve expenditure effectiveness, HMG has to adhere to the priorities and road development strategy as established in the Ninth Plan.

102. However, as discussed earlier, the expenditure plan for the Ninth Plan in the road sector appeared to be overly optimistic. Given the current budget constraints and projected revenue growth, it would appear to be appropriate to cap the annual road budget at the level achieved last year in real terms. There is no reason at present to expect significant revenue growth in the next few years, nor to anticipate major reallocation of resources to the road sector from other sectors. In the airport sector, there are some degree of uncertainties as to the budgetary support requirement to the CAAN once it becomes fully operationalized. Much will depend on how efficient CAAN is to operate as an autonomous entity. Therefore, difficult decisions have to be made by the government to further prioritize its planned program based on the established national priorities.

103. Completion of ongoing highway and road projects already committed or nearing completion should be based on economic and efficiency considerations. Construction of agricultural and other development projects based roads should also be subjected to clear cut economic benefit and comparative cost screening within the framework of the PIP. Given the institutional constraints, there is a need for DOR to prioritize its current project portfolio, and efforts should be made to limit the numbers of projects under implementation.

104. ***Road maintenance fund.*** A road maintenance fund should be created and used for emergency purposes as well as to supplement other maintenance activities when shortfalls arise in specific areas. It should be strictly followed that maintenance budget is not used for new road construction. As envisaged by the Road fund Act, the Fund should be managed by a Roads Fund Board consisting of public and private sector representatives. A Road Management and Finance Reform Implementation Committee (RMFRIC) was formed on a temporary basis for the preparation of establishing a Roads Board including drafting Roads Board Act, manual for operation of fund and administrative manual. Once the Roads Board Bill is passed by the parliament (expected in 1999/2000 winter session) and Roads Board established, the RMFRIC will be dissolved. Once established, the Roads Board is expected to monitor the revolving fund

replenishment and utilization, as the fund is essential to maintain existing roads and new roads construction. In essence, the Roads Board will be responsible for creating a commercially managed road system in Nepal with provision for adequate fund and other resources to manage roads like a business rather than a bureaucracy.

105. In parallel with the establishment of the road fund, attempt should be made to ensure that an increasing budget allocation for road maintenance relative to new construction, reflecting that the length of strategic network in maintainable condition has increased in recent years.

106. Simplification of the current budget formats to meaningful documents to reflect project concept and features, details of activities, details of inputs and expenditures is needed.

Resource Mobilization

107. The updated work on road users charges shows that the revenues from road users are currently around 50 percent greater than the road maintenance costs, implying that the government policy relating to road user charges is more than satisfied.

108. ***Railway.*** The Janakpur Railway enjoys a local monopoly but there is no evidence of monopoly pricing and excess profit. Although it operates commercially, due to lack of proper and timely maintenance as well as capital investment, this mode of transportation currently needs serious attention by the MOWT. The absence of a railway network has greatly escalated the overhead cost in this mode of transport.

109. ***Rope way.*** The Hetauda-Kathmandu ropeway operates in direct competition with road transport, but with a substantial distance advantage. It is a straight commercial operation, albeit operated by NTC and should continue to behave commercially but with substantial renovation. The possibility should be explored regarding its ownership transfer to Hetauda Cement Factory as bulk of the cement transported to Kathmandu is already handled by this mode of transport. However, keeping view of the already high cost of its renovation and its current stage of overstaffing, the future of this transport should rest on financial return viability from the currently calculated sum of Rs. 100 million investment needed to renovate this mode of transport.

110. ***Airports.*** Recommendation about change in national policy regarding charging and cost recovery for domestic airports could be made in view of the fact that Terai airports should cover their costs whilst those in remote areas need not as the later being maintained under a public service obligation to remote areas. This policy is sound and has strong welfare arguments.

111. However, at present airports are not treated as separate cost centers and the policy seems unclear. With the formation of a self-financing CAAN, cost effectiveness approach has to be implemented. CAAN should agree to a minimum level of cost recovery expected at remote airports, and apply cost based charges for airport facilities and services. The commitment for the establishment of CAAN has been made recently in the budget. However, initial financial commitment of the government for the establishment of CAAN, at least for its 18-month period seems necessary.

112. ***RNAC.*** RNAC's financial position has steadily deteriorated in recent years, since losing its monopolistic status over Nepal's domestic routes, and much of its international routes in the mid 1990s. The Management of RNAC has faced grave difficulty in obtaining financing for expanding its fleet and improving the quality of its service. The Government has been contemplating the option of privatizing RNAC in recent years, but there appears to be great reluctance in proceeding in this direction. If privatization is not a viable option, some corporate restructuring of RNAC's should be considered. It is clear that, if RNAC's operation remains status quo, and Nepal proceeds with its open sky policy in the civil aviation sector, RNAC will become increasingly difficult to provide its services as a national carrier for the need of the civil aviation sector on Nepal.

113. It should be recognized that, in providing air service, RNAC makes substantial losses on certain sectors which are offset by surpluses on tourist sectors and its charter business. On the most heavily subsidized sectors, passenger fare revenues contribute less than 50 percent of aircraft operating costs, covering fuel consumption only. On less subsidized routes passenger revenues cover up to 65 percent of operating costs. RNAC should be allowed to charge commercial fares except where a clear public service is justified. In this way, the Corporation could reduce substantially its overall losses on domestic scheduled services, provide a higher level of service to those remote areas with no other modern method of transport. Overall, RNAC should be given greater autonomy from the MOTCA in its commercial management staff recruitment and institutional strengthening policies.

114. The strategy in the transport sector development at least up to the end of Ninth Plan period should be, as promised in the Plan document, primarily and effectively maintenance oriented, with improved accessibility to those areas likely to respond by increasing agricultural production substantially and to serve potential production centers. To implement the strategy, relatively modest investment with considerable institutional strengthening in all sub-sectors will be required, particularly in road maintenance and civil aviation administration.

Project Implementation Capacity

115. ***Human Capital.*** Given Nepal's limited experience in development, both the government and the private sector are generally characterized by fluid policies and weak management and efficiency. The fundamental need seems to be the change in the approach and the implementation of strategic reforms in the road sector geared towards achieving improvement in sustainable and well managed road network to result in output capacity increase. One vital aspect of this need is the development of human capital which is taking place but rather slowly.

116. ***Strengthening DOR.*** The problem with road development in Nepal is more institutional than financial. It stems from inability of MOWT/DOR to fully utilize available funds effectively and from human resource constraints. The politicization at all levels of civil service continues to impact negatively on the functioning of DOR. The effective coordination of priorities and polices of many donors in the sector remain a key challenge. In this context, the priority areas identified in DOR's institutional development plan should include:

- the establishment of a constituency within MOWT and DOR senior and middle management to address DOR strategy;
- the continuation of MRCU and RSSDU activities;
- the Highway Management Information system (HMIS) already established at DOR needs to become an integrated part of DOR's planning, budgeting, and management exercise;
- planned maintenance system through the SMD approach needs to be further developed and expanded to more DOR divisions;
- a dedicated road Maintenance Fund established under a Road Fund Board with DOR's active participation to support the introduction and expansion of planned maintenance on the strategic network;
- expand the Geo-Environmental unit in DOR to develop environmental and social assessment and monitoring and evaluation capabilities for the road sector; and
- a process to be established in DOR for introducing and monitoring national standards for road construction and maintenance, designed to improve the quality of the services with maximum use of local resources. A chief technical examiner section in MOWT could be established to carry out third party operational audit of road sector operations.

117. The consolidation of DOR and donor activities in new roads construction / rehabilitation with a careful project processing schedule through effective screening is recommended. Upgrading of the Monitoring & Evaluation Unit in DOR into a data base center for research and training activities and regular reporting of road projects is necessary. The center should be actively involved in conducting, periodic surveys, road inventory and road traffic as well as effective back stopping work crucially needed in the DOR.

118. ***Capacity building of the local construction industry.*** Given the weak capacity of local construction industry, there is a need for an effective system to evaluate the performance of consultants and contractors on a regular basis. DOR could maintain a data bank to monitor the performance of contractors and to keep non-performing contractors from winning future jobs.

Decentralization

119. Despite enactment of the Decentralization Act in 1993 and the decisions about delegating the responsibility for the construction and maintenance of District/Village roads to the local bodies, the enforcement and implementation of the Act are not yet realized. Although the recently-passed Self Governance Act (1999) empowers the VDCs/DDCs/Municipalities to collect more taxes at the local level, it remains to be seen, given the poor grassroots level institutional structures and resources and technical expertise, to what extent these provisions can be effectively administered. As the local authority for resource use is inadequate and local management capacity is not adequately developed, the benefits of decentralization are limited at present. Resource mobilization is weak at local level and the local bodies still depend heavily on various forms of central government grants for road construction. Local development officials are mainly engaged in project implementation rather than policy development, monitoring and supervision. Co-ordination is weak among local bodies, NGOs, user committees etc. Given the situation, the DOLIDAR should concentrate its effort in providing policy guidance, technical assistance and support to build capacity at various local government levels through donor

support. The experience of the IDA-assisted Rural Infrastructure Project would be highly instructive in this regard for building up capability at local level in the roads sector. This is also consistent with various programs envisaged in the Ninth Plan for building-up local technical capability to plan, execute and maintain local development projects by the DDCs/VDCs and the Municipalities.

112. In view of the recently-passed Self Government Act, the National Strategy for Rural Infrastructure Development adopted in October 1997 needs to be reviewed and revised to ensure that the strategy is consistent with the provisions in the new Act. The MLD/DOLIDAR should take the lead in this effort, through close consultation with the local government bodies and civil society.

113. A district/village mobile training team consisting of DOLIDAR staff and related agencies could be one of the most effective methods of imparting knowledge to district and village authorities regarding road construction/rehabilitation/maintenance. This should be a continuous process in view of the observed low level of knowledge absorptive capacity of village communities.