Report No. 46985-NP

Maximizing the Outreach of Microfinance in Nepal.
"The case for a Central Technology Platform"

December 2008

THE WORLD BANK
South Asia PREM , Finance and Private Sector Development

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Acknowledgements

This report has been prepared by a team led by Henry Bagazonzya (SASFP) and Zaid Safdar (CITPO), as Co-TTLs, Thyra Riley (GSDPC), Cecile Niang Thioro (SASFP), Janine Firpo, James Dailey, and Tej Hari Ghimire (Consultant). The team wishes to acknowledge the support that has been provided by Suran Shrestha and Aza Rashid (SASFP) throughout the study and Marjorie Espiritu (SASFP) for her support and the formatting of this report. The team also wishes to thank the peer reviewers; Gautam Ivatury (CGAP), Samuel Munzele Maimbo (AFTFP), Isabelle Huyhn (CITPO), and Sashin Joshi (CEO-Nepal Industrial and Commercial Bank), whose comments on the concept note focused the team's study objectives. The team is also very grateful to Simon Bell, Sector manager (SASFP), for his technical guidance and support during the study.

Acronyms and Abbreviations

ACH	Automated Clearing House
ADB	Asian Development Bank
ADBL	Agricultural Developmental Bank Ltd.
AML	Anti-money laundering
ASP	Application Service provider
B2B	Business-to-business
B2C	Business-to-customer
C2C	Customer-to-customer
CBS Systems	Central Bureau of Statistics
CCA	Controller of Certifying Authority
CDMA	Code Division Multiple Access
CDS	Center for Self Help Development
CFT	Combating financing of terrorism
CGAP	Consultative Group to Assist the Poorest
CMF	Center for Microfinance
CMF	Center for Microfinance
eftPOS	Electronic Funds transfer Point of Sale Device
FINGOs	Financial Intermediary NGOs
FINO	Financial Information Network & Operations Ltd
GPRS	Genera Packet Radio Service
GPS	Global Positioning Systems
GTZ	Deutsche Gesellschaft fur Technische Zusamnenarbeit
HLCIT	The High Level Commission on IT
ICRIER	Indian Council for Research on International Economic Relations
ICT	Information and Communications Technology
ISDN	Integrated Services Digital Network
ISPs	Internet Service Provider
ITU	International Telecom-munication Union
MDGs	Millennium Development Goals
MFDBs	Microfinance Development Banks
MFIs	Microfinance Institutions
MIS	Management Information Systems
MTO	Money Transfer Operator
NEFSCUN	The Nepal Federation of Savings and Credit Co-operatives Union Ltd
NGOs	Non Governmental Organizations
NMDF	National Microfinance Development Fund
NRB	Nepal Rastra Bank
NTA	Nepal Telecommunications Authority
NTC	National Telecommunication Commission
P2P	person-to-person
PAR	Portfolio At Risk
POS	Point-of-sale
PPP	Public/Private Partnership
PSTN	Public Switched Telephone Network
RMDC	The Rural Microfinance Development Center
RRDBs	Regional Rural Development Banks
RSRF	Rural Self-Reliance Fund
SACCOs	Savings and Credit Co-operatives
SFCLs	Small Farmer Co-operatives Limited
SKBBL	Sana Kisan Bikas Bank Ltd
STI	Second Tier Institution
VDCs	Village Development Committees.

Executive Summary

This report addresses the establishment of a centralized information and communication technology (ICT) platform for the microfinance sector in Nepal. It has been shown from international experience that ICT improves the efficiency, transparency, and outreach of microfinance institutions (MFIs) and reduces operational costs. There is an opportunity in Nepal to implement similar solutions, and this report provides information on these solutions and offers recommendations for implementing them in Nepal.

The microfinance sector in Nepal has many players, as shown in chapter 2, but these players have shown few real successes. The sector is largely unsustainable, subsidy driven, and fragmented to the extent that it might not meet the real needs of the country. By mid-July 2008 the sector had outstanding loans amounting to Nr^{p} 28,147 million and deposits of Nr^{p} 18,464 million. By comparison, the commercial banking sector has outstanding loans up to Nr^{p} 331,060 and deposit levels are at Nr^{p} 444, 5444. The microfinance sector contributes about 9 percent in terms of the total outstanding loans and just 4 percent in savings. A point to note is that although these numbers look small compared to the whole sector, the microfinance industry does provide many more poor people with needed financial support, thereby reducing their poverty and positively impacting their lives more than the commercial banks do. A new paradigm needs to be developed for the microfinance industry in Nepal so that the majority of the people in the most remote and rural areas can also have access to financial services. South Asia is replete with excellent examples of improved financial access. For example, Bangladesh's microfinance institutions lead both regionally and globally in terms of outreach and development of appropriate products for those that have hitherto been excluded. Lessons from countries in the region could be drawn upon to facilitate the modernization and professionalization of the microfinance sector in Nepal. The country's microfinance sector does face many challenges, but they are not insurmountable, given the latest advances in technology applications.

The Challenges

The microfinance sector in Nepal faces a number of challenges. These include the following:

- **A complicated geopolitical environment:** The inaccessibility of the remote areas in the country poses a specific challenge to MFIs that wish to expand their services to populations in these regions.
- **A weak technical capacity in key operational areas** (e.g., accounting and auditing, strategic planning, financial analysis, and human resource management): The weak capacity, coupled with manual operations, pose an operational challenge that the MFIs have been trying to resolve.
- **A lack of commercial orientation and a slow professionalization:** Microfinance is still considered in some quarters to be a charitable activity, as manifested by a lack of management information systems (MIS), lack of demand-driven and appropriate financial products, etc.
- **Distortions arising from the directed lending program by the Government:**

> Commercial banks were required to put aside 3 percent of their total loan portfolio for lending to small businesses and low-income households. This mechanism has generated high liquidity among many MFIs, as these institutions are encouraged to borrow and, given the constraints just noted, are unable to reach out to more clients with loans. They eventually end up investing these low-cost funds in financial institutions and receiving hefty returns.

These challenges result in a large portion of the population having no access to financial services. As has been indicated in a number of publications on Nepal, poverty still remains a major developmental challenge, with 31 percent of the population of about 28 million considered to be living below the poverty line of US$1.25 a day. This amounts to about 8.68 million people. The MFIs are currently providing financial services to only 1.18 million, and 51 percent of these are found in the Central and Western regions of the country. This leaves the hills and the mountain regions with fewer MFIs and fewer clients. For several decades, the Government has attempted to reduce poverty through the provision of credit by supporting credit programs and institutions, but it has not achieved significant results.

Recent World Bank reports on access to financial services and the mapping of MFIs in Nepal confirm that the challenges have impeded the development of the microfinance sector in the country. The reports and mapping exercise further indicate that most institutions do not have accurate financial statements and transparent reports on performance indicators. As a result, they do not qualify for the available funds. Even those that do qualify often employ staff with inadequate skills and have no demand-driven financial products and therefore end up investing their funds in long-term deposits as explained.

The few institutions that have had capacity to make loans beyond the terai (fertile belt below the hills) and expand to the hills and mountain areas have been concerned with the security situation in the country. Now that there is a new political environment, it is hoped that they can develop new, innovative, and appropriate financial products for the more than 50 percent of the people who live in the hills and mountains. Other problems that these institutions face are the high cost of opening branches in these areas and the fact that they run their operations manually, sometimes receiving their reports just once a month through the mail. This kind of situation does not allow quick managerial decisions to be taken, for example, on fraud and delinquent loans.

The Government in its 11th Three-Year Interim Plan has emphasized the need for credit provision to the majority of the population, particularly in the hill and mountain regions. This was reemphasized during the recent Nepal Microfinance Conference in February 2008, in which participants declared that they would work together to ensure transparency and improved outreach to remote and rural areas. The recently approved National Microfinance Policy, 2064 is focused on creating an enabling environment in which microfinance service providers can be helped to reach more remote and rural areas. The Government is about to finalize a capacity-building support program with UNDP/UNCDF, which is intended to provide funds for skills development of MFI staff, to facilitate product development, and to link these institutions with groups that have been in existence in some of the remote and rural areas for decades and which need financial support. The MFIs would also like to take advantage of the improvement in the security situation and expand their operations in these areas. However, as noted, there are some basic challenges that might limit the extent to which these good stakeholder intentions can be implemented.

New Paradigm

This report presents a new paradigm for introducing ICT in the microfinance sector of Nepal. The centralized technology platform was chosen as opposed to telecom-led platforms due to its ability to resolve most of the pertinent challenges that Nepal's microfinance sector faces. The paradigm can help remove most of the constraints that have limited the growth of MFIs and kept them from becoming sustainable, moving out to remote and rural areas, and providing more loans to those that need them. In the traditional paradigm, MFIs acquire ICT in an ad hoc fashion and are able to use it only partially to automate their operations. Each MFI buys its own computers and software and adopts its own way of using ICT. In this older paradigm, the MFIs face several challenges.

- First, they find ICT to be expensive and realize that using ICT does not always correspond to gains in revenue or increase in productivity in the short term.
- Second, they lack technical know-how and are often unable to obtain the full benefits of ICT.
- Third, they adopt ICT part way, over a long period of time, during which some branch offices have ICT, others do not, and branches and head office are not always in sync. Worse still, they are obliged to run parallel systems, which eventually become difficult to reconcile.
- Fourth, even when they do use ICT, they are unable to achieve the collective gains available when all MFIs in a market are using ICT. No two MFIs are able to share useful information about clients with one another, information that could help them distinguish between a good, paying customer and a delinquent one.

In the new paradigm, a centralized ICT platform is established. ICT is deployed more rapidly in all MFIs and in all parts of the microfinance value chain, from the head office to branch office, to loan officers, and even to the clients. Unlike in the traditional paradigm, the technology needs of all MFIs are pooled in one central office. The central office offers technology tools, services, and know-how to MFIs throughout the country. By doing so, several benefits are achieved.

- First, because all technology needs are pooled in one place, the central office can exploit economies of scale and offer technology services at a lower cost to each MFI.
- Second, because MFIs have outsourced their technology needs, they no longer need to devote time and effort learning about new technologies. The central office does so and provides all technology-related training and support.
- Third, because ICT is deployed throughout the microfinance value chain, all parts of any MFI are always connected.
- Fourth, because all MFIs connect to one central office, they effectively are connected with one another; they can learn useful information about clients from one another.

The new paradigm goes several steps further. If the central office were also connected to the formal financial sector, MFIs could become part of the formal sector through the center. They can have access to capital from commercial banks and financial intermediaries. The formal financial market

can in turn reach out to individual MFIs and their clients who live in remote, rural areas. Similarly, if the central office were to be connected to the Government, MFIs could easily be regulated through the center. MFIs can comply with government regulations more easily by granting the Government access to selected institutional information. The Government can in turn design targeted policies and regulations based on good and accurate information to address the specific needs of the microfinance market. The Government can opt for light regulation, intervening strategically only when there is a need. The cost of regulation can be lower than in the traditional paradigm, since information about MFIs would be readily available and interventions would be only strategic.

The new paradigm also opens the door to new products and services, such as mobile banking, branchless banking, and electronic remittances. Because MFIs would transact business electronically, through the central office, they would be able to store information electronically and offer services electronically. MFIs could provide financial services over mobile phones to clients and thus expand their outreach by exploiting the full breadth of a national mobile network. By giving electronic devices to their loan officers, MFIs could empower a loan officer to provide a full range of financial services that are otherwise available only at a branch office. The loan officer could act as a branchless bank and go to areas that are currently outside the reach of MFIs. Since the entire microfinance value chain, from the head office to the branch office to the loan officer to the client, would be handled electronically, remittances could be channeled electronically. Clients could send money through the microfinance value chain, through the center, to a relative who may subscribe to another MFI. Clients could receive money through the microfinance value chain, through the center, through the formal financial sector, from a relative who lives abroad.

With the new paradigm, the microfinance market in Nepal could grow rapidly, beyond the organic growth rate. MFIs could reach out to a larger cross-section of people. They could offer newer products and services. They could reduce costs by using ICT and operate more efficiently. ICT could be more rapidly deployed in all MFIs in Nepal. Microfinance can move from being a semiformal sector to a formal sector. The microfinance sector can altogether transform in an unprecedented and positive way.

Risks and Needs

Realizing the new paradigm will require several ingredients: a supportive policy environment, an astute technological design, a collaborative institutional design, a thorough financial plan that is self-sustaining yet realistic, and champions that can make things happen. Furthermore, it would require a certain level of physical infrastructure and a cadre of well-trained technicians to run the system. The risks and challenges of creating the platform are fully described at the end of chapter 3, but they include the following:

- Microfinance institutions not being able to afford to increase their expenditure on IT close to global standards
- Microfinance institutions failure to change their operating mechanisms
- Lack of experience in the use of computers and lack of local service providers that can service the equipment. The technology could be too advanced for their skills
- Connectivity could be an issue

- Microfinance institutions could refuse to share their data
- Other players could come in and lock up the MFIs on a different platform
- Reputational risk, if the platform does not deliver the services in a reasonable time.

The Regulatory Environment

As indicated, a supportive regulatory environment is needed for the new paradigm to work. The team assessed carefully the policies and regulations in the financial, microfinance, and ICT sectors to determine if any aspects of the regulatory environment in Nepal would preclude the development of a centralized ICT platform and to point out potential issues and risks The analysis shows that currently there are no major roadblocks to establishing and operating a central microfinance platform. The analysis, however, identified some possible future regulatory risks, which are discussed in chapter 5. The team's recommendations for mitigating these risks are described in chapter 8. The main regulatory risks that could affect the microfinance platform are the following:

- **Changes in regulatory oversight**: The new Microfinance Policy approved by the Government of Nepal on June 2008 recommends the formation of a Second Tier Institution that would monitor, regulate, and facilitate microfinance operations. This would induce changes in the current regulatory oversight that cannot currently be anticipated.
- **Relicensing of MFIs**: The relicensing regime advocated in the new Microfinance Policy may affect members of the platform. For example, if a relicensing exercise was conducted, members of the platform could potentially have their licenses revoked, eliminating an ongoing opportunity to participate in the platform.
- **Championing of the central ICT platform**: With the planned revision of the Microfinance Act based on the new microfinance policy as its top priority in the next few months, the Rastra Bank (the central bank of Nepal may have difficulties embracing the centralized ICT platform along the same timeline sought by other stakeholders.
- **Mobilization of public funds under public/private partnership (PPP)**: While the new microfinance policy establishes the formation of a national microfinance development fund that will mobilize domestic and international funding, the legal status of this fund and related implementing arrangements are still unknown. The new regulations could impact the range of PPP arrangements that would govern the funding of the platform.
- **Expansion of the range of value-added services**: The new policy alludes to the possibility that regulated MFIs could provide services beyond their client base, using the centralized ICT platform to offer additional services such as depositing, money transfer, bill payment, and remittances services. The new act will confirm the extent to which MFIs could provide these services. The range of services MFIs would be able to provide could impact, among other things, the expected volumes on the platform and therefore its commercial viability.

Recommendations

The report recommends that the following be addressed as the ICT platform is being established:

- **Support linkages between formal and informal sectors:** The planned Microfinance Act should include provisions for the linkage between the formal and informal financial sector. The new Microfinance Policy does not refer to these linkages.
- **Strengthen standards:** The regulatory bodies in Nepal should strengthen their requirements for standards among microfinance providers. In addition to helping the Central Bank and regulatory authorities manage key aspects of the microfinance business better, this would help drive more of the microfinance providers in Nepal to computerize and to consider the advantages of a high-quality, standardized platform such as the one described in this report. It is expected that with increased oversight and transparency, the institutions would deliver good services to their clients.
- **Enable branchless banking:** Should branchless banking be implemented in Nepal, the development of risk-based anti–money laundering (AML) rules and rules for combating financing of terrorism (CFT) would need to be designed for poorer customers who are moving small amounts of money. In addition, the concept of proportionality would need to be applied to any branchless-banking or correspondent-banking models introduced through the centralized ICT platform for the benefit of microfinance customers.
- **Strengthen data security and privacy:** The primary concerns that regulators are likely to have in relation to a central technology platform are related to data security and data privacy. Regardless of the technology solution that is adopted in Nepal, it will be important that vendors ensure there is no leakage of data between financial organizations. On the technology side, data encryption and other security measures would be used to ensure the security and privacy of institutional data. In addition, there should be contractual agreements between participating vendors and financial institutions to clearly articulate data privacy procedures. In the longer term, cyber laws should be extended to include further provisions for e-commerce, consumer protection, and privacy means.
- **Oversee the microfinance platform:** An oversight function related to data security and competitive issues will be required. This role should be played by the Central Bank or by another relevant regulatory body. This requirement further enforces the need for the Ministry of Finance and the Central Bank to support the centralized technology platform effort from the earliest stages.

Going forward, the regulatory space would benefit from further embracing and facilitating other new financial sector infrastructures through the centralized microfinance platform, with an aim to reach universal access to formal finance in Nepal, as per the Three-Year Interim Plan. The regulatory areas that could be addressed to leverage the microfinance platform include nonbank payment systems, consumer protection regulations, and less complexity in the microfinance regulatory oversight**.**

And finally, the introduction of the microfinance platform will require an appropriate governance structure to ensure that the MFIs and other stakeholders are fully engaged. The study team looked at different institutional models. These included public sector and private sector models .Partnering with banks is common, as this arrangement usually fulfills the central governments' requirements and lessens the burden for the operator. But as will be seen in the FINO example in India in chapter

4 , this arrangement has its own limitations. The report recommends that a public/private partnership that fulfills the following basic design principles should be put in place:

- The agency should be respected by all the participants and stakeholders in order to ensure that there is trust that the data of the participating MFIs will be held in confidence.
- The agency should be a neutral player, independent of any financial institution, government agency, or technology vendor, and should be focused on the whole of the microfinance industry rather than institutional goals.
- The agency should be representative by encouraging all the players in the microfinance market to participate irrespective of size.
- The agency must demonstrate the capacity to manage both the participants and the technology to be introduced.
- The agency must have a business plan that will lead to financial sustainability.
- The agency must be efficient, financially accountable, and transparent.
- The agency must not be in violation of any legal or regulatory framework.

Given the nature of this intervention, the agency's implementation will be phased as the MFIs and other users sign on for its services. The detailed business plan setting up the platform and how it will function, including the detailed host arrangements and assessments of the concentration of connectivity, will be the first things to do after a decision has been taken to actualize this proposition. In the meantime, the implementation of the new Microfinance Policy should take into consideration the risks and mitigation measures that have been flagged by the study.

The team, using assumptions and real-life experiences from ICT platforms that are already operating elsewhere, has estimated the total cost of the platform to be US$5.49 million initially for the first three years and another $1.49 million to be invested in the platform during the next three years. From year six onward, the platform will make money. The total projected revenue for year six is $ 1.73 million, for year seven $6.21 million, for year eight $14.14 million, and for year nine $ 24.59 million. The platform will therefore receive $46.67 million in revenue during years seven through nine. A sensitivity analysis was done using possible parameters that are likely to affect the profitability of the platform. These included changes in the amount that the MFIs and others would initially pay for the platform services, changes in the amount that would be invested in the purchase of the technology components, and reduction in the growth rate of the portfolio. The results indicated that other than reduction in the portfolio, the changes in the other parameters did not substantially affect the platform's viability. The details of the cost methodology and the sensitivity analysis results are shown in chapter 7 and appendix 9, respectively.

1 INTRODUCTION

Since the 1970s, Nepal's Government has taken several measures to provide financial services in an attempt to reduce poverty across the country. It supports various rural financial programs by aiding financial institutions such as commercial banks, development banks, rural development banks, savings and credit co-operatives (SACCOs), nongovernmental organizations (NGOs), and microfinance institutions (MFIs).[1] Directed lending programs for small businesses and low-income households have been introduced, banks have been required to open branches outside the Kathmandu valley, specialized wholesale and retail institutions have been created, and market-entry requirements to foster the development of different types of financial institutions have been lowered. The geopolitical environment of Nepal has added to an already diverse set of constraints that impede the expansion of financial services to the majority of the population in the remote and rural areas of the country.

The Government in its 11th Three Year Interim Plan (2007–2010) has emphasized that access to credit will be intensified in rural areas and that mechanisms will be developed to allow this effort to be carried out at both private and government levels, with particular emphasis on reaching marginalized farmers, petty traders, and poor/destitute household members.[2] The Microfinance Policy that has recently been approved by the Cabinet also emphasizes access to finance by the majority of the Nepalese, particularly those in the hills and mountains, and aims to ensure that appropriate opportunities are available to poor family members so that they can be included in the mainstream of the national development. This links directly with the emphasis that the World Bank's Country Assistance Strategy (2004–2007) places on broad-based economic groups and financial/social inclusion. Implementing such a strategy would ensure that financial institutions of all types are supported in accessing appropriate resources and providing financial products that build inclusive systems. This would result in greater economic growth and personal income, further facilitating the participation of individuals and enterprises in economic activities and channeling resources more efficiently across the economy.

Recent reports about financial inclusion that were carried out by the Indian Council for Research on International Economic Relations have placed Nepal (along with Botswana and Zimbabwe) at the bottom of the index for financial inclusion. The index notes the extent of the availability and usage of banking services in key nations of the world and is based on such indicators as the number of bank accounts per thousand adults, the number of ATMs and bank branches per million people, the amount of bank credit and deposits, and so forth.[3] The World Bank's report on access to finance[4]

[1] Microfinance Department, Rastra Bank 2008." Microfinancing towards Empowerment of Disadvantaged Groups in Nepal: Innovations and Practices

[2] Ditto as above

[3] Reprinted from The Economy Times : July 28, 2008

[4] World Bank 2007. "Access to Financial Services in Nepal." Washington, D.C

provides recommendations on how to address the Government's priority concerns for the sector and how to improve access.

Institutions that can provide permanent access to financial services must themselves be efficient and sustainable. In order to sustain their operations, MFIs must maintain revenue levels that can provide growth and improvement in financial-services delivery mechanisms. The current study looks at how a centralized information and communications technology (ICT) platform can facilitate the growth of MFIs by providing services that will improve their efficiency and transparency and reduce operational costs. The realization of such goals will in turn help the Government improve its monitoring capacities, given the fact that the institutional data will be easily available on time and in electronic form. Chapter 1 delves into some of the issues relating to sustainability, the provision of inclusive financial services by the Government, and the linkage that ICT can facilitate between the formal and informal sectors of the economy. It ends with a description of the methodology for this study.

Government Mandate on Financial Inclusion and Access for All

More than 50 percent of Nepal's microfinance activities serve only those populations that live in the terai and plains areas of Central and Eastern Nepal. Outreach to the hill and mountain regions is severely limited. In order to meet the Government's requirements for financial inclusion and access to all, regardless of location, this situation needs to be changed. However, the current business models and cost structures of microfinance make outreach to the untapped areas difficult and expensive. Branch infrastructure and loan officer–dominated business models are not sustainable, particularly in sparsely populated areas. Research and pilots from other parts of the world suggest that ICT can provide new mechanisms for achieving outreach through branchless banking and other innovative models.

Sustainability of Financial Services in Nepal

The findings of the 2007 World Bank report "Access to Financial Services in Nepal" confirms that the use of banks is limited, financial intermediary NGOs and co-operatives continue to play a large role in providing both deposit accounts and loans across the country, and informal borrowing far exceeds formal borrowing. The reach of formal financial services is most restricted for small business and low-income households, particularly those in hilly and mountainous areas.

The microfinance sector in Nepal is burdened by low profitability. Typical returns stand at a precarious 0.1percent of assets, and microfinance banks in Nepal earn the lowest revenues in the region—12 percent compared to 18 percent of assets across South Asia.[5] The market players in the sector are under significant pressure to achieve financial sustainability and at the same time reach out to many more clients.

The average interest rate provided by MFIs in Nepal to their clients is 24 percent.[6] While this might appear much higher than interest rates paid to banks by wealthier individuals in the country, it is

[5] The MIX. 2008
[6] CMF 2008

actually at the lower end of global norms. Within much of the world, microfinance average interest rates range from 25 percent to 45 percent.[7] The large gap between interest rates charged by banks and those charged by MFIs is one of proportionality. A 7 percent interest payment on a $2,000 loan is $140, which a bank can utilize to cover operational costs. At the same interest rate, the average microfinance loan in Nepal of $137[8] would return only $9.60 for operational purposes. MFIs are charging 24 percent in an attempt to obtain financial sustainability. These institutions need to identify ways to lower operational costs and increase their efficiencies.

Very few institutions in the microfinance sector in Nepal have reached sustainability. Those institutions that have achieved profitability have done so with only the barest of margins. As long as MFIs have to struggle to cover the costs of their existing operations, they will be hard pressed to increase outreach or achieve other growth objectives of the Government. Operational costs need to be reduced and incentives for growth and outreach into more remote regions need to be put into place.

Most MFIs in Nepal adhere to a Grameen-style lending model. Groups are created to provide loan guarantees for the members. The groups meet on a regular basis to collect loan installments. In Nepal, weekly meetings are most common, although some MFIs have moved to fortnightly or even monthly meetings. This approach to banking has high operational costs because loan officers must attend every group meeting, returning to the branch at the end of each day to provide data on repayments and savings collected. To remain sustainable, this business model tends to limit outreach to a 50 kilometer radius from the branch. In Nepal, hilly and mountainous regions are not densely populated enough to sustain a local branch. The establishment of branches in these areas is cost prohibitive. Hence outreach to these areas has been seriously impacted.

Innovative models that leverage ICT are emerging in other parts of the world to address issues of high operational cost and limited outreach. There is an opportunity in Nepal to implement similar solutions, and this report provides some of the emerging solutions to this problem.

Efficiency and Cost of Government Monitoring

As a result of the Government's efforts to increase access to financial services, the Rastra Bank has to supervise 180 institutions.[9] The Rastra Bank does not have adequate staff to oversee and monitor all of these institutions, and it cannot obtain the high-quality data it needs to make decisions.[10] Data about these institutions is not consistently available, and what is available is not in a standard form. There is currently no way for the regulatory agencies to aggregate the information for review and analysis purposes. The Rural Microfinance Development Center (RMDC) and Rural Self-Reliance Fund (RSRF), two apex organizations that were promoted by the Government, face similar challenges tracking portfolio information for the MFIs to which they make wholesale loans. The Government, regulatory bodies, RMDC, RSRF, and other apex organizations need more efficient ways to obtain information and must have confidence that the information they receive is accurate, reliable, and standardized.

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[7] www.nytimes.com/2008/04/05/business/worldbusiness/05micro.html?pagewanted=2

[8] The MIX. 2008. In Nepal, the average loan size in 2006 was $137, one-third of the global benchmark.

[9] World Bank. 2008. "Access to Financial Services in Nepal". Washington, D.C

[10] Interview with Nepal Rastra Bank. February 2008

Sana Kisan Bikas Bank Ltd (SKBBL), a wholesale lender to small farmer co-operatives, has faced the same problem of obtaining accurate data from its members. Since only 20 of its 219 members have computers, the vast majority of information is sent to SKBBL in paper form and through the post. Data is not only difficult to assess, it is also out-of-date by the time it arrives at the SKBBL offices.

The need to have more standardized, reliable data is moving some microfinance stakeholders in Nepal toward central information systems. The Department of Co-operatives, for example, has already contracted a technology company to develop and implement such a solution for it.[11] Similarly, the Government of Nepal has received a grant from the Asian Development Bank (ADB) under the Rural Finance Sector Development Cluster Program-1 and intends to apply part of the proceeds of this grant to the procurement of a Core Banking System (CBS) for branches, regional offices, and head office operations of the Agricultural Development Bank Limited (ADBL).[12] The Nepal Federation of Savings and Credit Co-operatives Union Ltd (NEFSCUN), an apex organization that services 539 co-operatives, has also launched a technology initiative through which it is attempting to centralize data and connect its members. Forty-eight SACCOs have already joined the effort.[13]

To provide real value, these systems need to be linked to the data systems of the Microfinance Development Banks, financial NGOs, and SACCOs across the country. Until these MFIs have technology and the ability to automatically link to the back-office systems of organizations like Center for Self-Help Development (CDS), ADBL, and NEFSCUN, the full benefit of the investment these organizations are making in data systems will not be realized.

Linkages to Remittances, Government Payments, and the Formal Financial Sector

The Government of Nepal would also like to find more expedient and lower costs mechanisms to deliver social payments, enable remittances, and provide linkages between the formal and informal financial sectors. Microfinance development banks, financial NGOs, and SACCOs could provide a broad and far-reaching network to deliver remittances and social payments, as there are more than 3,600 of these organizations spread across the country. However, there is no mechanism to effectively move information to and from these organizations or their branches in a timely manner. The infrastructure to accomplish these tasks is not currently in place. There are examples from other countries where innovative payment systems and technology solutions are being used to transfer money (both domestic and international) at reduced rates and to enable social payments. Those innovative ways can easily be implemented in Nepal.

Centralized ICT Platform as a Vehicle for Addressing a Range of Industry Challenges

A centralized ICT platform can help address the challenges of the microfinance industry within

[11] Interview with Department of Co-operatives. June 2008.
[12] ADBL/CBS 001 – Procurement of a Core Banking System for Agricultural Development Bank Limited, Nepal
[13] Interview with Nepscum. February 2008.

Nepal. The centralized ICT platform contrasts with the traditional approach by which MFIs employ ICT. In the traditional approach, each MFI develops and hosts its own information technology solution and, in doing so, faces sharp capacity and cost issues. In the centralized ICT platform, all technology needs of MFIs are pooled into one place. Technology is thus developed effectively at a lower cost and is deployed more rapidly. The centralized ICT platform makes it possible for MFIs to achieve the original objectives of using ICT: to make operations more efficient, lower costs, and increase profitability. It allows MFIs to stay focused on their core mission, rather than technology.

In addition, a centralized ICT platform allows Government to more easily regulate and oversee the microfinance sector. By bringing all data from MFIs in an electronic form in one place, the platform makes it possible for the Government to make more timely policy decisions and make strategic interventions within the sector based on high-quality, available information.

The platform allows financial services to be deployed in remote, rural areas, which are typically outside the purview of most MFIs. In this way, the platform helps achieve financial inclusion, greater outreach, and access to all within Nepal.

By acting as the hub, the centralized ICT platform connects MFI with the formal financial sector and thus enables the microfinance industry to move forward and become part of the formal financial industry. It allows MFIs to source commercial loans directly from commercial banks, channel electronic remittances for the poor, and deliver social payments throughout the country.

In all, the centralized ICT platform helps develop a more cohesive microfinance industry that can collectively serve the needs of the poor within Nepal.

Nepal's microfinance market is well positioned to embrace a shared centralized system, given that there is presently limited use of technology and hence few legacy systems. Thus there would be relatively few electronic archives to migrate, which is the bane of system upgrades or replacements. Given the fact that the Grameen Model is commonly used, it would be easy to synchronize the data and migrate it to a common platform. This cross-sector consistency dramatically increases the likelihood that a standard system will meet the core requirements of most MFIs in the country. Given the expected benefits, the players have indicated a willingness to collaborate on standards and recognize the importance of improved data flow.

Approach and Methodology for This Study on Centralized ICT

The hypothesis for this study was that a centralized ICT platform is good for the microfinance sector in Nepal and that its benefits could be effectively achieved only if (1) there were a supportive legal and regulatory framework and (2) demand for cost-effective applications that could reduce costs and facilitate outreach to remote and rural areas with demand-driven financial products. In order to test this hypothesis, the team set out to look at the state of microfinance in Nepal, whether the legal and regulatory environment was supportive (without delving into diagnostic details), and what applications were in demand that would appreciably facilitate the increase of outreach of financial services in rural Nepal, given the circumstances on the ground and the international experience. The team also looked at the availability of local vendors that could support an ICT platform. The information and analysis in this report was obtained through interviews with practitioners and other stakeholders across the microfinance sector in Nepal. Discussions were held

with officials from the financial regulators, microfinance regulators, telecom regulators, apex organizations, Microfinance Development Banks, rural development banks, financial NGOs, SACCOs, telecom providers, software providers, and a range of other constituents. Interviews were conducted during two separate missions to Nepal.

Several in-country visits were conducted and a thorough literature search was done on the microfinance and financial sector of Nepal, drawing from existing literature from institutions such as the Consultative Group to Assist the Poorest (CGAP), Centre for Microfinance (CMF), RMDC, RSRF, and the World Bank to help identify key stakeholders across the industry. In addition, the team drew upon the technology and microfinance expertise of CGAP and others in the broader industry to obtain information about global best practices and lessons learned.

The first mission established a list of key stakeholders in ICT and microfinance in Nepal. Interviews and meetings were conducted with them using structured questionnaires and one-on-one discussion checklists to gather data and conduct preliminary analysis. A workshop to rally the support of the stakeholders in ICT adoption in microfinance and in the financial sector in Nepal was also organized. During the second mission, the work plan for the ICT framework for the microfinance and financial sector of Nepal was established. The mission involved further dialogue with key stakeholders and an assessment of their willingness to use ICT.

2 NEPAL MICROFINANCE MARKET OVERVIEW

Chapter 2 reviews the current state of the microfinance sector in Nepal. It identifies the key stakeholders, describes the different market players, and looks at the current state of technology usage across the sector. The primary purpose of the chapter is to provide an analysis of the key challenges that are facing the growth, sustainability, and outreach of microfinance services.

The cessation of hostilities, the recently concluded parliamentary elections, and the declaration of a republic in Nepal have brought with them a new era of optimism. However, at a per capita GDP of US$470 and with 31 percent of the 28 million of the population living below the poverty line, poverty still remains a major development problem.[14] Nepal ranks 143 out of 177 in the UN Human Development Index (2007).[15] The Government is committed to attaining the Millennium Development Goals (MDGs) as they apply to Nepal and is aiming to cut absolute poverty to 21 percent by 2015. Despite the country's geography and legacy of social and ethnic exclusion, the policy and economic reforms that were started in the 1980s resulted in economic progress. Although this economic growth was not equitably distributed among the regions of the country, there has been reduction in poverty and improvement in human development indicators.

The Government has for the past 50 years been concerned with increasing access to financial services for low-income households and small businesses as a way of reducing poverty. In the past, as noted in chapter 1, the Government introduced mandated and directed lending for low-income households and small businesses, it eased the opening of bank branches outside the Kathmandu valley, and created different types of institutions to provide access to credit. Despite these efforts, access to financial services is not improving significantly and in fact the 2007 World Bank study on access to finance in Nepal shows that there is a decline and that financial intermediation is stagnating. The number of deposit and loan accounts per 1,000 people has decreased, and lending targets to low-income households and small businesses has generated excess liquidity that has not been translated into a significantly large outreach. This is because the institutions that are supposed to translate the excess liquidity into loans do not in most cases have the staff with technical skills to extend large volumes of loans. The institutions also lack demand-driven financial products, and in some instances, as the practitioners indicated during this study, high operational costs and the security situation in the country have in the past prevented them from reaching remote and rural areas. Therefore, the government policy of directed lending to small businesses and mandated lending to low-income households have not addressed the root causes of limited access to financial services. The policies have merely tried to address the symptoms. The proposed ICT platform

[14] Central Bureau of Statistics : 2007/8
[15] UNDP : Human Development Report 2007

provides benefits that will enable the MFIs to concentrate on reaching out to more clients. Back-end operations will be eased through the provision of a core banking application that will streamline accounting, track loans, and provide standardized financial statements that are required by funding agencies like the commercial banks, wholesale funds, and so forth. The platform will also enable the use of other IT applications including the use of m-banking, PDAs, etc, thereby reducing the costs of operating in remote areas by the Loan Officers.

Approximately 1.18 million people[16] (or less than 4 percent of total population of 28 million) are served by 3,670 MFIs at the moment.[17] An average loan balance per borrower of these MFIs is 50.9 percent of GNI per capita of Nepal (MIX: 2006). This indicates that all the MFIs are really targeting a poor segment of the microfinance market. The microfinance market is defined in Nepal as the population below the poverty line: 8.7 million people (CMF: 2008). This means that only 14 percent of the potential market is being covered. Services are particularly difficult to deliver in the hilly and mountainous regions of the country. Therefore most of the microfinance activity is limited to a relatively small number of districts in Nepal, as the mapping study results presented later in this chapter demonstrate.

The Rastra Bank and other key stakeholders in the microfinance sector are seeking new ways to strengthen the sector. According to the recently approved Microfinance Policy, the Rastra Bank would like to develop institutional mechanisms to coordinate, simplify, promote, set standards for, regulate, and monitor microfinance at the national level by simplifying and coordinating the flow of microcredit and increasing access for poor people.[18] These requirements were some of the drivers behind the establishment of the National Microfinance Policy 2064 that was passed by the Government of Nepal early in 2008.

Stakeholders

There are numerous types of institutions that provide financial services in Nepal. Some are regulated and supervised by the Rastra Bank, while many are not. Those that are regulated and supervised by Rastra Bank include 19 commercial banks, 35 development banks, 10 Microfinance Development Banks, 19 SACCOs, and 47 NGOs. However, there are also some nonbanking finance companies, the Small Farmers Co-operatives Limited, and a plethora of multipurpose co-operatives that are under the supervision of the Registrar of Co-operatives. The recently finalized World Bank–sponsored Mapping Study indicates that there are more than 3,500 financial co-ops that provide savings and credit to their members, although the total number of co-operatives according to the Registrar of Co-operatives is about 10,000. It is reported that there could be also more than 10,000 NGOs that are involved in some kind of microfinance operations.[19] Commercial banks dominate

[16] Microfinance Nepal Summit 2008 Declaration
[17] CMF 2008
[18] National Microfinance Policy, 2064

Nepal's financial sector, accounting for around 86.7 percent of its assets, followed by finance companies at 6.4 percent, development banks at 4.9 percent, and others (including MFIs) at 2 percent.

In addition to the Central Bank, there is one other regulator, three funding organizations, two support organizations, and a number of microfinance providers in the microfinance market.

Regulators

There are currently two regulators of institutions that carry out financial-services business in Nepal. The Rastra Bank, which regulates commercial banks and other institutions, including co-operatives that take deposits and perform limited banking operations, and the Co-operative Department of the Ministry of Agriculture and Co-operatives, which regulates the co-operatives, that take member deposits but do not perform limited banking, and the other multi sector co-operatives**.**

Nepal Rastra Bank: The Nepal Rastra Bank has imposed "priority sector" lending on commercial banks, which causes them to lend a certain percentage of their deposit liability to deprived populations. This includes microfinance clients. The ratio of such lending has increased over time from 5 percent to 12 percent, of which 0.25 percent to 3 percent must be invested in the "deprived" sector, or the hard-core poor. The commercial banks can either lend the required amount to end clients directly or they can disburse the funds through loans or equity to MFIs. Due to financial reform, in July 2007 the NRB phased out the priority-lending credit policy. However, the 3 percent payments to the deprived sector remain in place and include support to microfinance activities.[20]

> Under this priority sector lending agenda, the central bank has been playing an unusual development role, justified by the lack of commercial bank interest to lend in rural areas and the weak formal microfinance sector. NRB has directed microfinance oriented programs such as the Intensive Banking Program, which introduced group guarantee mechanisms in place of formal collateral, the Production Credit for Rural Women (PCRW) and Micro-Credit for Women (MCPW), which targeted low-income women, and were supported by donor agencies such as IFAD or the ADB. In 1992, NRB introduced the Grameen Bank model in Nepal by establishing five Regional Rural Development Banks, each operating in a separate development region. NRB also manages the Rural Self-Reliance Fund (RSRF), established in 1991, which provides wholesale lending to NGOs, cooperatives and financial intermediaries.
>
> Source: Asia Resource Center for Microfinance

The NRB regulates 5 Regional Rural Development Banks, also known as Grameen Bikas Banks, 7 Microfinance Development Banks, 47 financial NGOs (FINGOs), and 16 financial co-operatives.[21]

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[19] Rastra Bank, 2008 : Microfinancing Towards Empowerment of Disadvantaged Groups in Nepal: Innovations and Practices

[20] World Bank. 2008. "Mapping of the Microfinance Sector in Nepal". Washington, D.C.

[21] World Bank. 2007. "Access to Financial Services in Nepal." Washington, D.C.

A second-tier regulatory authority and a national microfinance development fund that will mobilize resources from national and international funding agencies is to be established under the new Microfinance Policy.[22] These forthcoming institutions will not function properly without having any industry infrastructure in place to gather high-quality, standard, and trusted financial data from all over the country.

Ministry of Agriculture and Co-operatives: The Ministry of Agriculture and Co-operatives is the central body in Nepal that oversees agriculture and allied fields. The ministry consists of five divisions, two centers, one research and development council, four departments, four projects, and autonomous bodies of one research council, four corporations, and a few development committees and boards.[23] The ministry runs agriculture development program in all 75 districts.

One of the bodies within the ministry is the Department of Co-operatives. The department not only works as a regulating structure but is also actively involved in promoting and developing co-operatives. Among other things, the department is involved in research and study on co-operatives; formulation of laws and policies; provision of capacity building to co-operatives through Co-operative Training Centre; institutionalization, monitoring, and evaluation of co-operatives; and representation functions at the national and international levels.

Apex and Funding Organizations

These are organizations that provide funds for lending and capacity building to institutions that are involved in the microfinance business. They play a significant role in the microfinance market .The Apex organizations include the following:

Rural Microfinance Development Center (RMDC): The RMDC provides wholesale funding to regulated microfinance organizations that comply with a strict set of criteria related to their institutional capacity. These criteria focus on service to the poor and financial performance. The organization was registered in October 1998 as a public limited company under the Companies Act, 1996, with a mandate to operate as a development bank within the framework of the then Development Bank Act, 1995. Now RMDC falls under "D" category financial institution as per the Bank and Financial Institution Act (BFIA) of the Central Bank.[24]

RMDC's Progress at a Glance (As of July 16th, 2007)	
No. of program districts:	47
No. of partner organizations:	58
Loan approved :	Rs.2,328.75 million
Loan disbursed:	Rs.1,943.67 million
Loan recovered:	Rs.808.62 million
Outstanding loan:	Rs.1,135.04 million
Repayment rate:	100%
No. of institutions received training:	160
No. of MFIs' staff trained:	10,140
No. of MFIs' client trained:	364,378
Operational Self-Sufficiency:	139.9%

Source: RMDC 2006-2007 Annual Report

In July 2007, RMDC had partnerships with 58 organizations. RMDC provides funding to all

[22] Nepal Micro Finance Policy, 2064
[23] Ministry of Agriculture and Co-operatives. June 13, 2008. www.moac.gov.np
[24] RMDC. 2006-2007. Annual Report.

categories of microfinance practitioners in Nepal. However, the largest amount of its portfolio is dedicated to FINGOs (42 percent) and SACCOs (38 percent). The remaining 20 percent is split equally between microfinance development banks and development banks.

In addition to providing wholesale lending, the organization is also involved in capacity building, promoting financially sustainable MFIs, supporting research, and working toward positive legal and policy frameworks. As such, RMDC has been a key stakeholder in the development of microfinance in Nepal.

Rural Self-Reliance Fund (RSRF): In 1991, the Government of Nepal established the Rural Self-Reliance Fund with the objective of providing wholesale loans to NGOs, co-operatives, and other financial intermediaries for on-lending to the poor. The Microfinance Department of Nepal Rastra Bank acts as the secretariat of the RSRF. Initially, the Government of Nepal provided approximately $300,000 to the RSRF, with an additional $1.5 million to be used to boost the capacity of MFIs, especially co-operatives and NGOs. The target group for funds includes institutions that are reaching families who cannot meet the minimum annual consumption they need from their family income and who have not used any credit facility from any other bank or financial institution.

RSRF is one of the two wholesale lenders for microfinance A World Bank sponsored rating of RSRF conducted in 2006 concluded that RSRF financing to the smaller microfinance institutions is important for the sector's growth, especially in remote areas. However, the rating identified a number of weaknesses in the fund, including weak governance and management and poor financial performance. These weaknesses are caused mainly by the fact that RSRF is not professionally managed and does not have an independent board. As a result, RSRF is often used as a development policy tool, by lending at an interest rate that does not allow for cost recovery, and has a poor track record in loan enforcement. In addition only half of RSRF funds have been disbursed to date, due to understaffing and long loan processing time. Recognizing that the independence of RSRF is a pre-requisite for its proper functioning, NRB has drafted an act that would spin RSRF off the central bank. institutions (MFIs) in Nepal.

Source: Nepal Rasta Bank. 2008. www.nrb.org.np/mfd/intro.php

It is estimated that 40 percent of the RSRF's clients are women who are engaged in a range of income-generating activities in rural areas.

No. of program districts	48
No. of partner organizations	252
No. of borrowers	12228
Total loan disbursed	Nr^{p} 52.6 million
Total loan repaid	Nr^{p} 81.2 million
Total outstanding loan	Nr^{p} 51.4 million
Repayment rate	91.6%

Source: NRB, 2008.

Sana Kisan Bikas Bank (SKBBL): Also known as the Small Farmers Development Bank (SFDB), the SKBB was established in 2001 under the Development Bank Act to provide wholesale funds and technical support to Small Farmer Co-operatives Ltd. (SFCLs). A Small Farmer Development project was initiated in 1975 by the Agriculture Development Bank (ADB) as a means to contribute to poverty alleviation. For 10 to 15 years, the project was very successful in the terms of creating literacy and microcredit. In 1987, due to high overhead costs and limited outreach, the ADB decided to institutionalize the program. Technical support was obtained from GTZ. In 1993, as a pilot project, small farmer co-operatives were established. The Agriculture Development Bank wanted to provide credit in a more wholesale manner, so in 2001 SKBB, a separate sister organization, was

established.

SKBBL was started with approximately $1 million from ADB, $300,000 from the Government, $75,000 from Nepal Limited, $30,000 from another bank, and $18,000 from the co-operatives themselves. There is a plan to transfer ownership completely to the member-farmer co-operatives. Over time, these small organizations have been buying more and more shares in the bank. Out of a total value of approximately $1.8 million, the co-operatives now own $340,000 and are preparing to invest another $450,000.

The bank represents 219 farmers' co-operatives and 129,000 households.[25]

SKBBL Progress at a glance As of July 16, 2007	
No. of program districts	39
No. of partner organizations	219
No. of borrowers	129,000
Total loan disbursed	Nr^{p} 2043.2 million
Total loan repaid	Nr^{p} 1932.8 million
Total outstanding loan	Nr^{p} 1379.5 million
Repayment rate	96%

Source: NRB, 2008.

Market Players in Nepal's Microfinance Sector

Microfinance institutions:
There are four primary types of MFIs that provide microfinance services in Nepal: Microfinance Development Banks (MFDBs), both private and public, which include the Regional Rural Development Banks (RRDBs); Financial Intermediary NGOs (FINGOs); Savings and Credit Co-operatives (SACCOs); and Small Farmer Co-operatives Ltd. (SFCLs). A list of the leading MFIs by size in each of these categories is provided in appendix 2.

- **Private Microfinance Development Banks:** The MDBs include five private banks and five Rural Regional Development Banks (RRDBs). The five private institutions are Nirdhan Uttthan Bank (Nirdhan), Chimek Bikash Bank (CBB), Swabalamban Bikash Bank (SBB), Deprosc Bikash Bank Limited (Deprosc), and NeRuDO Laghu Bitta Bikas Bank (Nerude). These banks are concentrated in the Central and Western terai regions of Nepal.[26]
    - **Regional Rural Development Banks:** Five RRDBs were established between 1992 and 1996: the Eastern and Far Western banks in 1992, the Central and mid-Western banks in 1995, and the Western banks in 1996.[27] The RRDBs' business is modeled on the Grameen Bank methodology. The RRDBs operate autonomously in each of Nepal's five regions, each with a slightly different ownership pattern, though initially the Government and Nepal Rastra Bank dominated all of them. The majority of the

[25] Interview with Shiv Ram Koiraia, Acting Chief Manager. February 2008.
[26] World Bank. 2008. "Mapping of Microfinance Sector in Nepal". Washington, D.C.
[27] World Bank. 2007. "Access to Financial Services in Nepal." Washington, D.C.

ownership remains in the hands of the Government of Nepal and the Nepal Rastra Bank, but two state-owned commercial banks also have a 10 percent stake in the RRDBs.[28] The objective behind the establishment of such banks was to cater to populations outside of existing credit mechanisms. Four of the RRDBs were established under the Commercial Banks Act of 1984; the fifth was registered under the Development Banks Act 1996.

- **Savings and Credit Co-operatives:** The SACCOs are a special form of co-operative that has chosen to provide savings and loans to its members. SACCOs generally emerge spontaneously from self-help groups but are sometimes assisted by local or international NGOs. The number of members can range from 25 to 9,000 or more but tend to average about 200.[29] Of the 10,000 co-operatives in Nepal, approximately 3,500 are SACCOs.[30] Both the RMDC and the RSRF provide capital to SACCOs. SACCOs are found spread across most regions of Nepal and make up a significant number of the microfinance practitioners in Nepal.[31] The majorities of SACCOs generate funds through internal savings mobilization or retained earnings. A SACCO is organized by and comprises members of a particular group or organization who agree to save their money together and to make loans to each other at reasonable rates of interest. Some SACCOs provide loans on group guarantee while others provide loans on individual basis.

- **Small Farmer Co-operatives Ltd.:** SFCLs are a special form of SACCO. They are federations of small-farmer groups organized under the Small Farmers Development Program of the Agricultural Development Bank of Nepal, with technical assistance from GTZ.[32] Like other SACCOs, the SFCLs can access wholesale funds from RMDC and RSRF, but they are also able to obtain financing from Sana Kisan Bikas Bank, an apex institution in which many of the SFCLs are shareholders.

- **Financial Intermediary NGOs:** While the number of FINGOs engaged in microfinance is not exactly known, the number with limited banking licenses, provided by the NRB under the Financial Intermediary Act of 1999, is 47. The first FINGO was registered in 2001. FINGOs mobilize savings and borrow loanable funds from two apexes—RSRF and RMDC—and the Deprived Sector Lending window of the commercial banks. Apart from the limited assistance of RSRF and few bank loans, they are overwhelmingly dependent on donor funds.

Microfinance networks:

- **Centre for Microfinance (CMF):** The Center for Microfinance was established in July 2000 to strengthen the capacity of MFIs and enable them to provide savings, credit, and other financial services to the poorest-of-the-poor families, especially women. CMF runs a wide range of programs designed to meet the emerging needs of MFIs. To promote the

[28] World Bank. 2007. "Access to Financial Services in Nepal." Washington, D.C.
[29] World Bank. 2007. "Access to Financial Services in Nepal." Washington, D.C.
[30] Interview with Mr. Tanka Mani Sharma, Registrar. Department of Co-operatives, Ministry of Agriculture and Co-operatives. June 2008.
[31] World Bank. 2008. "Mapping of Microfinance Sector in Nepal". Washington, D.C.
[32] World Bank. 2007. "Access to Financial Services in Nepal." Washington, D.C.

microfinance sector, CMF engages in training, technical assistance, consultancy services, research, knowledge management, publication and documentation, dissemination of best practices, and networking in partnership with national and international organizations. CMF's Articles of Association 13 (f) states that the surplus earned by the organization shall not be distributed as dividends to the shareholders. Rather, such profits shall be deployed for the development of microfinance-sector and poverty-alleviation programs and CMF shall remain a not-for-profit organization.

- **Microfinance Development Bank Association:** This is a new association that is registered with the district administrative office and has nine members consisting of private and public microfinance development banks. It has a board but has not been a significant player in the market so far. However, individual members have been playing a leading role in the development of microfinance sector in the country.
- **Microfinance Association Nepal:** This association was established in 2003 with support from the Center for International Studies and Co-operation but could not function well due to governance issues. It is has recently been revived by the board of trustees. It provides membership to only financial intermediary NGOs. Currently it has 10 members. It has started to provide training to their members with support from Plan International.
- **Nepal Federation of Saving and Credit Co-operatives Union Limited (NEFSCUN):** NEFSCUN is the only national apex body for SACCOs and their district unions in Nepal. It is a member-based organization, providing financial and nonfinancial services and guided by the International Credit Union Principles and Values. It promotes, strengthens, and provides a forum for SACCOs to become viable community-based financial institutions by providing value-added services such as education, training, and financial services. Since being formed in 1988 with 28 SACCOs, NEFSCUN has grown to 539 member SACCOs and district unions representing approximately 225,000 individual members and covering 54 districts in 14 zones as of June 5, 2008. Its core services and programs are representation, advocacy and networking, financial/nonfinancial services, democratic governance, and capacity-building support among SACCOs.

Microfinance Products and Services

- **RRDBs and MFDBs:** These offer a range of loans, savings, microinsurance, and remittances services. In terms of credit, they offer social, enterprise, emergency, alternative energy, seasonal, and general loans. In addition, they offer compulsory, pension, and voluntary savings products as well as term deposit products. Some RRDBs also offer pretraining to new clients, while some of the MFDBs provide social intermediation.[33] There are differences in the way interest rates are charged. Grameen Bank, Biratnagar, confirmed that it charges interest rates on declining balance whereas Grameen Bank, Nepalgunj, says that it charges a flat rate.[34] MFDBs charge interest on declining balances.
- **SACCOS:** Community-based models, such as those built on the methodology implemented by SACCOs, provide a wide range of savings and loan products to their members. They tend

[33] CMF 2008
[34] CMF 2008

to serve a well-off population, but some serve the poor. SACCOs commonly require compulsory savings but also offer individual or group saving products and festival and educational savings services. Loans provided by SACCOS have a minimum term of three months but can be extended to more than 18 months. Loans tend to cover specific needs, such as agriculture, microenterprise, housing, or, in some cases, emergency or social requirements.

- **FINGOs:** A majority of FINGOs disburse loans on 3+2 basis, that is, the loans are disbursed to the first three members in the group and then to the final two members. Loans are provided on an individual basis. Most FINGOs offer monthly repayment plans. Interest is calculated on a declining balance.

Regulatory Regime

Although often quoted as an obstacle to the growth of the sector, the existing legal framework is not a binding constraint on its growth. It is true, however, that the current microfinance regulatory framework is fragmented. The microfinance practitioners are regulated by different regulatory bodies with differing policies and acts, as indicated in the chart below.

While the framework per se is not hampering microfinance growth, the supervision of the sector is problematic. Institutions that pose no systemic risk are supervised while larger ones may not be. As a result, microfinance consumers can be misled, while the supervisor has difficulties ensuring the stability of the sector.

More detailed information about the regulatory framework surrounding all the MFIs is provided in chapter 5 of this report. The following chart shows the legal texts that cover the microfinance activities.

Legal texts covering microfinance activities, by legal form

Legal form	Legal texts
Financial NGO	NGOs can be established under the 1978 Society Registration Act and 1991 Social Welfare Act. The 1998 Financial Intermediary Society Act allows NGOs to provide microcredit to their members, as financial intermediary NGOs (FINGOs). Financial NGOs fall under the 2006 Banks and Financial Institutions Act, as Class D institutions.
Cooperative	Cooperatives can be established under the 1992 Cooperatives Act. The 2002 Cooperative Societies Holding Limited Banking Transactions Directive enables financial cooperatives to mobilize savings and provide credit. Financial cooperatives fall under the 2006 Banks and Financial Institutions Act, as Class D institutions.
Microfinance development bank	Microfinance development banks can be established under the 1964 and 1991 Company Acts, and registered with Nepal Rastra Bank under the 2006 Banks and Financial Institutions Act, as Class D institutions.
Regional rural development bank	Four regional rural development banks were established under the 1984 Commercial Banks Act, and the fifth under the 1996 Development Banks Act. These banks fall under the 2006 Banks and Financial Institutions Act, as Class D institutions.[a]

a. The 2006 Banks and Financial Institutions Act repealed the 1967 Agricultural Development Bank Act, 1974 Commercial Bank Act, 1985 Finance Company Act, 1990 Nepal Industrial Development Corporation Act, and 1996 Development Banks Act.

Source: World Bank, 2008.

Market Size and Potential Growth

In Nepal, more than 50 percent of the current microfinance customer base is served by the 10 Microfinance Development Banks and the top 19 SACCOs, or a total of 29 organizations.[35] The majority of microfinance institutions are located in a relatively small number of districts.

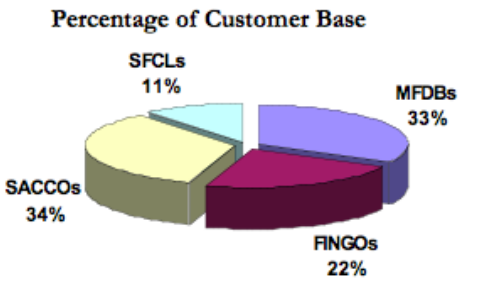
The table below breaks down the microfinance market in Nepal by category. The number of institutions in each category, the range of clients per institution, and the total customer base in each category is provided. This information was gathered from a range of sources, as indicated below.

	Number	Number of Clients/Bank	Total Customer Base
MFDBs	10	20,000 - 86,000	392,000
FINGOs	47	5,000 - 40,000	257,000
SACCOs	3392	100 - 5,000	403,000
SFCLs	219	500 - 1,500	129,000

Sources: NRB (2007), CMF (2008), Department of Co-operative (2007), SKBBL (2007).

[35] CMF 2008

SACCOs, which number in the thousands, account for 34 percent of the market penetration. The 10 MFDBs alone account for an almost equal percentage, or 33 percent, and the 10 MFDBs alone serve close to 33 percent of the microfinance customer base. The rest of the market is highly fragmented, comprising thousands of co-operatives and NGOs.



Sources: NRB 2007, CMF 2008, Dept of Cooperatives 2007, SKBBL 2007

The table below provides detailed information on the branches, loan portfolio, client base, and number of employees for the top 31 MFIs in Nepal. Each MFI is listed by category

SN	Name of MFIs	Category	Existing Status as of Mid July 2007			
			# Branc	Loan Portfolio	Clients	Employee
1	BISCOL	SACCOs	1	$1,068,663	4484	15
2	Chimek Bikash Bank	MFDB	19	4,383,672	37,217	150
3	Center for Self-help Development	FINGO	21	2,360,279	22,404	127
4	Deprosc Development Bank	MFDB	18	3,296,469	22,720	84
5	DEPROCS Nepal	FINGO	29	4,488,091	35,439	131
6	Rural Development Bank-Biratnagar	MFDB	43	11,294,031	56,564	292
7	JSCCS	Coperative	1	834,899	3,369	11
8	Jivan Bikash Samaj	FINGO	18	1,633,483	19,439	83
9	Madhyamanchal Grameen Bikash Bank	MFDB	28	4,279,130	43,843	235
10	Madhya Paschimanchal Grameen Bikash Bank	MFDB	23	3,100,813	18,405	133
11	NERUDO	FINGO	3	330,077	3,511	18
12	Nirdhan Utthan Development Bank	MFDB	48	9,679,406	83,886	322
13	Paschimanchal Gramin Bikash Bank	MFDB	35	6,909,156	35,895	214
14	Sudur Paschimanchal Bikash Bank	MFDB	17	2,135,063	19,957	79
16	VYCCU	Coperative	1	1,021,995	3,526	13
17	CSD Bank	MFDB	47	6,744,078	74,283	216
18	SKBBL (219 SFCLs)	MFDB	9	21,554,375	129,000	
21	RMDC (58 Partners)	MFDB	-	17,735,063	-	
22	RSRF(252 Partners)	Fund	-	802,656	12,228	22
23	Forward	FINGO	22	2,542,286	28,907	132
24	Neighbourhood Society Service Center	FINGO	11	2,068,748	14,996	77
25	Manushi	FINGO	6	455,683	5,800	20
26	Association of Cottage and Small Industries	FINGO	3	43,044	1,384	5
27	Mahuli Community Development Center	FINGO	4	591,807	5,137	22
28	Women Cooperative Society	SACCOs	3	4,976,543	12,322	38
29	Srijana Community Development Center	FINGO	4	323,682	3,411	17
30	Nerude bank	MFDB	19	2,209,137	29,895	126
31	Solve Nepal	FINGO	3	126,848	3,297	15
32	Nesdo	FINGO	6	531,442	6,986	22
33	Chartare Ubaclub	FINGO	7	849,291	7,059	32
34	CMF (26 Women SACCOs)	SACCOs	-	1,380,105	17,909	75
	Total		**449**	**119,750,015**	**763,273**	**2,726**

Sources: Primary data as of 16 July 2007 from respective institution compiled by CMF (2008)

These institutions, as noted earlier, need more staff with necessary technical expertise to run them. They are also currently using manual systems for their business processes. The management in the head offices receive the data often just once a week and in some instances once a month. This

implies that managers cannot make quick decisions that could affect the financial health of the institutions. Reporting to the regulatory authorities, donors, and others becomes a burden due to lack of standardized reporting procedures and the fact that the data is not electronic.

Market Outreach

The data that has been used to estimate the market potential and the coverage of MFIs was obtained from latest data and reports from CMF and the findings of the mapping study. As indicated earlier, the potential microfinance market is composed of the 31 percent of the population that lives below the poverty line. The table below breaks down the microfinance market by region, showing the current outreach and market potential in each.

Current Microfinance Market Outreach and Total Market Size

Development Regions	Number of Clients	Microfinance Market	Percent of Penetration
Eastern	306,388	2,543,536	12%
Central	472,810	2,806,561	17%
Mid-West	117,126	1,043,790	11%
Western	237,772	1,518,415	16%
Far Western	49,657	766,722	6%
Total	**1,183,753**	**8,679,024**	**14%**

Sources: CBS (2007), CMF (2008).

The table shows that only a small percentage of the possible microfinance market is being reached. It also shows that those that are being reached come from the Eastern, mid-Western, and Central regions of the country.

The vast majority of microfinance recipients live in the terai and plains regions as indicated in the following table. However, the table also indicates that the hills and the mountain areas have potentially higher numbers of possible and needy clients than the terai and the plains. The earlier sections of the report demonstrated the fact that there are numerous constraints that have prevented the microfinance service providers from reaching these areas. The introduction of the ICT platform will ease many of the identified constraints, hence facilitating the exploitation of this potential by the service providers.

Microfinance Market Breakdown by Regional Type

Eco-zone	Number of Clients	Microfinance Market Size	Percent of Market Penetration
Terai (plain areas)	743,423	3,153,752	24
Hills and mountains	440,330	5,525,272	8
Total	**1,183,753**	**8,679,024**	**14**

Sources: CBS (2007), CMF (2008).

This information can be further broken down to show that the majority of microfinance clients live in only 13 districts, which are primarily centered in the Central and Eastern regions of the country.

Concentration of market penetration and market of all four categories

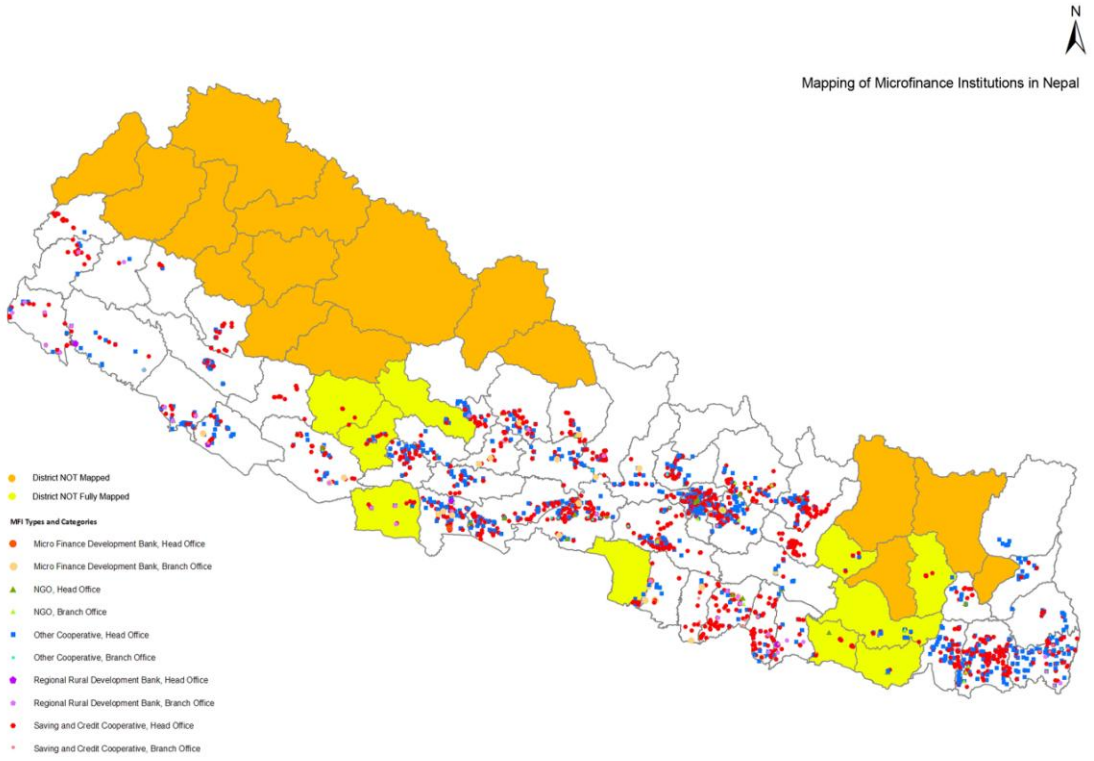
SN	Districts	Concentration of clients	Microfinance Market (31% of Total Pop)	Total Population	Regions
1	Morang	88,795	291,900	941,614	E
2	Sunsari	60,200	220,361	710,842	E
3	Rupandehi	55,026	249,755	805,662	W
4	Bara	55,046	196,708	634,542	C
5	Jhapa	54,484	234,203	755,494	E
6	Kathmandu	43,823	395,794	1,276,754	C
7	Chitwan	43,765	165,694	534,496	C
8	Sarlahi	40,627	221,499	714,513	C
9	Dang	35,985	161,674	521,528	MW
10	Parsa	35,604	174,627	563,312	C
11	Nawalparasi	33,800	196,220	632,969	W
12	Dhanusa	32,441	231,695	747,402	C
13	Bake	27,468	135,968	438,608	MW
	Total	**607,064**	2,876,098	**9,277,736**	
51 % share of total market penetration by 13 districts					
21% penetration in the microfinance market of 13 districts					

Sources: District Development Profile, 2006 and CMF, 2008

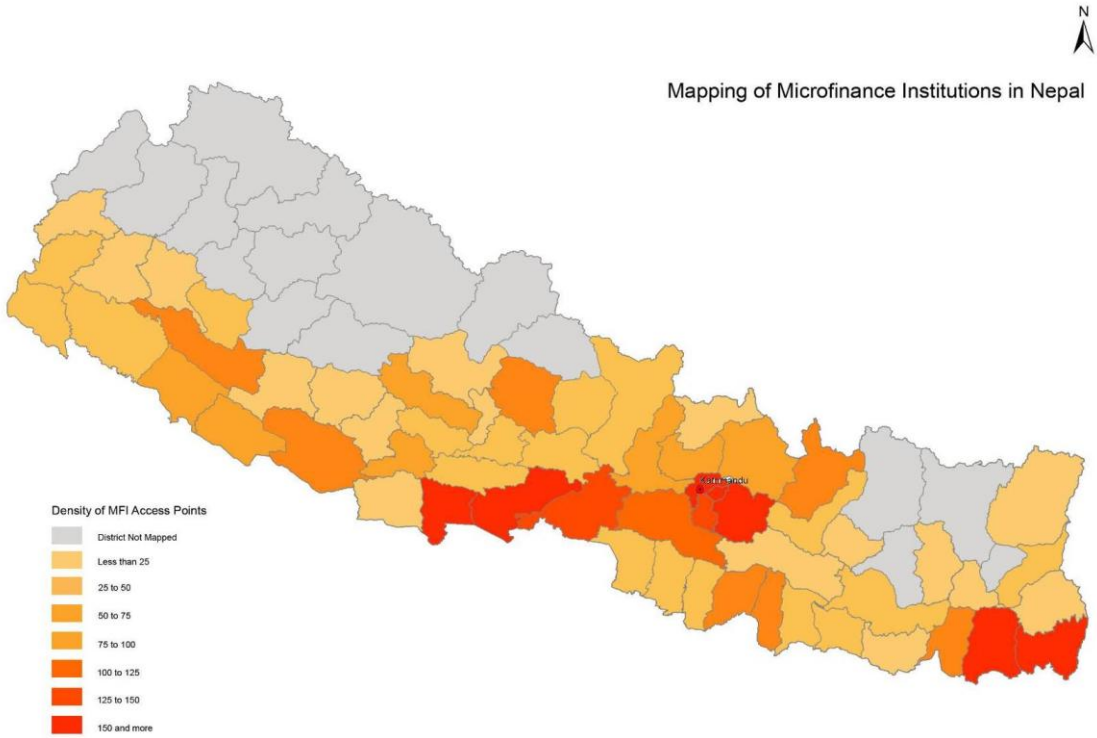
In an effort to discover what kind of institutions were providing financial services in the countryside and in order to help the Government determine what institutions posed a systemic risk and therefore required supervision by the Rastra Bank, the World Bank sponsored a mapping exercise.[36] The exercise covered 59 out of 75 districts and mapped more than 3,600 MFIs. The maps below show the location of the MFIs and their branches and confirm the data that was obtained from CMF's reports and studies, which consistently showed that many of the MFIs were operating in a few districts and that the hills and mountain areas were not being equally served. The first image shows the locations of the 3,600 MFIs mapped[37] and the second shows the density of the MFIs.

[36] The original intention of the study was to map, or physically locate via GPS institutions in all 75 districts of Nepal. However, due to difficulties with the terrain and the political situation at the time of the survey, only 3600 institutions and their branches were mapped in over 59 districts. Therefore , while extensive in nature, the final results do not include information from some of the districts in the then conflict prone terai and the remote mountain regions. The consultants that carried out the exercise indicated during the meetings that from their secondary sources the institutions that were not mapped would not change the status of microfinance in Nepal in a significant way.

[37] World Bank. 2008. "Mapping of Microfinance Sector in Nepal". Washington, D.C.



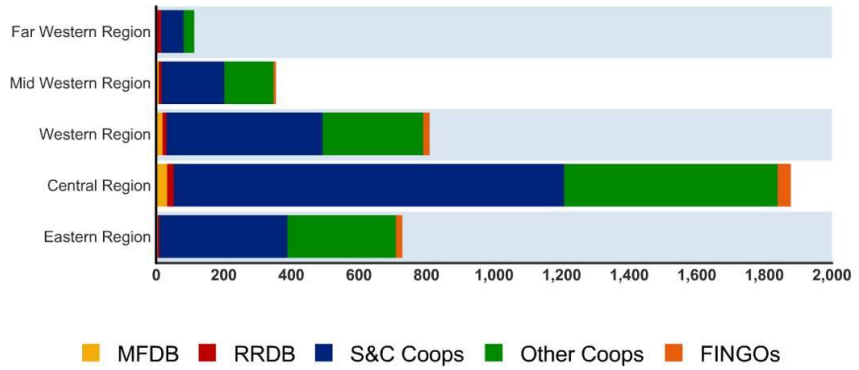
The map below shows the density of MFIs per region. This view supports earlier information from CMF and other sources that state that the majority of MFIs are located in just a few regions of the country, primarily the terai and plains districts.



The mapping study supports the conclusion that though a large number of MFIs are operating in Nepal, they are not equally distributed. Urbanized hill districts like Kathmandu, Bhaktapur, and Kavre and more commercial and Terai districts like Jhapa, Morang, Nawalparasi, and Rupandehi have the largest number (150 or more) of MFIs. Many of the mountain districts and less accessible hill districts have fewer MFI branches.

Most of the MFIs are found in the Central and Western regions. The Far Western region has the smallest number of MFIs.

Distribution of Microfinance Institutions Mapped by Region



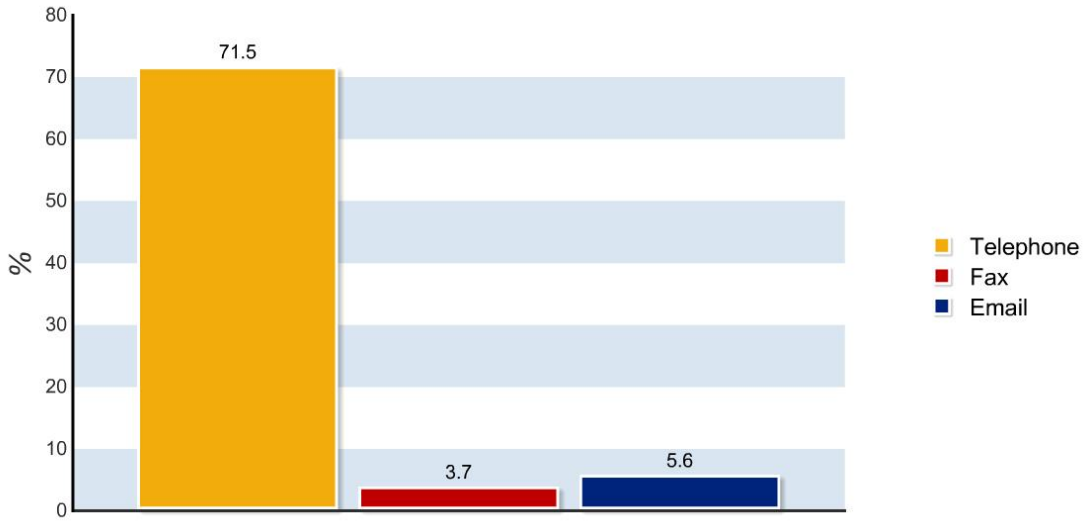
The foregoing sections show that there is high potential for the growth of MFIs in Nepal. However, in order for this potential to be effectively exploited within and beyond the 13 districts requires that the cost of doing business in the hills and mountains be reduced and that the MFIs' staffs be trained to run the branches in those areas. The MFIs also need to develop new and demand-driven products that the inhabitants of these new regions desire. All these operational activities pose a challenge to the MFIs that will be attempting to increase their outreach in these remote hilly and mountainous areas. One other issue that the practitioners have raised is the overlap that occurs among the MFIs. It might not be significant now, but as noted elsewhere in the world, this situation could lead to indebtedness of the clients. The sharing of data on the clients among MFIs, particularly through a credit bureau, would alleviate this problem.

Other Market Considerations

Access to Technology

According to the mapping study, approximately 71.5 percent of MFIs in Nepal have business telephone numbers, while only 3.7 percent use facsimile machines (fax) for communication. Around 5.6 percent of the MFIs have access to electronic mail (email). This indicates that the level of communication and connectivity infrastructure for most MFIs is severely limited. The mapping study takes special care to point out that a higher number of MFIs may have actual access to such communication facilities but may not be using them exclusively for business purposes.

Presence of Communication Medium in the MFIs



New technologies can help increase access to financial services to the poor. Recently there has been a rapid increase in the use of new technologies in many countries to increase access to financial services. This trend has included the widespread use of smart cards and of mobile telephone networks. By early 2008 there were more than 4.03 million[38] mobile telephone connections in Nepal, and mobile networks cover 93 percent of the geographical area and 13.94 percent of the population.[39] In Nepal, mobile telephone penetration goes well beyond microfinance branch penetration. As shown in the maps, mobile phone coverage reaches the hill areas that microfinance institutions fail to reach. By comparison to the mobile phone penetration, the commercial banks and microfinance banks have been able to accumulate only 2.27 million[40] deposit accounts, and barriers to entry have kept most of the poor out of the banking system.

The microfinance platform offers tremendous opportunities to capitalize on mobile telephony penetration (and other new technologies) to increase the reach to the poorest at a fraction of the transaction costs associated with building branch networks. Linkages with the banking sector to use this new financial infrastructure will maximize benefits that go well beyond the microfinance sector.

Market Challenges

The final section of this chapter presents information from the assessment of market potential, information about the current coverage by the MFIs, and information from interviews that were held with the practitioners and other stakeholders. This material is presented as a summarized elucidation of the market challenges that the MFIs face in Nepal. This section also provides some of the reasons why penetration is still at 14 percent and why a centralized ICT platform could spur the

[38] Data from NTC and Spice Pvt. Ltd, September 2008. These mobile telephone connections could potentially become bank accounts through m-banking.
[39] Data from NTC and CBS
[40] World Bank. 2007. " Access to Financial Services in Nepal". Washington , D.C and Outreach data from CMF, 2008.

expansion of microfinance providers into areas hitherto unserved or underserved.

Regulators and apex organizations have limited visibility to a highly fragmented microfinance market. The regulators and wholesalers that were interviewed for this study all described the challenges they face obtaining accurate, reliable information about MFIs. This is true across all the different types of MFIs. Their requirement for data is generally limited to information about the MFIs performance, assets under management, liquidity, and other institutional data. The lack of available information is a direct result of the manual data-management processes described in the technology discussion in this report.

During the interview process, the regulators and apex organizations indicated that they were interested in finding better ways to obtain standardized reports. The issues of cost and connectivity were raised as hurdles in solving this challenge.

Low technical capacity leads to a lack of standards across the microfinance sector, limiting MFIs access to capital. Key technical areas such as accounting and auditing, financial analysis, data management, and human resource management are challenges across the sector. As mentioned in the Microfinance Products and Services section of this chapter, CMF cited differences in operational approach as well as the way that interest rates are calculated. Interviews with the software vendors that are building back-office systems for leading MFIs concurred with CMF's findings. They said that even within the same institution, some branches are performing their interest calculations in a unique manner. According to best practices in the industry, this is a basic business practice that should be standardized. During the Nepal Microfinance Summit in February 2008, MFIs agreed to address this and other issues related to standards.[41]

Many microfinance providers in Nepal cannot access the funds they require because they are not deemed "capable" by potential funders such as commercial banks and apex organizations. This is a problem not of lack of funds but rather of a lack of capacity and transparency among many of the MFIs in Nepal.[42]

Outreach goals will be difficult to achieve as a result of high operational cost of reaching the hill areas and high cost of connectivity in those regions. The Nepal Microfinance Summit that took place in February 2008 set the joint goals of reaching 2 million of the poorest of the poor with microfinance services by 2010 and a total of 3 million of the poorest of the poor by 2015. These numbers would grow from a figure of 1.18 million served as of July 2007. Even if these targets are met, they will address less than 50 percent of the potential market demand. Part of the challenge of extending services to a larger population is the cost and difficulty of reaching the hill and mountain regions where 51.6 percent of the population lives.[43]

As described in graphs and charts from CMF and the mapping study, the majority of microfinance clients live in the terai and plain areas of Eastern and Central Nepal. According to interviews conducted with MFIs and apex organizations, the concentration of services in these regions is due to the high costs of operating in the hill and mountain regions. Populations there are quite disperse and difficult to reach.

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[41] Nepal Micro Finance Summit, 2064

[42] CMF 2008

[43] National Planning Commission. 2008

The high cost of connectivity was cited during interviews of market players as a key challenge in obtaining data from hill regions. However, on further discussions with the Nepal Telecommunications, it was found that plans to improve connectivity are under way and that in most of the country minimum connectivity was available that could allow transmission of data at least once a day.

Microfinance institutions have no access to information about what they believe are high levels of client duplication. The credit bureau in Nepal covers only loans that are $15,000 or higher. Therefore, it is not useful for MFIs. Client duplication, about which MFIs have little information, is an increasing challenge according to the financial providers interviewed for this report. Addressing client duplication was one of the highest priority issues of the MFIs that attended a workshop conducted by the study team in February 2008. A commitment to establish a credit bureau was included as item 16 in the declaration from the Nepal Microfinance Summit, 2064, which stated that a "Microfinance Network should initiate the establishment of a Microfinance Credit Information Bureau to overcome overlapping of microfinance services and to establish fair competition and/or co-operation among practitioners."

The informal sector offers products and services better suited to microfinance customers. Although microfinance plays an important role in the extension of financial services to Nepal's poor people, many microfinance clients prefer to save and borrow with the informal sector.[44] Informal funds that are quickly available and have no requirements for immovable collateral can be more attractive to individuals with irregular incomes. A third of the bottom three quintiles said they borrowed informally because formal financial institutions take too long to provide loans.[45] The types of products and services that the microfinance sector offers clients, as described earlier in this chapter, are not meeting customers' needs.

Theft is an increasing problem, particularly for RRDBs and FINGOs. While the MFDBs have been able to keep looting under control, the regional rural development banks and FINGOs are having increasing challenges with theft of cash, physical threats, and other similar challenges. This point was drawn out in the World Bank's "Access to Financial Services in Nepal" report, and it was supported during an interview with representatives from a FINGO who described the increasing problems FINGOs were facing on this front as well as their search for creative solutions. The FINGO representatives described their attempts to devise mechanisms through which their customers, loan offices, and branch staff could move smaller sums of money on a less frequent basis.

The World Bank reports that remittances represent a missed opportunity for the entire financial sector.[46] Officially recorded remittances increased continuously between 1997 and 2007, according to a World Bank report. In 2005, officially tracked remittances reached $908 million, equivalent to 12 percent of Nepal's GDP (IMF, 2006). However, according to the report, the IMF estimates that 80 percent of foreign remittances are informal. Thus, the total amount of remittances is much higher than the 12 percent recorded by the Government in 2005. A conclusion of the report is that remittances are a missed opportunity for the entire financial sector.

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[44] World Bank. 2007. "Access to Financial Services in Nepal." Washington, D.C.
[45] World Bank. 2007. "Access to Financial Services in Nepal." Washington, D.C.
[46] World Bank. 2007. "Access to Financial Services in Nepal." Washington, D.C.

Technology is under utilized, increasing challenges related to fragmentation, high cost of delivery, lack of outreach, and client duplication. The MFIs estimated that between 20 percent and 30 percent of the head offices and their branches were computerized. These figures were supported by a recent mapping study of the sector.[47] The most common form of data management is manual: pen-and-paper based. It is estimated that the second most common form of data management is via spreadsheets. It was not possible to quantitatively validate this claim, but all qualitative assessments and interviews strongly suggest that it is the case.

A relatively small number of MFIs and apex organizations have management-information systems installed. This is starting to change as most MFDBs are beginning to develop ICT strategies and are considering substantial investments—in their terms—MIS solutions. According to interviewees, investments ranging from $85,000 to $165,000 are being considered, with preference for local vendors to provide customized solutions.

The most sophisticated ICT usage is among MFDBs, but none has a centralized system yet.[48] Data transfer from computer-equipped branches to the head office is via email or memory stick, resulting in delays and a lack of data accuracy. Those MFDBs that have implemented MIS solutions are not satisfied; all questioned said they would replace current systems if a better solution were available.[49]

Investments alone, however, will not be enough, as there is a lack of technical expertise and computing skills among MFI staff across the sector. Institutions do recognize the value of technology solutions for their industry, but they lack the know-how to implement ICT in their organizations.

[47] World Bank. 2008. "Mapping of Microfinance Sector in Nepal."
[48] Interviews with microfinance institutions and other stakeholders. 2008.
[49] Interviews with microfinance institutions and other stakeholders. 2008

3 THE PROPOSED TECHNOLOGY SOLUTION

This chapter builds upon the market research that was conducted in Nepal for this report and provides a conceptual framework for the role that information and communications technology (ICT) can play in addressing the significant market challenges that are currently being faced by MFIs across the country. The concept of a centralized ICT platform is introduced as an infrastructure that can link MFIs to government and the formal financial sector.

The Role of ICT in Meeting Nepal's Microfinance Market Challenges

The market challenges described in the previous chapter can be tackled through better use of information and communications technologies. There is increasing evidence that productive use of ICT can have dramatic effects on an MFI. Instead of increasing costs, ICT can in fact help reduce operational costs of an MFI, allow it to develop new products and services that can help reach out to a larger population of people, build linkages between MFIs and the formal financial industry, and improve oversight and governance of the overall microfinance industry. The largest MFIs in Nepal already understand the benefits of ICT and are pursuing independent strategies to integrate technology solutions into their businesses.

Until now, MFIs have pursued stand-alone strategies to adopt ICT. Because of their ad hoc approaches, MFIs have been unable to fully realize the gains of ICT. Many have chosen to either acquire or develop their own software. By acquiring software, they have faced high costs of technology adoption and a lack of technical capability to utilize ICT. By building their own software, they have moved away from their core competency of offering microfinance to an unknown territory of developing software and have encountered formidable problems. Even when MFIs have successfully employed ICT, they have emerged as islands in a sea; no two have shared common information about their clients to help them distinguish between a good, paying customer and a bad, delinquent one. Instead of being an enabler of efficiency, affordability, and innovation, ICT has become an expense for MFIs without offering a corresponding gain in revenue.

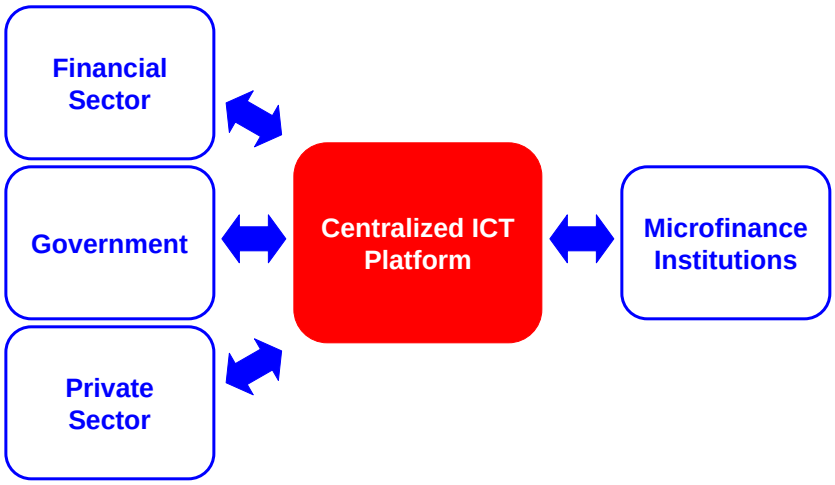
More systematic use of ICT can, however, provide significant benefits. Over the past few years, a range of innovative applications have entered the market to address the needs of unbanked populations. Mobile banking and branchless banking are providing money transfer and remittance solutions in some countries to large segments of populations. Credit bureaus and centralized data repositories are opening the possibility of alleviating client duplication. High-quality, standardized reporting is demonstrating to commercial investors the benefits of more accurate assessment of portfolio quality and institutional strength. If MFIs were to participate in such new opportunities, they would have to equip themselves with high-quality technology solutions that are standardized,

well-planned, and efficient. Such high-quality technology solutions have previously been the preserve of commercial banks. Such solutions have often been perceived as far too expensive for the world's MFIs, which serve the poorest in any county. This leads to the need for a new paradigm that could allow MFIs to adopt new technology in an affordable way.

In Nepal, the vast majority of MFIs manage their data manually. The relatively few that use computers have decentralized systems that do not allow the branches to be connected to the head office. Many use Excel spreadsheets to track client data. The few MFIs that have purchased specialized software, or are in process of doing so, have opted for local vendors and a solution customized for their individual institution. Not one MFI in Nepal has purchased, or is in process of purchasing, the type of high-quality technology solution that would enable them to aggregate data for a credit bureau, provide Government with standardized reports, link into formal financial institutions, or participate in branchless banking.

A Centralized ICT Platform Will Enable Nepal's Microfinance Institutions to Adopt and Utilize ICT

A centralized ICT platform can help MFIs in Nepal adopt ICT in a rapid, affordable way. It can serve the technology needs of MFIs across Nepal. It can allow Government, the financial sector, and the private sector to connect with the microfinance network. It can help develop a cohesive microfinance industry within Nepal that is more capable of serving the needs of the poorest. The following diagram illustrates the various entities that would connect with the centralized ICT platform:



First, the centralized ICT platform serves the MFIs by pooling in all their technology needs in one place. The platform provides standard management information systems, databases, and front-end applications to each MFI for a service fee. Because technology is developed and hosted centrally, the platform offers technology solutions at a lower price due to economies of scale than what it would cost a single MFI to develop and host the same technology by itself. By hosting technology centrally, the platform stores data from all MFIs in one place and guarantees the security and availability of data for all MFIs. With data stored centrally, the platform can allow MFIs to learn about the credit-worthiness of clients, control and reduce overlap, improve the quality of their loan portfolio, and lower the number of nonperforming loans. The platform makes possible the

development of new applications such as mobile banking and electronic remittances. Once transactional information is captured and stored electronically, it opens the door for MFIs to develop new products and services that can be made available through emerging delivery channels such as mobile phones and the Internet.

Second, the centralized ICT platform allows the Government to regulate the microfinance sector more effectively and at a lower cost, and facilitates the development of a more transparent and accountable microfinance sector. Because data from microfinance sectors are available online, Government can agree with MFIs to have access to selective information about the institutions' loan portfolios and client populations. With information readily available, the Government can learn about the performance of the microfinance sector at any time and design more effective policies to strategically intervene within the sector. The cost of regulation becomes lower. Government and MFIs can agree on standard ledger rules, charts of accounts, processes, and reports that can allow easy oversight of the microfinance sector.

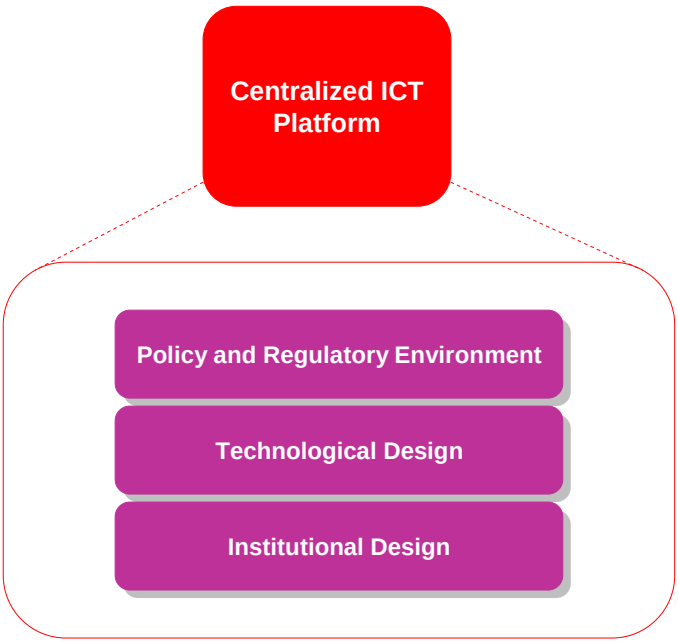
Third, the centralized ICT platform allows the financial sector, namely, commercial banks and financial intermediaries, to have access to information about MFIs and assists MFIs in becoming part of the formal financial sector. Because commercial banks have access to accurate, online information, they are able to provide commercial loans directly to MFIs. The MFIs and the formal financial sector can be linked via the centralized ICT platform. Electronic remittances can more easily flow from one destination to another within Nepal, or from one international source through the financial sector, through the centralized ICT platform, through the microfinance network, to the client in a remote, rural area.

Fourth, the centralized ICT platform allows the private sector, namely, telecom providers and software companies, to have a greater role in the microfinance sector of Nepal. MFIs can pair up with telecom service providers to provide access to financial services using mobile phones or hand-held devices. With MFIs gearing up to exchange information electronically, software companies can provide applications and services to MFIs to help them make better use of electronic information and develop new products and services. The centralized ICT platform can help energize the local private sector in serving the needs of the poor within Nepal.

These benefits can be realized by setting up a centralized ICT platform with the following three elements:

1. A supportive policy and regulatory environment that facilitates the development of a centralized ICT platform
2. A wholesome technological design that is capable of serving the needs of the national microfinance market within Nepal
3. A collaborative institutional design that can allow an institution to host the centralized ICT platform, guarantee the data security of MFIs, and keep the cost of using technology to a bare minimum.

The following diagram captures these essential elements:



The subsequent three chapters of the report discuss the above three elements of the centralized ICT platform in greater detail.

Beneficiaries of the Centralized Technology Platform in Nepal

Benefits That Accrue to Microfinance Institutions

For the MFIs, the ICT platform will provide operational benefits, allowing them to focus on core missions rather than on technology. Instead of investing in individual software solutions to allow them to track their portfolio of loans, savings accounts, and other products, they can simply sign up for the centralized ICT platform and receive all of the benefits at affordable costs. Such an approach saves them both time and money as well as frees up management to deal with pressing issues of operational concern. Such an approach also allows the head offices to be more readily connected to branch offices using ICT. For larger and more mature microfinance banks, it removes a key barrier to growth and a key risk for management, that of investing in new software by themselves.

For remote co-operatives, such as the SACCOs, that lack computers and software, the centralized ICT platform allows them to start using software cost effectively to track their accounting and portfolio information. This, in turn, brings the SACCOs' data about customers and their accounts into a common database, enabling financial transparency, and thus new ways of intermediating their portfolio, aggregating demand into useful financial amounts.

Indeed, Nepal's MFIs are well positioned to embrace a shared centralized system, given that there is

presently limited use of technology, and hence few legacy systems.[50] Thus there are relatively few electronic archives to migrate, which is often the key challenge for software implementations. In addition, the majority of microfinance providers in Nepal adhere to the Grameen model. This cross-sector consistency dramatically increases the likelihood that a standard system will meet the core requirements of most microfinance providers in the country. From a conceptual perspective, the players have indicated a willingness to collaborate on standards and recognize the importance of improved data flow among them. MFI staffs in Nepal have also noted during onsite visits that they would welcome the opportunity to share a platform that is more stable, flexible, and extensible over time. Such interest maps well to the values of a shared, hosted solution as offered by a centralized ICT platform.

The centralized ICT platform should allow MFIs that are currently extending their services to the hill regions to scale more rapidly there, by lowering cost of delivery and improving management oversight. Management, instead of having to wait for days, weeks, or even months to receive reports, can retrieve data from any branch, any loan officer, or any customer at any time of day at an instant. This is because the data is centralized and connecting to it involves a simple user interface.

Instead of spending large amounts of time meeting the reporting requirements of regulators, apex institutions, and other funders, the centralized ICT platform enables the MFIs to simply and easily grant regulators and funders restricted access to required data and reports. A centralised MIS solution would provide a single system for accounting, MIS reporting, and monitoring facilities for all asset and liability products that the Nepal market requires. Having an industry-approved MIS solution would potentially help microfinance providers to reduce their cost of borrowing from partner banks as these systems would ensure that MFIs follow a robust process to manage their accounts. In addition, regulatory bodies will be more likely to grant public deposit-taking authority to certain players if the transparency of accounting is greatly improved and centralized.

Importantly, from the perspective of the MFI, the centralized ICT platform allows the microfinance sector to solve the vexing issue of client overlap. Such overlap, where multiple MFIs serve the same client, is a source of concern due to potential for one borrower to take a loan to pay off another loan from a different organization, and to repeat this for larger and larger loan amounts, without the involved lending institutions being aware. While this is reportedly a relatively small phenomena now, the centralized ICT platform, and in particular the Credit Bureau portion of it, prevents such lending to occur by giving information to both lenders about the existing loans. This also benefits the borrowers by ensuring that the loans that they receive match their ability to pay and don't lead to over indebtedness.

Interest rates, while currently in line with international microfinance norms in Nepal, could potentially be lowered if both cost of funds and the operating costs can be lowered with the centralized ICT platform. This becomes more likely if innovative technologies are utilized for the front end, meeting the needs of field officer productivity and clients directly.

Instead of having to focus on operational challenges that result from a lack of timely information, the MFIs would be freed from a number of constraints on growth and innovation. This would allow for growth in both products and services, and higher volumes would mean lower average costs. For example, on the centralized ICT platform, the MFI would have access to product modelling tools,

[50] Field research by Consultants, February 2008. ; See annex on systems in use in Nepal

allowing them to determine if a new set of products, for such things as agricultural, household energy use, and tourism sectors, would generate sustainable growth and returns on investment.

By providing a "utility-like" solution, the centralized ICT platform makes it easy for MFIs to sign up for the basic functionality found across all MFIs in Nepal. In addition, the design will allow for flexibility, addressing the requirements of the individualized products and services of the MFIs.

Innovations such as mobile banking, mobile payments, and mobile transactions in general require that the MFI have an operational system in place that is capable of integrating with such systems. A centralized ICT platform can provide such an operational system rapidly at low cost and can be the driver for the development of newer products and services.

Benefits That Accrue to Government

Standardized reports with accurate, online data and enhanced oversight of the microfinance industry as a whole: Addressing the need of standardized reports is one of the key benefits that government will experience through a centralized ICT platform. Instead of waiting weeks or months to receive reports from regulated institutions, oversight authorities would have the ability to pull up current data on a screen instantaneously. This could include ratios covering health of the portfolio, amount of public-deposits, effective interest rates, and a host of other information needed for prudential oversight. Instead of having to carefully review the reports for inconsistencies and data issues, an issue cited in several meetings with regulators, authorities would know that the reports and ratios were based on underlying operational data, used by the MFIs themselves, thereby eliminating data-entry and calculation errors that can sometime enter into reporting systems.

Transparency and accountability: Because of the availability of accurate, online data about MFIs and clients, government authorities are able to better govern the microfinance industry as a whole. The availability of information would promote transparency about the workings of MFIs and accountability about the performance of each MFI. Based on good information, Government can more strategically intervene in the microfinance market or design policies to address specific issues saddling the market. Conversely, with a centralized ICT platform, MFIs can also have greater access and visibility to wholesale credit or other resources that could be made available by the Government.

Low regulatory cost: One of the major advantages of a centralized ICT platform is the low cost of regulation for a governmental authority. Because data about MFIs is gathered electronically on a regular, real-time basis, a governmental authority always knows about the market at any given time. The cost of regulation is no longer spent in reaching out to MFIs in hilly, remote areas and gathering information about the clients. The governmental authority can thus focus its efforts on designing effective policies and regulations that can better suit the needs of the microfinance market.

Central credit bureau functionality: Because of the centralized ICT platform, government authorities would have access to better information about the indebtedness of microfinance clients and the extent to which overlap could burden the country's financial system. A credit bureau can also allow the Government to monitor the financial health of a MFI by looking at the number of nonperforming loans an institution might have. A credit bureau requires the availability of client data in a single data repository as can be made available with a centralized ICT platform.

Opportunity to leverage the centralized ICT platform for government social payments: Given that MFIs are spread across many rural areas, the centralized ICT platform could also provide a payments platform for the Government to more easily transfer social payments to individual citizens. Instead of creating relationships with MFIs on a one-by-one basis, the centralized ICT platform allows the Government to enter into an arrangement with multiple providers of financial services via a common channel. Using this type of mechanism, the Government would no longer need to make cash payments. Instead funds could flow directly in the bank accounts of social recipients. Or the MFIs could become cash disbursement points for those citizens that do not have bank accounts.

Opportunity for the Planning Commission to generate specialized reports through the platform: By giving planners access to specific operational data, the centralized ICT platform can enable the generation reports (e.g., number of people reached) based on solid baseline data for past performance and current numbers down to the level of branches of the MFIs. Such a facility, combined with recently completed mapping of many branch locations, would give Government a highly accurate and uniquely valuable tool in determining gaps in microfinance coverage and inform better decision making.

Encouragement for inclusive financial access across Nepal: The centralized ICT platform creates the necessary conditions for a transformation of the microfinance sector that enables greater integration and promotes greater inclusiveness. Payment transfers from account to account, across the different institutions using the centralized ICT platform and via formally regulated banks, can improve the overall health of the financial sector.

Improved remittance flows through the formal sector and increased transparency across the movement of money within the nation: The Government would have more access to information about remittance flows and could encourage more of the informal remittance market to be formalized, especially if citizens experienced a significant reduction in the cost of sending and receiving these funds. This would also address a gap in existing oversight. Instead of multiple reporting sources, the centralized ICT platform would create a common point of access for regulatory supporting data of remittance recipients. By connecting remittance players to MFIs, the centralized ICT platform would allow the Government to more easily fulfil regulatory requirements around anti–money laundering and oversight.

Benefits That Accrue to the Formal Financial Sector

For the formal financial sector, the centralized ICT platform provides a set of interfaces to external systems that would allow for greater integration in the financial sector generally. These can include remittances, mobile banking, and payment systems, to name a few. Instead of having to work out unique operational models to work with individual MFIs on a one-by-one basis, the centralized ICT platform would allow the remittance players in the market to interface with any number of channels for delivery. Moreover, remittances could be automatically deposited into the savings account of an MFI customer, either at the regulated institution or at the MFI.

Credit bureau data, or a history of payments with an MFI or from remittances, could assist the formal financial sector in acquiring new customers that have outgrown the services of MFIs, for example, in the development of small enterprises. Such customers need a fuller set of business

development and financial products aimed at short-term and long-term debt that is outside of the natural competence of MFIs.

Mobile banking and mobile payment systems, of importance to the formal financial sector and the MFIs, would be more broadly available under the scenario of a centralized ICT platform.

Summary

To reiterate the values identified above, a centralized ICT platform will allow the sector to:

- Increase transparency to funders and sector bodies
- Improve accountability to regulators
- Innovate on products offered to clients, e.g. remittance products
- Addressing loan officer productivity
- Grow more rapidly and reach remote and hill populations
- Lower cost of service and cost of capital, thus potentially lowering interest rates
- Innovate on channels for service delivery (m-banking products)
- Integrate with the formal financial sector and thus strengthen the overall financial system

Benefits That Accrue to Clients

MFIs can pass on the benefits of a centralized ICT platform to end clients in the form of lower cost of financial services, newer innovative products and services, greater outreach, and higher impact. If the cost of processing loans for an MFI is lower due to a centralized ICT platform, the price of financial services can come down due to competitive market pressures. Clients in this way can enjoy lower interest rates and lower loan service charges due to a centralized ICT platform. With the advent of electronic information, MFIs can be in a position to provide electronic remittances, mobile banking services, and other new products and services, thus directly benefiting the end customer. MFIs can provide hand-held devices for loan processing to loan officers and allow them to go into remote, rural areas that otherwise are outside the reach of MFIs. In this way, MFIs can achieve branchless banking and significantly expand their outreach into geographically difficult areas. Clients in remote rural areas are able to have access to financial services that are otherwise not available. The centralized ICT platform can help MFIs serve end clients more effectively and thus achieve higher impact for the pro-poor services they offer.

Risks and Challenges of a Centralized ICT Platform

A number of key risks and challenges of a centralized ICT platform should be understood and addressed as soon as possible in the implementation of such a concept.

- Many of the risks around implementation of the centralized ICT platform relate to the strength of the management at the top of the effort. Strong visionary leadership combined with experience in dealing with complex multi stakeholder service delivery is both difficult to

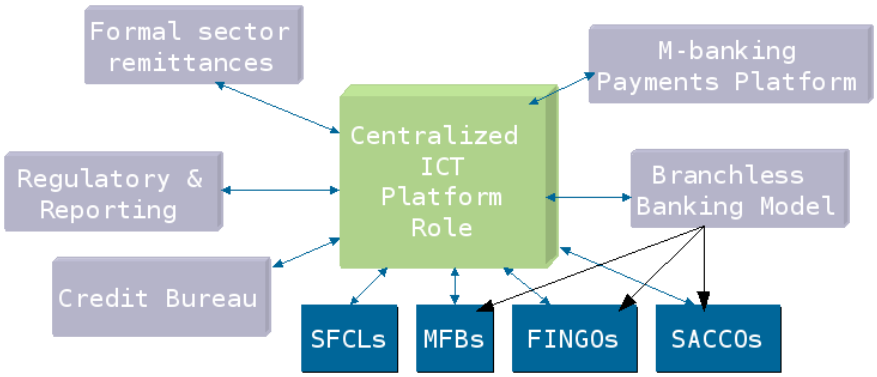
come by and essential for success. Having strong leadership and management capabilities should allow the effort to move forward despite anticipated obstacles. The centralized ICT platform would require champions from within Nepal who drive the development, promotion, and adoption of such a system.

- MFIs currently spend a tiny percentage of their operational expenses on technology and will be very reluctant to increase that to amounts closer to global standards for information technology spending. Compromising on this while maintaining a sustainable business model will be a key challenge. Failure to address this early on will increase the risk that the intervention will fail.
- Operationally, MFIs themselves are a source of risk. While they are willing, in theory, to participate, needed process improvements and changes in their operations may prove too difficult to accomplish. Organizational change is often the most difficult aspect of any system that changes the operational characteristics. The first part of this is whether they will "show up" and the second part of this is whether they will "follow through." Much of this depends on the ease of implementation, project management support, and internal capacity.
- MFIs and their internal staff are also unlikely to be experienced in using computers in Nepal, and local capacity in the communities where they work may be unable to service devices and networking. A key risk is that the technology will be too advanced for the users and for the locations in which they operate. This can be minimized by utilizing software and hardware that is highly robust and as easy to use as the interface on a mobile phone.
- An additional operational risk is around connectivity and addressing this in a cost-effective manner. Connectivity is key to the success, and further business planning and careful sequencing of phases will be a likely requirement.
- An operational and market risk is that the appropriate information and data sharing that is imagined does not take place due to a variety of factors, including the reluctance of the MFIs to share their data or the reluctance of various other bodies to connect into the system, preferring instead go-it-alone strategies.
- Market risks involve other players entering the market and essentially locking up the MFIs on a different platform before the centralized ICT platform can be implemented. While this risk is unavoidable, efforts could be made to lower the switching costs from that system to the centralized ICT platform. Additionally, if global players enter Nepal with streamlined and high-growth models, it is possible to see a large part of the base of the demand erode in face of stiff competition.
- Reputation risks exist for the effort itself, for example, if it fails to deliver on reasonable time lines and functionalities, or if it fails to properly secure data on behalf of the participants. Such risks are part of any project and should be monitored carefully throughout the effort, for example by carefully setting expectations and setting key performance indicators.

The Role of Enabling Applications in Driving Centralized ICT Platforms

Although MFIs can achieve operational efficiency and greater outreach with the help of ICT, the real driver of the centralized ICT platform are the linkages it provides for MFIs with Government and the formal financial sector, as well as the fact that it enables a range of new applications and

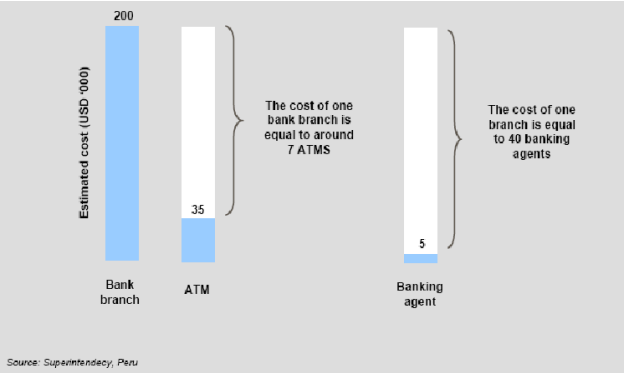
opportunities—some of which are highlighted in the diagram below.



Branchless Banking and How a Centralized ICT Platform Improves the Value Proposition

Branchless banking is the subject of several studies. CGAP defines branchless banking as the delivery of financial services outside conventional bank branches using ICT and nonbank retail agents. Retail agents can be microfinance branches, savings co-operatives, merchants, gas station outlets, and other retail locations. In addition to permitting banks and other traditional financial institutions to reach unbanked clients in a more cost-effective manner, branchless banking can allow nonbank actors, such as mobile phone operators, to provide financial services to the unbanked and underserved.[51] In Brazil the extensive use of correspondence banking allows for thousands of banking agents to extend the reach of financial services beyond typical "brick and mortar" branches. Wizzit Bank in South Africa has no branches, relying exclusively on mobile phones and ATMs as the mechanism for moving money.[52]

In Nepal, branchless banking could be based on service centers, operated by third parties or MFIs on behalf of the entire network. Branchless banking could find its most useful expression in the foreign remittance market where Nepalese working abroad (primarily in India) could send back money directly to the savings accounts of their family members that are maintained by MFIs. Family members could then pick up their funds from a local agent. The diagram from the Superintendency of Banking in Peru, demonstrates the power of the agent model. If a bank branch costs $200,000 per year, then an ATM network costs 1/7th, and the agent costs 1/40th of a bank branch.



A simple branchless banking system can be described as follows. A client living in a remote area is issued an account and a card by a bank. The client may make a deposit to her account by walking to an agent (possibly a local store owner) and presenting her card. The agent swipes the card on an

51 CGAP www.cgap.org
52 CGAP Focus Note 32.

eftPOS (electronic funds transfer Point of Sale Device). The eftPOS may be connected via cell phone to the core banking system of the bank. The bank's system approves the transaction. The agent takes the clients deposit and gives the client a receipt with a confirmation code. The core banking system records a credit to the client's account and a debit to the agent's account. Periodically, the agent will travel to a bank branch to manage the amount of cash on hand at the store. The client can either withdraw from her account or deposit additional money by going to an agent or a bank.

Branchless banking promises significant potential to enable outreach of financial services to the poorest for several reasons.

- It can reduce the cost for MFIs to provide services to remote customers.
- It can enable MFIs that previously could not serve remote clients to begin to serve remote and difficult-to-reach markets.
- It can provide added convenience and savings to clients who otherwise might need to travel for days or hours to make a transaction.
- It can improve the quality, precision and transparency of data systems. Because branchless banking collects data for each transaction, it provides more precise accounting than some microfinance software systems, which might keep records only at an aggregated group level and which are subject to errors due to manual re-keying of data.

M-Banking and How a Centralized ICT Platform Increases Adoption

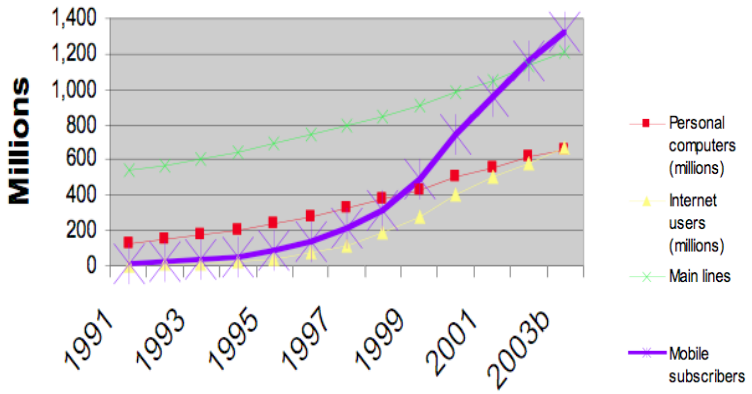
Mobile banking, or m-banking, is a form of branchless banking that allows customers to access banking services on their mobile phone.[53] With m-banking, low-income people no longer need to use scarce time and financial resources to travel to distant bank branches. And since m-banking transactions cost far less to process than transactions at an automated teller machine or branch, banks can make a profit handling even small money transfers and payments.[54]

Globally, the mobile phone phenomenon has meant that the vast majority of people around the world have easy access to communications. According to the International Telecommunication Union, more than 80 percent of the world's population has access to wireless networks. The availability of low cost mobile phones in Nepal[55] and elsewhere has created an unprecedented opportunity to enable everyone within wireless range to access financial services over mobile devices.

[53] "Microfinance and Branchless Banking Models, Constraints, and Recommendations For The Widening Harmonized Access to Microfinance (WHAM) and Advancing Microfinance for Post-disaster Economic Reconstruction (AMPER) Projects". Authors Dailey and Firpo. USAID and Shorebank. May 25, 2007

[54] BAI 2004 and Booz Allen 2003

[55] Estimates by Spice Telecom place the percentage of cell phone users in Nepal at 1.2 Million

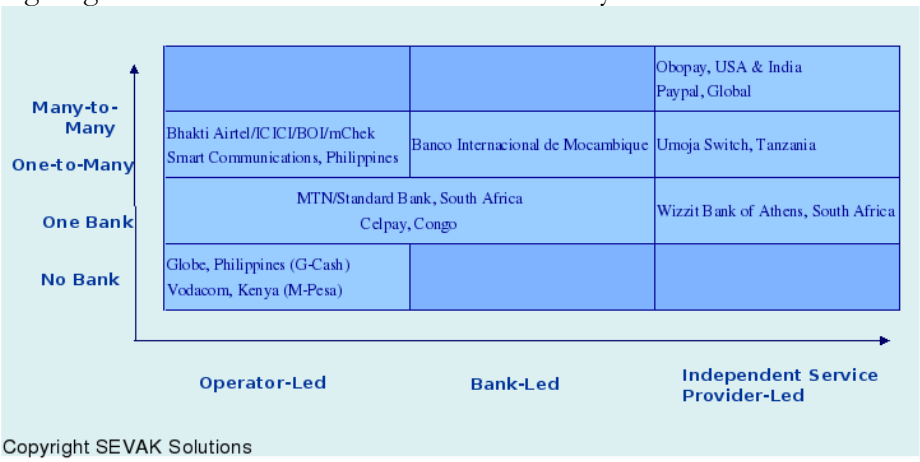


Source: ITU, 2003

M-banking can be set up using a variety of business models, driven by a bank, a telecom provider, or an independent service provider.

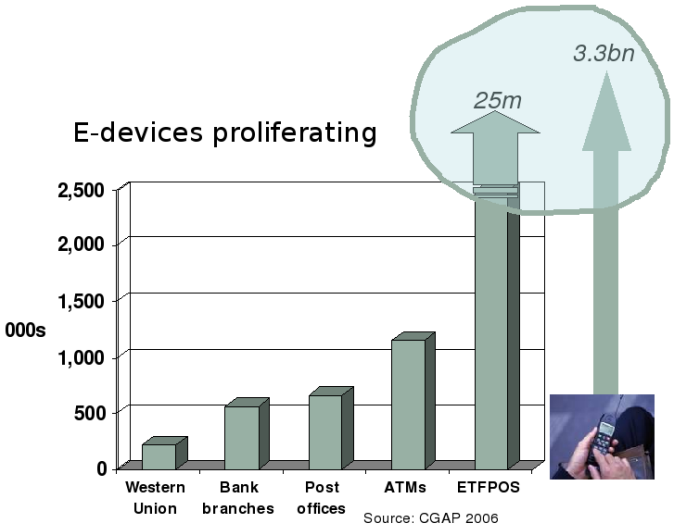
In the banking-led model, the accounts are held at the bank and the mobile phone serves as a window into the accounts, allowing the user to do any activity she normally would do at a bank—such as make a withdrawal, make a deposit, transfer money, or check the balance. In the telecom provider–led model, the telecom provider may link to a formal banking account or may create a virtual wallet. The virtual wallet is an electronic store of money linked to the mobile account of the user and is accessible from a user's phone only. In most telecom provider–led models, the user may transfer amounts from their virtual wallet only on the telecom provider's network. In an independent service provider–led model, technology- or service-oriented companies create a platform that works on multiple telecommunications networks and with multiple banks.

The following diagram describes these models and how they relate to each other.



The opportunities afforded by the mobile platform are difficult to overstate. The following diagram illustrates the relative size of the technology as a channel for financial services globally.

According to several providers and vendors interviewed, mobile banking is already being utilized in Nepal on a limited scale in the formal financial sector. The features supported thus far are balance lookup and funds transfer. The features at the moment allow only the banking customer to do mobile-banking within the same bank. The mobile-banking model is led by banks in Nepal.



Without the back-end systems to plug into a mobile banking platform, it is difficult to imagine the MFIs will be able to take part. MFIs will likely be able to participate in mobile banking only with a centralized ICT platform.

Micropayments and How a Centralized ICT Platform Enables Adoption

Micropayments are small amounts of funds moved in a cost effective way, usually using a device such as a mobile phone or an eftPOS. Micropayments leverage the data backbone transaction system of the financial sector. By lowering the transaction costs, micropayments have been enabled across a range of industries and modalities. Micropayments can be for transactions dealing with business-to-business (B2B), business-to-customer (B2C), or consumer-to-consumer (C2C). Often, a micropayment system consists of a set of components and institutional arrangements that manage the flow of currencies from one institution to another. A bank and an MFI that is part of a payment platform could easily transfer funds between each other. Likewise, for C2C, the consumer is able to effect a payment by moving funds from her account to another consumer account in seconds. Settlement occurs on the back-end between the institutions where the consumers hold their accounts.

Juniper Research estimates that starting from a very small base in 2007, micro financial transactions are expected to grow exponentially to over $600 billion by 2011.[56]

In Nepal, the transfer of value from mobile phone to mobile phone represents the tip of a global phenomenon. This micro transfer mechanism allows for payments to be made from one person to another (C2C) and from customer to small business (B2C).

A centralized ICT platform in Nepal can enable accounts within the MFIs to be connected to the micropayment platform of the future.

[56] Juniper Predicts Rise in Mobile Transactions http://www.infomaticsonline.co.uk/vnunet/news/2214745/mobile-banking-rise

Credit Bureaus and How a Centralized ICT Platform Enables Data Sharing

Client overlap, as noted previously, is identified as an issue in Nepal. A credit bureau in Nepal, enabled via a centralized ICT platform, can allow for the portability of credit and help identify borrowers before they over-extend themselves. The lack of transparency on the level of debt is a contingent liability and is not well quantified yet in Nepal. A credit bureau would be a good strategy for addressing such a situation, but such a system is not possible unless all of the major players in the market have electronic data about their customers and their loans.

In a typical credit bureau setup, the participating organizations submit their data about clients, current outstanding loan amounts, and histories of past-due payments to a central data repository acting as a credit bureau. When a new loan is made, the lending organization consults the credit bureau and learns if the client has an existing loan. Based on the income stream from the business, the lender may decide to give out the second loan or deny the loan based on a formula of repayment.

In Morocco,[57] the experience has been that the largest players identified an overlap of at least 10 percent of their client base. The key challenge facing them was the difficulty in sharing the data to determine on an ongoing basis the customers who were taking out multiple loans, since some of them were still relying on paper and pen for most of their record keeping. A credit bureau is being developed in Morocco by the largest players in the market. It would allow the players to consult if a current loan for a specific customer is outstanding at the time of providing a loan.

The benefits to the MFI are in reduction of risk associated with over-indebtedness, which often leads to defaults. A 2006 study[58] of the credit bureau in Guatemala revealed that there was a 21 percent decline in loans with one past-due payment due to two phenomena associated with the credit bureau: (1) the training effect—loan officers and customers were more aware of the dynamic of over-indebtedness; and (2) the fact that those who should not be getting another loan were being screened properly.

Because a centralized ICT platform has a common database of information, the functionality for looking up the credit of a client at the time of lending is easily doable.

Remittances

Remittances are cross-border payments that are facilitated via a money transfer operator (MTO), a bank with offices in both countries, and a correspondence banking relationship. The remittances go from person to person (P2P) or consumer to consumer (C2C) via formally regulated institutions.

> The money transfer industry comprises a vast array of players for both international and domestic payments. In 2001, worldwide cross-border payments exceeded US$330 trillion, and this is projected to grow to $604 trillion by 2011. As of 2001, domestic payments worldwide were estimated at $1,447 trillion, and they are expected to increase to $2,417 trillion by 2011 While not all money transfers can be captured in

[57] Field work by James Dailey with Planet Finance and Grameen Foundation in Morocco

[58] Janvry, Alain de, Craig McIntosh and Elisabeth Sadoulet. "From Private to Public Reputation in Microfinance Lending: An Experiment in Borrower Response." May 2006. McIntosh, Craig, Elisabeth Sadoulet and Alain de Janvry. "Better Lending and Better Clients: Credit Bureau Impact on Microfinance." BASIS Brief, No. 45. May 2006.

> official statistics, the available data indicate a very large market. In 2005, formal international remittances exceeded $232 billion. They constitute the second largest source of external funding for developing countries, ahead of both capital market flows and official development assistance.[59]

As previously mentioned, the size of the remittance market in Nepal is estimated to be $908 Million. Nepal is ranked 15th globally as a recipient of remittances as a percentage of GDP.

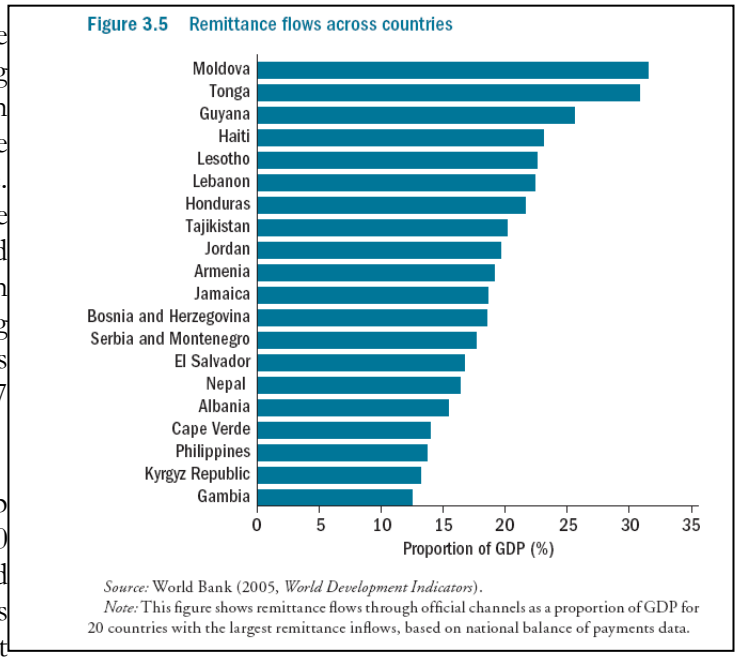


Figure 3.5 Remittance flows across countries

Source: World Bank (2005, *World Development Indicators*).
Note: This figure shows remittance flows through official channels as a proportion of GDP for 20 countries with the largest remittance inflows, based on national balance of payments data.

A number of examples worldwide illustrate the emerging models using mobile phones. In the Philippines, gCash and SMART telecom have remittance products offered over the mobile phone. In Globe Telecom's G-cash remittance model, Filipino workers abroad send funds to mobile phone accounts. G-Cash has more than 400 partners covering more than 3,000 outlets in the Philippines and is present in 16 countries through 27 international partners.[60]

In Kenya, the mPesa model scaled up more rapidly than anticipated, with 20,000 customers by early 2007 and approximately 250 agents. "M-PESA is aimed at mobile customers who do not have a bank account, typically because they do not have access to a bank or because they do not have sufficient income to justify a bank account. All they need to do is register at an authorized M-PESA Agent by providing their Safaricom mobile number and their identification card."

The process starts with the international customer (remitting party) using their mobile phone to initiate a transfer from her account, linked to a virtual wallet, to the virtual wallet of the recipient. As with all of these models, the accounts are established in advance and follow procedures to ensure compliance with regulations. The transfer message is processed by the back-end hosting solution of the remittance provider, in this case the international telecommunications company, and the recipient receives a message saying that her funds are in her virtual account. At this point she can transfer the funds to another registered phone, withdraw cash via an agent, or transfer value to her wireless usage account. In this model, the telecom company manages the entire value chain in-country and typically partners with other telecom companies for the origination network.

In Nepal, the MFIs are often the front-channel for remittance recipients. The lack of systems has meant that each remittance operator must establish a specific system with each MFI. With mobile devices, and a centralized ICT platform, this is more easily accomplished.

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[59] "Making Money Transfer Work for Microfinance Institutions". Jennifer Isern, William Donges, Jeremy Smith. CGAP. 2006.

[60] Wishart, Neville. 2006. MicroPayment Systems and Their Application to Mobile Networks. Washington, DC: infoDev / World Bank. Available at: http://www.infodev.org/en/Publication.43.html

How a Mobile Phone Enables Transactions

The following table[61] summarizes the use of the mobile phone in a number of transactions.

B2C Business to Consumer	The mobile phone replaces cash and becomes the mechanism for purchasing goods and services. There is an increased focus on mobile micropayments, which are a key requirement for cash replacement.
B2B Business to Business	The mobile phone is used to enhance business processes rather than for payments or purchases. M-banking is an example, in which consumers use their mobile phones to replace more traditional forms of banking.
C2C Consumer to Consumer	Transactions occur between individuals, but across a business platform. The service provider holds a consumer's money in an "escrow" account until the consumer confirms receipt of goods. Then money is transferred. This removes the risk of non delivery or of faulty goods. PayPal is an example.
P2P Person to Person	Enables individuals to transfer top-up credit or money easily. Can rely completely on virtual accounts, so no bank needs to be involved. Typically SMS-based. P2P transfer is a key driver for accessing the unbanked.
Remittances	Remittance services are a special form of P2P. They can be domestic or international. Companies like SMART, Globe, and M-Pesa have led the way but an increasing number of players seeing the value of remittances as key business driver.

Source: Sevak Solutions. 2008.

The benefits of these solutions are out of reach for most microfinance providers because they do not have technology platforms in place that will allow them to share data with or connect into these solutions. The centralized ICT platform solves this issue and is also enabled by these models.

[61] Sevak Solutions – based on definitions by KPMG 2007.

4 EMERGING INTERNATIONAL BEST PRACTICES IN TECHNOLOGY AND MICROFINANCE

Technology usage in microfinance is trending in new directions due to lower costs in connectivity and computing. The recognition of the need for a centralized IT platform is emerging, illustrated by efforts in a variety of countries by a diversity of actors. It is driven chiefly by the recognition that (1) microfinance providers, left to their own individual resources, will continue to make suboptimal technology choices and (2) micro financial services, in order to expand to meet demand, must be capable of connecting to mobile-device-driven financial services. In this chapter, emerging best practices from a variety of efforts globally are examined as they pertain to a centralized IT platform.

New Innovations

A number of initiatives have begun to attempt to solve the problem of a lack of MIS automation in microfinance, while taking advantage of trends in mobile connectivity. These include open source, financial switches, and hosted shared solutions.

Open source models are aimed at creating collaborations on common functionality and creating virtuous cycles of software development. In microfinance, at least two efforts are under way. The first is Mifos, a project of the Grameen Foundation, aimed at Grameen-style operations and implemented in India and Kenya, and the Second is OFMS, implemented in a number of Central Asian countries.[62] In Nepal, Magnus Consulting[63] has started implemented Mifos with two MFIs.

"On-demand" software as a service model is one type of a hosted solution, whereby a company creates a common platform and offers it for use by many users or companies. Salesforce.com, which was recognized for essentially creating this new business/technology model, has launched a Microfinance Edition as a shared platform and demonstrated the power of this platform by creating an estimated 50 percent of typical client and loan processing features in less than four weeks.[64] This is hosted in the United States and serves Fortune 2500 companies globally.

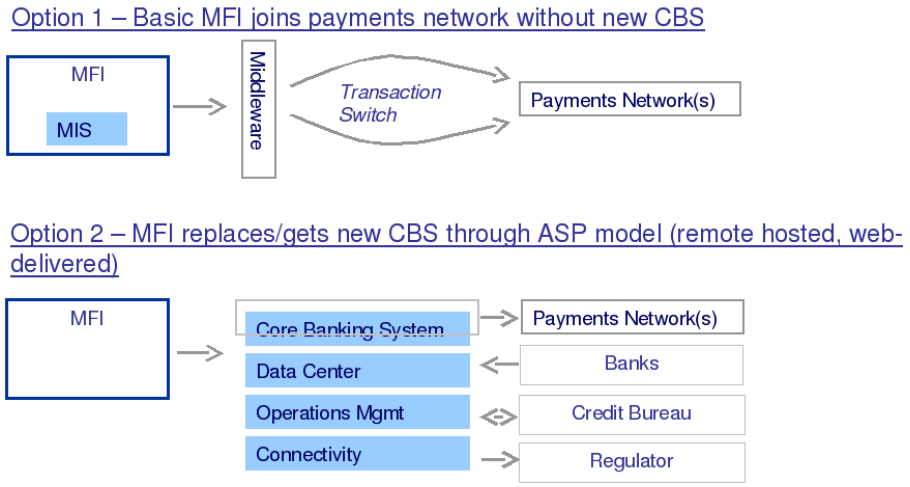
Financial switches as applied to microfinance enable a better mix of products, reaching more

[62] Consultants have frequent contact with these initiatives

[63] According to Grameen Foundation, Magnus is the only consultant globally to achieve a sale of Mifos independently.

[64] James Dailey worked with Salesforce in phase 1 of development.

customer markets and opening up new delivery channels. According to a leading expert on the subject,[65] globally, microfinance institutions face two options. The first option is that MFIs will keep their own systems and develop ways of interfacing with the payment processing systems that are coming, while the second is that new application service provider (ASP)–hosted models will allow for MFIs to share a common platform. This is shown the following figure.



Hosted models in general are either direct hosting service models or software-as-a-service (SaaS), which is based on the ASP model and always includes a Web browser as the front-end. Direct service models are essentially outsourcing the hosting and servicing of the software application and can involve one or more customers in a common configuration at a fixed location.

ASP to SaaS

A specific software package is offered online, thereby lowering the cost of acquisition for technology. These ASP models are found in finance, insurance, customer relationship management, inventory management, and so forth. This model had challenges meeting expectations around flexibility and extensibility, and particularly with existing client-server architectures, and gave way in 2000–2001 to software-as-a-service, which follows the same precepts but are native Web applications, making installation at the client machine consist only of a Web browser. A number of new SaaS players in the financial services industry, lead by Intaact and NetSuite, offer full accounting systems with integrated front-office "on demand." Google's desktop productivity suite of word processing and spreadsheets is another type of on-demand software, which is also spreading. As a sign of the times, small business software provider Quickbooks has a SaaS offering. Open source, which now runs the majority of Web traffic, and is a key component of strategies of IBM, Sun, and other large technology companies, has created new models that directly challenge the commercial off-the-shelf models. If trends hold, within a decade the COTS (commercial off the shelf) software will be replaced by a combination of SaaS and FOSS (free and open source). Source: Various technology publications.

[65] Xavier Reveille, Presenting at 2008 Sanabel Conference – Plenary session on technology in Microfinance. Notes by James Dailey.

Case Studies: Centralized Platforms for Microfinance

Among the greatest challenges that microfinance providers around the world face in implementing standards-compliant, high-quality back-office systems in their institutions are (1) high upfront cost of the solution, (2) requirements for connectivity, (3) sophistication of the technical team to support and maintain the systems, and (4) high ongoing costs. Many in the industry are now aware that one way to mitigate these challenges is to provide a generalized high-quality MIS to a number of small financial institutions in one country through an outsourced ASP or the more recent SaaS model. In such models, a vendor or vendors enter the market to provide a centralized solution that can be shared by a number of microfinance providers. This section describes some of the solutions that are emerging around the world, describes the lessons learned from those implementations, and provides insights for how those lessons could apply in Nepal.

Because the introduction of centralized information communication technology platforms for microfinance delivery is still a relatively new innovation, it is important to note that many of the cases described below are in their start-up phases. FINO is the most highly developed case; the company has been offering its service to microfinance providers in India, since 2005.

FINO, India

FINO (Financial Information Network & Operations Ltd) is a technology company that was incubated for two years within ICICI Bank in India, starting in 2004. According to Janine Firpo, the bank had an established practice of wholesale lending to more than 60 microfinance providers across the country and had plans to grow its portfolio to more than 200 MFIs. The key challenge was in obtaining high-quality and timely data from the microfinance partners to adequately monitor their loans.

According to FINO materials, "Financial Information Network & Operations Ltd., FINO, is a multibank–promoted company that provides smart-card–based multi-application solutions to the 'bottom of the pyramid people.' It is an applications service provider (ASP) that assists the banking, microfinance, insurance and government sectors in providing their services to the unbanked and unserved people of India. FINO follows the concept of 'Financial Inclusion' and strives to cover the mammoth-sized rural population of 500 million in the country."

The solution that has been created consists of a remote data-capture device combined with a back-office banking solution. The remote device was originally based on Simputer and had a proprietary, biometric application developed for FINO's needs, but over time, the company migrated to a biometric, smart-card solution provided by BGS Smartcard Systems, a company based out of Austria. The banking system selected was i-flex, a company based in India with a global banking customer base.

According to a July 2006 press release, the company was hoping to target 200 microfinance providers by March 2007, with an ultimate goal of reaching 300 to 400 million people with the solution.[66] In April 2008, FINO released a press announcement stating that it had succeeded in enrolling 1 million financial clients on its platform.[67] While impressive, these numbers are

[66] www.thehindubusinessline.com/2006/07/14/stories/2006071404270600.htm

[67] www.fino.co.in/newsroom.php

substantially smaller than the company's original goals. It is important to understand that this growth is also not solely a result of relationships with microfinance providers. In order to sustain its business, FINO has reached out to a new customer base that includes banks, insurance providers, and the Indian Government. Many of the million clients on the FINO platform are recipients of government payouts and subsidies, rather than microfinance customers. The FINO platform provides a lower cost, more efficient way for the Government to provide these benefits to its citizens.

The products provided on the centralized FINO platform are savings accounts, loan accounts, remittances, recurring deposits, and fixed deposits. The FINO smart cards enable the customers to come to a FINO biometric eftPOS device and perform all of the functions related to these accounts, e.g., look up balances, transfer funds, make deposit, and make withdrawals.

The services offered by FINO include customer enrolment, account hosting, and help desk. The customer enrolment process involves proper customer identification and then issuance of a smart card with a photo. The FINO system is built atop a core-banking solution from i-flex, which provides all of the data storage and processing power for calculations and reports. I-flex is a major banking application, handles many types of transactions, and connects to external systems. By linking the modalities offered by a mobile-network-enabled eftPOS on the front end with the capabilities of a core banking solution on the back end, FINO is leveraging the strengths of these two technologies. Finally, FINO offers Help Desk 24X6 for resolving critical business issues. The help desk can work to resolve any issue involving FINO, thus providing a single point of contact for all issues.

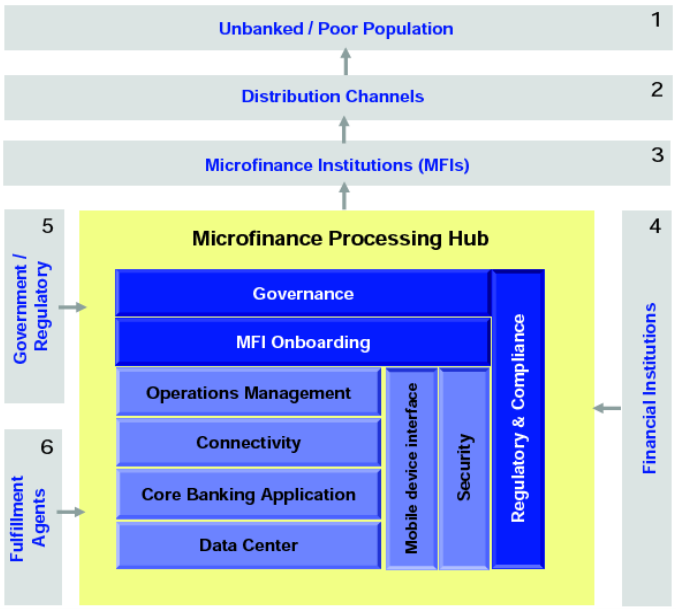
Lessons learned:

- **Wholesale lenders should not be overly involved.** Based on conversations with the consultants, many of the MFIs in India considered ICICI as too close to the solution, raising issues of independence and potential conflict of interest, as ICICI held much of the debt for these organizations. The MFIs feared that over time ICICI Bank would be able to establish direct relationships with their clients and the MFIs would become irrelevant.
- **Existing investment in technology must be accounted for in terms of switching costs.** The leading microfinance players in the country had already made substantial investments in their MIS platforms and technology teams. As such, they were reluctant to migrate away from systems that had been designed for their businesses and that were working well. Until there was at least one microfinance provider successfully using the solution, others were reluctant to sign up. The CEOs wanted to see an operational example of how the solution would work. This presented a bit of a chicken-and-egg situation for FINO. How could you get one MFI to participate if everyone was waiting to see a successful implementation?
- **Cost was prohibitive to smaller organizations.** Initial cost projections for the solution were a hindrance to other potential customers. This was particularly true among the smaller MFIs, which had established their own, unsophisticated technology solutions and had a very small staff. In some cases, these smaller institutions had an IT staff of only one person. Thus they felt that their current IT costs were miniscule to nonexistent. Without a strong incentive for participation, they had no reason to make what to them would be a high technology investment.

Latin America Financial Grid (IBM)[68]

IBM Global Services is in the early stages of planning for a Latin America–wide strategy for a centralized ICT platform for microfinance, based on an examination of the unmet need for financial services. The platform envisioned includes a model of service delivery, hosting, and tailored functionality. The following figure describes the initiative.

A Processing Hub provides a shared infrastructure and services platform that facilitates the integration of MFIs and poor communities into the overall financial ecosystem



Overall Microfinance Ecosystem

1. The unbanked population is the target market that the Hub will help MFIs serve with improved efficiencies
2. The distribution channels provide financial institutions the means to reach their end customers (e.g. internet, cell phone networks, village markets, roads)
3. Microfinance Institutions hold the customer relationship, choose and market their products, and provide the basic financial services to end consumers
4. An anchor financial institution can help drive acceptance of the legal framework for the partnership, provide more sophisticated products demanded by the marketplace, and can help channel funds to the MFIs for re-lending
5. Government policies and regulatory framework is necessary to provide the governance and ground rules of participation and operations
6. Fulfillment agents provide supplementary services that add robustness and efficiency to the microfinance business model (e.g. credit bureau, int'l money transfer)

The hub is expected to be located in Mexico and serve all of the MFIs in Spanish-speaking Latin America with a Web-based solution. In the analysis, the company identified 358,580,000 people in the region who are unbanked, providing it with a significant market.

Emerging themes:

- The key theme emerging from this effort is to focus on connectivity, as this is a requirement for participation.
- Create a structure that includes governance, MFI on boarding, and regulatory and compliance, as well as the anticipated technological components. These are important for the overall success of the implementation.
- Include fulfilment in the concept from the beginning. In the presentations, IBM identifies the local provider that ensures that the implementation goes smoothly.

[68] Public presentations by IBM Financial Services Sector and IBM Global Services "IBM Processing Hub for Microfinance", December 2007, and "IBM Processing Hub for Latin America Microfinance", May 2008.

Mexico: Bansefi

Context:

Bansefi is a development bank in México with a market presence in all Mexican states, created as a national savings program to enable the mobilization of savings nationwide. In 2001, the Government promulgated a law to regulate MFI activities, and Bansefi was tasked with supporting this regulatory compliance. A technology project was launched shortly thereafter to assist the MFIs with compliance with the law, help them reduce their operational costs, and assist them in offering new products and services to their clients. A centralized platform, its main objective was to enable the Government to properly supervise the MFIs' public savings programs.

The plan was to include the more than 600 MFIs that collectively serve more than 4 million customers and with a potential of 20 million customers. The centralized technology platform was intended to scale to a level to reach the unbanked across the country and thus serve the public policy aims of financial inclusion.

The project installed a microfinance central system based on IBM mainframe machines and using software that supported the more than 5 million customers in the country. Because of the need for centralized data and the lack of connectivity in many remote areas without telephone lines, the telecommunications strategy included infrastructure through satellite communications and via antenna devices (Vsats).

Issues with the project surfaced during implementation, as each MFI had different products, different procedures, and differing levels of skills. Moreover, the Government began promulgating additional rules per the law, which proved unpopular and tainted the overall impression of the technology platform: the MFIs saw the platform and the rules as one indistinguishable effort.

As part of implementation, the project included training, procedural changes, and data migration. The migration of historical data was problematic because of many errors in the structure and incompleteness of the data.

In the end, the MFI entities that are still participating have seen a number of improvements, as they have been able to free people up from back-office activities and apply them to customer services, keep their prices for products low, get access to data online, and comply with regulatory reports. The Government itself is pleased because of the transparency of the transactions. The customers are also empowered by having access to the entire financial service system, for example, via ATMs and eftPOS devices in other localities.

Lessons learned:

- **Have a clear understanding of the MFI procedures and technological ability prior to commencing the project.** While training can assist implementation, the project managers must ground the project in the reality of the field. That reality can consist of inconsistent procedures and low exposure to technology.
- **Include only data migration that is clear and involves clean data.** The lack of good data structures was not obvious to the MFIs, who claimed their data was clean. Because

many MFIs were not familiar with good data practices, they assumed that their data was adequate when it was not. Data migration is almost always a difficult process, and the cost of data migration should be balanced against the benefit of specific use cases and reports that can be generated.

- **Don't embed regulatory compliance into an effort.** By doing so, the Bansefi technology project became synonymous with government regulation. This negatively affected the project by causing MFIs to pull out of the effort. If the project had first developed the common platform and then worked on the regulatory aspects, it would likely have been more successful in maintaining interest.

Other Efforts Under Way

A new initiative to provide a shared back-office solution for MFIs in Africa has been initiated by CARE in partnership with IBM. Information about this initiative is not publicly available and implementation is more than one year away. The initiative is grounded in the fact that most MFIs in Africa do not have an information system, and most Africans do not have access to financial services.

A new initiative from Mercy Corps in Indonesia links the creation of a funding apex bank (Bank of Banks) with developing a standard back-office solution for data management at its client MFIs. The new bank will provide wholesale loans to MFIs and other small financial institutions in Indonesia, in order to take advantage of a huge market opportunity of 235 million people, the vast majority of whom are unbanked.

These efforts illustrate that in markets that already have existing software-solution providers there is nonetheless a need for a common platform that is affordable and easy to implement at a range of institutions.

5 ENABLING ENVIRONMENT: POLICY & REGULATIONS

This chapter describes and examines the key features of the policy- and regulatory-enabling environment for the envisaged platform across the financial, microfinance, and information technology sectors with an eye toward the impact of current and future regulations on the centralized platform. The chapter concludes by identifying a number of policy and regulatory risks associated with the platform. Key recommendations to mitigate these risks and sustain a well-functioning central platform are discussed in chapter 8.

Regulations were considered to determine if there was anything that would preclude the development of a centralized ICT platform, and to point out potential issues. A scan of the regulatory environment was conducted to inform this section and to identify any glaring challenges. The proposed microfinance platform is at the nexus of three sectors from a regulatory perspective. The platform aims at leveraging microfinance, ICT, and financial sector networks to extend the delivery of financial applications to the underserved. Financial sector and ICT regulations are ,therefore, reviewed to identify any roadblocks to non Bank financial transactions.

Ensuring that the electronic platform can be operated by non telecom operators, in a regulatory environment where e-transactions are provisioned and consumers' data privacy protected, is just as important as microfinance and financial sector considerations. After reviewing whether the microfinance and financial sector regulatory space is conducive to the proposed microfinance platform, the report examines regulations related to telecommunications, IT, cyber law, and security.

Enabling Microfinance Regulations

Although the microfinance regulatory framework is fragmented and complex, there do not seem to be any current microfinance regulations that would interfere with the development of a centralized ICT platform. Since the regulations in the financial and microfinance sectors are still in flux, it is recommended that the development of new policies into acts be followed closely. Specific issues and recommendations are provided at the end of this chapter.

Current Situation

There is currently no single national policy that is applicable to all types of MFIs. At the present time, the four types of institutions in Nepal that provide microfinance services—Microfinance Development Banks (MFDBs), Financial Intermediary NGOs (FINGOs), Savings and Credit Co-operatives (SACCOs), and Small Farmer Co-operatives (SFCLs)—are all regulated by different organizations with differing levels of oversight and control. This has led to a fragmented market that will require coordination among the different regulators.

Although both the MFDBs and the FINGOs are governed by the Rastra Bank, each type of institution is managed through different regulations. The MFDBs are regulated by the Banking and Financial Institutions Act (BFIA), 2006. This act provides these microlending organizations with more relaxed norms than are applied to formal commercial banks. This is a positive measure and indicates that the Central Bank may be willing to apply similarly lenient and proportionate measures to issues related to a centralized ICT platform. While still authorized by the Central Bank, the FINGOs are regulated through a separate ordinance, the Financial Intermediary Societies (FISA) Act, which enables these institutions to provide credit to and accept savings from their members.

Meanwhile, co-operatives are governed by the Ministry of Agriculture and Co-operatives, a completely different agency, under the Co-operative Act. There were more than 10,000 co-operatives in Nepal in 2008. Under Article 26.1 of the Co-operative Act, all co-operatives have the right to provide savings and lending services to their members. When they do so, they are referred to as Savings and Credit Co-operatives (SACCOs). There are approximately 3,500 SACCOs in Nepal. Article 26.2 of the act allows for an additional Limited Banking Facility, which means the SACCOs can offer additional financial services such as money transfer and remittances to their members. Only 16 SACCOs have chosen to provide additional services under this article. One of the reasons there are so few may be because those SACCOs taking advantage of Article 26.2 also fall under monitoring and supervision from the Central Bank as regulated entities under FISA.

Microfinance Institutions Regulated by Central Bank

Type of Institution	Total Number	Number Regulated
Savings cooperatives	Approximatley 3,600 savings cooperatives and 219 small farmers cooperatives	16
Financial intermediary NGOs	15,000	47
Microfinance development banks	5	5
Regional rural development banks	5	5
Total		**73**

Sources: CDS, SKBBL, CMF 2008

Since SACCOs benefiting from Article 26.2 are regulated by two separate bodies, there is no clear authority. This can create inconsistencies and even conflicting regulations. For example, the latest amendment of the Co-operative Act claims that co-operatives cannot accept deposits from nonmembers, but FISA enables such deposit taking. The 16 SACCOs that were governed by both acts were governed by conflicting rules. As a result, the Central Bank recently withdrew its approval of such nonmember deposits, leaving a number of organizations in limbo.

National Planning Commission's Three-Year Interim Plan

The National Planning Commission's Three-Year Interim Plan had an entire section, Section (5.7), dedicated to issues related to money, banking, and credit. More 35 percent of the policies in this section dealt specifically with microfinance and poverty reduction.

Ten of the 17 Money, Banking and Credit policies described in Section 5.7 of Nepal's National Planning Commission's Three-Year Interim Plan are directly related to the delivery of microfinance and the centralized ICT platform.

- A Poor Group Credit Program, operating through commercial banks, will be continued in the county.
- Financial institutions will be encouraged to issue infrastructure development bonds to channel remittances
- The financial sector will be further strengthened by implementing international financial standards
- Legal provisions concerning creditors' rights will be formulated for inclusion in the financial sector
- Payments systems of banks and the financial sector will be strengthened
- Regulation and supervision of financial institutions, which do not operate deposit accounts of the general public but only operate microfinance, will be entrusted by the Nepal Rasta Bank to a second tier agency after they are established. The Bank and Financial Institutions Act, 2006, will be amended accordingly to classify deposit operating and non-operating financial institutions.
- Rashtriya Cooperative Bank's organization, program, and resource management aspects will be studied with a view to develop it as the main channel for rural and micro-credit supply
- An assessment of the banks operating in the rural areas, cooperatives, and non-government organizations engaged in rural and microfinance services will be made and an appropriate institutional base for their coordination and monitoring will be established.
- Appropriate standard of regulation and supervision of the rural and microfinance service providers will be formulated and implemented.
- A national microfinance policy will be brought into effect for the strengthening of the sector

National Microfinance Policy, 2064

The current situation is "expected" to change as the result of a new Microfinance Policy that was approved by the Cabinet in June 2008. According to this document, a Second Tier Institution (STI) will be formed to oversee and regulate all MFIs in the country. The legal status of the STI and other implementation issues of the new policy have yet to be announced.

This STI was included in the policy because the Central Bank recognized the challenges within their existing environment, particularly their inability to enforce a uniform set of regulations. This is due to a number of factors, including strained staff capacity, inadequate levels of understanding about microfinance, and a current need to include even small institutions that pose no systemic risk. Thus the STI has been delegated authority from Nepal Rastra Bank but still remains under the purview of that institution.

There are 13 key decisions described in the National Micro Finance Policy, 2064. Of those, the following are most likely to have an impact on the centralized technology platform project:

- Formulation of a separate agency in the direct supervision of Nepal Rastra Bank will regulate, supervise, monitor and evaluate all microfinance related activities.
- Provision that all microfinance institutions will be restructured and re-licensed.
- Establishment of a national microfinance development trust that will mobilize all domestic and international funds.
- Potential for increased flexibility around deposit taking by microfinance institutions beyond their client base.
- Supports standards through strengthening MFIs that adhere.

The formation of this new set of overarching regulations for microfinance in Nepal is critically important. While there is no mention of ICT in the policy, it does not appear that it will create roadblocks for the central platform. The evolution of a new entity as well as the potential relicensing of existing microfinance participants will have consequences for the centralized solution, however, and should be closely monitored.

This is particularly true in light of the fact that the Microfinance Policy proposes that the STI monitor, regulate, and facilitate microfinance operations in Nepal. There should be some concern about this approach, because it implies that a conflict of interest could easily arise between the facilitation and regulatory roles of the body.

The process under way, which includes transitioning the Microfinance Policy from the Nepalese Government into an act and then creating the STI could take two years according to the Government. Timing will depend on importance of this measure to the new Government.

Enabling Financial Sector Applications

The regulatory environment as it relates to enabling applications for the centralized ICT platform was also considered. There are currently no regulations that would interfere with the applications described below. However, there are also no explicit regulations covering these issues. Depending on how the regulatory framework evolves, this lack of regulation could provide a challenge to the platform. More detail about these concerns is listed in the regulatory risks section of this chapter.

Branchless Banking and Interbank Payment Systems

Branchless banking through ATM and POS devices as well as mobile financial services are technologies that could be made available to participating members of a centralized technology platform. These front-end, data capture solutions engender a unique set of regulatory requirements that have been extensively studied by the World Bank's Consultative Group for Assisting the Poor (CGAP) and others. A recent report by CGAP[69] describes the regulatory requirements for branchless banking in detail. The following summary of their analysis is taken directly from that report and provides visibility to more detailed sections.

[69] Regulating Transformational Branchless Banking: Mobile Phones and Other Technology to Increase Access to Finance. CGAP. January 2008.

Key Topics and Recommendations on Regulating Transformational Branchless Banking

Among the countries studied, a surprising consensus surrounds the short list of most critical topics policy makers and regulators should address to formulate proportionate regulatory policy for transformational branchless banking.

We classify two topics as "necessary but not sufficient" preconditions:

- Authorization to use retail agents equipped with ICTs as the "cash-in/cash-out" point and principal customer interface
- Development of risk-based anti-money laundering (AML) rules and rules for combating financing of terrorism (CFT), adapted to the realities of remote transactions conducted through agents.

We classify four topics as "next generation" policy and regulatory topics. Though they may not prevent branchless banking from getting a start in a given country, they will figure in its success and sustainability as a means of getting financial services to the unbanked poor:

- Appropriate regulatory space for the issuance of e-money and other stored-value instruments (particularly when issued by parties other than fully prudentially licensed and supervised banks)
- Effective consumer protection (on a variety of fronts)
- Inclusive payment system regulation and effective payment system oversight as branchless banking reaches scale
- Policies governing competition among providers (which balance incentives for pioneers to get into the branchless banking business against the risk of establishing or reinforcing customer-unfriendly monopolies and which promote interoperability)

So what are our recommendations? Despite the difficulty of making strong normative statements in such a dynamic environment, our research leads us to make both process-related recommendations (see pages 17–19) and content-related recommendations (see pages 19–20). The core content-related recommendations can be summarized as follows:

- Permit nonbank retail outlets to serve as agents—and consider carefully any restrictions on the range of permissible agents and types of relationships permitted (page 19).
- Evolve a risk-based AML/CFT approach adapted to the realities of small, remote transactions conducted through agents (page 19).
- Clarify the legal boundaries between retail payments, e-money, and other stored-value instruments and bank deposits (page 20).
- Create a regulatory category for electronically stored value that allows nonbank participation on defined terms (page 20).
- Create robust but simple mechanisms for consumer protection, covering problems with retail agents, redress of grievances, price transparency, and consumer data privacy (page 20).
- Consider the likely longer range competitive landscape today and how to reach the goal of interoperability (page 20).

Above all, our core recommendation for policy makers and regulators is to **use proportionality as a guiding principle.**

At this time, none of the regulatory bodies in Nepal have addressed any of the core recommendations included in the CGAP report and highlighted above. At the same time, there are no explicit regulations that preclude the implementation of branchless banking or agent networks, per se. This could allow the microfinance community to move forward with such solutions, but it does not ensure that the business model(s) that are implemented would not fall under scrutiny or regulatory exclusion in the future. For example, the fact that Central Bank recently withdrew its FISA support of co-operatives accepting deposits suggests that the concept of nonbank retail outlets serving as cash-in/cash-out points might be met with resistance from the regulators.[70] Therefore, it will be critical that the organizational body responsible for implementing the total solution maintain close communication with the regulatory agencies, ensuring that they are fully informed of all elements of the solution, including potential risks, and that they are in conceptual agreement with the approach and level of safeguards being implemented in Nepal.

Standardized Reporting

The establishment of standardized reporting mechanisms is another enabling technology for the

[70] Nepal Country Profile. Asia Resource Centre for Microfinance (ARCM)

Nepal market. The Central Bank has strong interest in the issue and is currently conducting an evaluation of the Rural Self-Reliance Fund, a pro-poor initiative in partnership with GTZ to determine how to develop a common reporting tool for microfinance participants. Such a standard reporting tool will be valuable as the Central Bank increases its review of rural development banks for divesture. This increasingly likely requirement for standardization from the regulators is motivating some of the microfinance development banks to computerize their head office and outlying branches.

In addition, the Central Bank requires 3 percent of the outstanding portfolio of commercial banks to be lent to the deprived sector either directly or indirectly through microfinance providers.[71] However, there is no mechanism in place to verify that these funds are further on-lent to eligible clients. Since some of the MFIs receiving these funds invest a major portion of the money in government bonds, shares, and debenture, only part of the funds lent by commercial banks reaches the deprived sector. Reporting standards would also mitigate this challenge.

An Automated Clearing House (ACH) is in the process of being implemented in Nepal under a public/private partnership structure, with 10 percent equity holding from Nepal Rastra Bank. In most countries, MFIs are not enabled to participate in the ACH, thus precluding them from offering a range of sophisticated services to their clients. The Central Bank might want to consider what regulations and standards would be required to allow MFIs to participate in the ACH. Whether the cost of entry and cost of membership to the ACH would be prohibitive for MFIs should also be considered.

One of the challenges faced by MFIs is client duplication. There is currently no credit bureau that services the sector, and as a result these institutions have no vision into the depth of the problem. A centralized ICT platform could help mitigate this concern as data from participating MFIs could be aggregated into a credit bureau.

Remittances

Remittances are currently bank-led, i.e., a nonbank institution that would want to deliver remittance services would need to enter into a partnership with a bank and hold an account in this bank that would allow delivery of remittances. For example, State Bank of India (SBI) India and Nepal branches have formed a joint venture and entered into a partnership with a money-transfer agent that will deliver remittances from SBI India to Nepal-based recipients. Although the regulatory space does not hold provisions against it, correspondent banking is not yet provisioned for in Nepal. The NRB plans to link remittance flows to upcoming payment-systems regulations that will be developed.

Enabling ICT and Electronic Data Regulations

After finding a relatively conducive microfinance and financial sector regulatory space for the proposed microfinance platform, the report examines regulations related to telecommunications, IT, cyber law, and security. There is nothing in any of the relevant regulations and policies articulated

[71] The Regulation Muddle in Nepal. M-CRIL. October 2007

below that would interfere with the centralized ICT platform. All of these policies appear to be strongly supportive of the extension of IT, universal access (including reach into rural areas), and improvement of Government access to data and linkages. All of these elements are a core part of the value proposition of the centralized ICT platform.

Telecommunications

The only regulatory body in Nepal that currently has authority over telecom is the Nepal Telecommunications Authority (NTA). This agency oversees the licensing of the telecommunications spectrum, including voice telephony, mobile telephony, and internet/email. The NTA is not involved in issues related to data, security, KYC/AML, or content. The telecom policies and regulations in Nepal do not preclude a central platform.

The tremendous advancement in telecommunication technologies made the Government realize that the Telecommunication Act, 2053 (1997) and the Telecommunications Policy, 2054 (1997) were not flexible enough to cope with modern technologies and the rapid development of the telecommunication infrastructure, especially in the rural areas. A revised Telecommunication Policy 2060 (2004) was adopted, replacing the old policy. The full text of this policy is included in the appendices.

Section 4.6 of this new policy expands the language from the earlier act and policy in regard to rural outreach. The Telecommunications Policy, 2060 (2004) states the following:

> The telecommunication service shall be extended in a manner that there shall be universal access to the service. The telecommunication service shall be made available to the consumers through the shared telephone. Emphasis shall be given to extend telephone as fixed, mobile, etc. therefore. The satellite system may also be applied for extension of service. Other services pertaining to information and communication shall be made available through the Community Centre.

The policy does not in any way preclude the centralized ICT platform. Rather, its provisions suggest that such an initiative would be supported and encouraged by the NTA. Section 4.8, which follows on the earlier reference to universal service, speaks specifically to appropriate ICT for the users in rural areas. The section states the following:

> Appropriate information and communication technology shall be made available as per the capacity and need of the users of the rural areas. In this connection, the information and communication technology based on radio, television and telephone that do not require special training and literacy shall be made available in collaboration with the private sector et al. The service of information and communication technology shall be made available to the rural users through the small service providers.

Section 5, the Working Policy, provides a number of provisions for universal access to telecommunications services. Technology for general use is taxed at 5 percent.[72] The policy also makes further provisions in Section 5.1.2 for taxes levied on equipment required for rural expansion.

[72] Interview with NTA. June 2008.

> Arrangement shall be made to levy only 1 percent customs duty on equipment to be imported by the telecommunication service providers to provide service to the rural areas. The Nepal Telecommunication Authority shall certify the equipment imported for providing service to the rural areas.

The policy also provides details on universal service obligations of providers, development of corporate service, and liberalization of the telecommunications sector. The Government plans to liberalize the telecom sector, opening the full licensing regime (voice, mobile, and Internet) to all interested service providers.[73] Full details related to these, and other aspects of the Telecommunications Policy, 2060 can be found in the appendices.

Implementation of the regulations in the new policy may be difficult, given that there have already been delays. The Telecom First Amendment Bill remains under discussion in the Cabinet. As a result, the new licensing regime, tariff, and interconnection rules have not yet been put into practice.[74] While the industry waits for the telecom policy to be revised and accepted by the Cabinet, the old policies remain in place. These delays should not have an impact on the centralized ICT platform.

IT Policy

In Nepal, there have been a few policies focused on technology and electronic commerce. These include the IT Policy, 2057 (2000) and the Long Term Policy of Information and Communication Sector, 2059 (2002). Recently, a Cyber Law has been presented to the Cabinet as well. There is nothing in any of the policies that would limit the centralized ICT platform. Rather, the policies appear to support such an effort.

A copy of the IT Policy, 2057 (2000) is included in the appendices of this report. It is clear in this policy that the Government believes information technology will be "a strong infrastructure for mitigating Nepal's geographical adversities." As a result, the objectives of the policy are the following:

- To make information technology accessible to the general public and increase employment through this means
- To build a knowledge-based society
- To establish knowledge-based industries

In addition, the policy states that "e-commerce shall be promoted with legal provisions, information technology shall be used to assist e-governance, and speedy and qualitative service shall be made available at a reasonable cost by creating a healthy and competitive atmosphere among information

[73] Interview with NTA. June 2008.

[74] Presentation by Chairman, NTA titled "Nepal's Commitment on Telecommunication Services in the WTO", at the Symposium on Telecommunications to Commemorate the 10th Anniversary of the Fourth Protocol to the GATS, 20-21 February 2008, Geneva, Switzerland

technology service providers." Like the Telecommunications Policy, the IT Policy speaks directly to the need to extend information technology to rural areas, even to the extent that is recommends the provision to provide Internet facilities to all Village Development Committees of the country. The policy also talks about the need to computerize all government offices, building their websites for the flow of information. This would suggest that a solution like the centralized ICT platform that would link Government to better information about the microfinance sector would be in line with the new policy.

The IT Policy also makes specific reference to the need for ICT to promote e-commerce and to enact necessary laws for providing legal sanctions to the use of information technology. Again, these provisions are supportive of the centralized ICT platform.

Cyber Laws and Electronic Commerce

The High Level Commission on IT (HLCIT) developed a Cyber Policy in 2004 that was approved by the Cabinet. This act deals with cyber fraud, electronic documents, electronic signatures, and other data security measures. The act does not deal with issues related to e-commerce, consumer protection, or privacy.

Even though this policy is in place, there is no regulatory body to enforce it. To address this issue, a Controller of Certifying Authority (CCA) has been set up to serve in the enforcement role. An individual has been identified to lead the CCA, but it will probably take a minimum of two years for the organization to be fully operational. The speed at which this occurs will be dependent on the political situation in Nepal.

There is nothing in the current Cyber Act that precludes the centralized ICT platform or challenges any component of the solution. The HLCIT is very supportive of the concept and is willing to help make it successful. However, the organization is currently quite consumed by its mandate to implement an e-governance initiative, which is supported by Asian Development Bank. Until it learns more from that project and the outcomes of the current Cyber Act, this policy advisory group will not be working on additional cyber acts in the near future. The HLCIT also expressed interest in defining aspects of new data security and e-regulations that would support the microfinance platform as implementation starts.

Security

Security across the entire end-to-end solution will be an important issue. This refers to both data security as well as consumer protection regarding data privacy and transparency, neither of which has been addressed in the Cyber Act. Mechanisms for consumer redress at a level higher than the financial institution will also be required and may fall under the purview of the Ministry of Finance as it relates to the centralized ICT platform, because no other regulatory body is currently addressing this issue. Nor does any other regulatory body have plans for addressing these issues in the near term.

Competition issues will also need to be considered, as it will be important to create a level playing field for small and large players in the market. The mechanisms by which the centralized ICT platform is introduced and managed can mitigate some of these issues. However, an enabling

competitive framework will provide safeguards against capture by large players. This requirement was echoed by the microfinance community in Nepal, which made it clear that the market is unlikely to accept a private-sector venture assuming sole control of a centralized technology platform.

Regulatory Risks to Centralized Technology Platform

The following risks have been identified. Recommendations on how to mitigate these risks are presented in chapter 8.

- **Changes in regulatory oversight:** The new Microfinance Policy approved by the Government of Nepal in June 2008 recommends the formation of a Second Tier Institution that would monitor, regulate, and facilitate microfinance operations. This would induce changes in the current regulatory oversight that cannot currently be anticipated. Although the Microfinance Policy approved by the Cabinet in June 2008 provided for a Second Tier Institution (STI) to regulate and monitor all MFIs in Nepal, it is still not clear exactly which organizations will be included in this mandate. There was no clear mandate in the policy that describes linkages between the new STI and existing regulations, such as the Co-operatives Act. Rather it appears that there was inconsistency between the perceptions of different regulators. Thus, even when the STI is formed and operational, the regulatory oversight of MFDBs, FINGOs, and SACCOs may remain fragmented.

- **Relicensing of MFIs:** The relicensing regime advocated in the new Microfinance Policy may affect members of the platform. For example, if a relicensing exercise was conducted, members of the platform could potentially have their licenses revoked, eliminating an ongoing opportunity to participate in the platform. While not a critical concern, these possibilities should be kept in mind while implementing the platform.

- **Championing of the central ICT platform:** With the planned revision of the Microfinance Act based on the new Microfinance Policy as its top priority in the next few months, the Central Bank may have difficulties embracing the centralized ICT platform along the same timeline sought by other stakeholders.

- **Public fund mobilization under public/private partnership**: While the new Microfinance Policy establishes the formation of a national microfinance development trust that will mobilize domestic and international funding, the legal status of this fund and related implementing arrangements are still unknown. The new regulations could impact the range of public/private partnership arrangements that would govern the funding of the platform. As of June 13, 2008, there was not sufficient detail included in the policy to determine whether this addition might have an impact on the centralized technology platform.

- **Range of value-added services:** The new policy eludes to the possibility for regulated MFIs to provide services beyond their client base, using the centralized ICT platform to offer additional services such as deposit taking, money transfer, bill payment, and remittances services. However, the new act will confirm the extent to which MFIs could provide these services. The range of services MFIs would be able to provide could impact, among others, the expected volumes on the platform and therefore its commercial viability.

Conclusion

No microfinance, financial sector, or ICT regulations were found to prevent the operationalization of the proposed microfinance platform. Going forward, the regulatory space would benefit from further embracing and facilitating new financial sector infrastructure through the centralized microfinance platform, with the aim of reaching universal access to formal finance in Nepal, as per the Three-Year Interim Plan. The regulatory areas that could be addressed to leverage the microfinance platform include nonbank payment systems, consumer protection regulations, and less complexity in the microfinance regulatory oversight.

6 TECHNOLOGICAL DESIGN OF CENTRALIZED ICT PLATFORM

The design of the technology solution follows the requirements identified in previous chapters. This chapter covers the details of how the proposed technology solution will meet the needs of the various stakeholders and outlines key functional and operational areas.

The benefits of the centralized ICT platform discussed earlier require a technological design that is capable of serving the needs of the entire microfinance market in Nepal. The technological design consists of two parts:

- A number of **key attributes** on which the entire platform is formulated
- A number of **building blocks** that identify the various functions and pieces that the platform is made up of

Once the two parts are identified, much of the development of the centralized ICT platform involves working with vendors who supply, integrate, and assemble the given platform.

Key Attributes

In order to address the market challenges described earlier and deliver the types of services discussed, the centralized ICT platform should demonstrate a number of key attributes. Such attributes include the ability of the platform to cater to the full size of the Nepalese microfinance market spread throughout the terai, hill, and mountainous regions. The platform has to serve the needs of MFIs, both large and small. The platform will need to be flexible in terms of modalities and functionalities and enable innovation to allow new innovative products and services to come about. The platform has to manifest all of its desired features while keeping the cost of common elements to the bare minimum and keep the information secure.

Following are some of the basic attributes based on which the centralized ICT platform would need to be established:

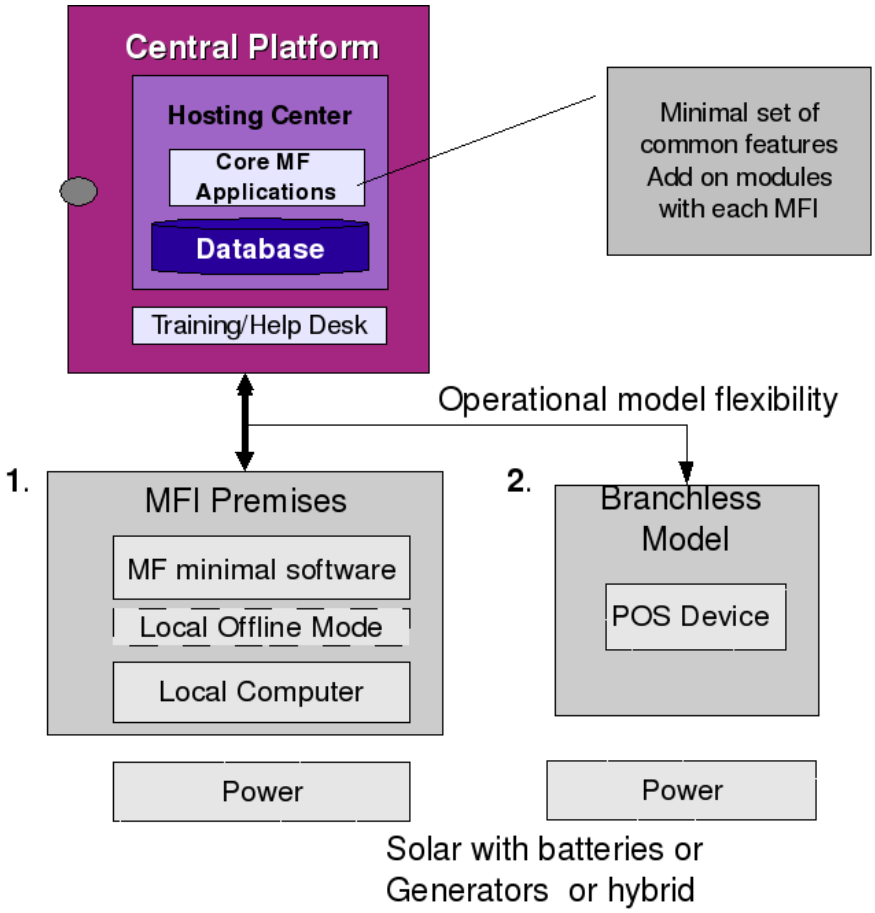
- **Scalability:** The centralized ICT platform needs to be capable of handling hundreds of thousands of transactions per month with thousands of concurrent users. This is because thousands of small organizations would want to participate, and each branch may have two to five concurrent users in some of the larger organizations. Each customer may have one transaction for a savings deposit, another for a loan payment, and another for a new loan

disbursement.

- **Availability:** Every MFI, both large and small, should be able to get onto the centralized ICT platform in a simple, straightforward, and easy way. Even when an MFI is situated in a remote, hilly area, it should be able to connect to the centralized ICT platform, perform its internal accounting using the management-information system, upload or download data about its clients that is stored at the central platform, and be able to run its usual operations. Once applications such as mobile banking and branchless banking are available, any microfinance client throughout Nepal who has access to a mobile phone or a computer should be able to conduct transactions.
- **Flexibility:** Although there is a lot of cross-sectoral alignment on products and methodologies across MFIs in Nepal, individual differences among the MFIs do exist that need to be supported. Hence, flexibility of the centralized ICT platform to cater to the individual needs of the different MFIs is paramount. Flexibility should be found in the user interface that the client sees, in the overall MFI-specific configuration that the MFI sees, and in the underlying system that the IT developer sees.
- **Innovativeness:** Because a key aspect of the centralized ICT platform is to enable other applications, such as mobile banking, credit bureau functions, or remittance transactions, the platform must allow and support rapid product and service innovation. With the technology demands of an MFI assigned to the centralized ICT platform, the MFI should be able to rapidly develop and deploy new products and services that could help meet the changing needs of the customers and allow the institution to expand outreach and impact of its services.
- **Affordability:** Though the centralized ICT platform is capable of offering a whole host of applications and services, much emphasis should be placed on keeping the cost of common elements to a minimum. The platform should provide a central suite of applications to the MFIs at the lowest cost possible by exploiting economies of scale. Applications that are specific to a certain category of MFIs should be left optional and open to a variety of development alternatives that could serve the needs of different MFIs.
- **Security:** Because MFIs would entrust their client information with the centralized ICT platform, the security of information stored is essential. Information for each MFI should be partitioned such that only the institution that owns the information sees the information. MFIs may agree to share parts of their information (such as client credit-worthiness) with other MFIs based on agreed upon memorandums of understanding or contracts. MFIs may also agree to share parts of their information with the Government or with financial intermediaries based on agreed-upon procedures. Any aspect of information sharing must be vetted by the institution owning the information.

Building Blocks

The technology components of the centralized ICT platform are spread across three areas: (1) a central office, (2) head office or branch office of an MFI, and (3) loan officers. The three components are illustrated in the following diagram:



Technology at the Central Office

The central office hosts the following essential technology components: (1) a core microfinance software application that serves the minimal needs of a management-information system for an MFI; (2) a central database that stores all information about the MFI, including client information, transaction information, accounting information, human resource information, etc.; (3) a data center where the computers, application servers, database servers, hosting monitors, and routers and gateways reside, are situated centrally, and service all MFIs; and (4) a call center or a help desk that can assist MFIs in case there is an inquiry or a technical failure.

Technology at the Microfinance Office

The head or branch office of each MFI requires basic equipment to be able to connect with the centralized ICT platform. It requires a computer with some form of Internet connectivity (high-speed or dial-up) for day-to-day operations. The branch or head office may want to use a PC in a temporary offline mode in case it does not have adequate access to Internet at all times. The office requires microfinance software that connects with the centralized ICT platform and allows it to perform the functions typical of a management-information system. If the MFI is not always connected to the Internet and the centralized ICT platform, it requires some limited database facility to cache information until it is able to next connect with the centralized ICT platform and exchange

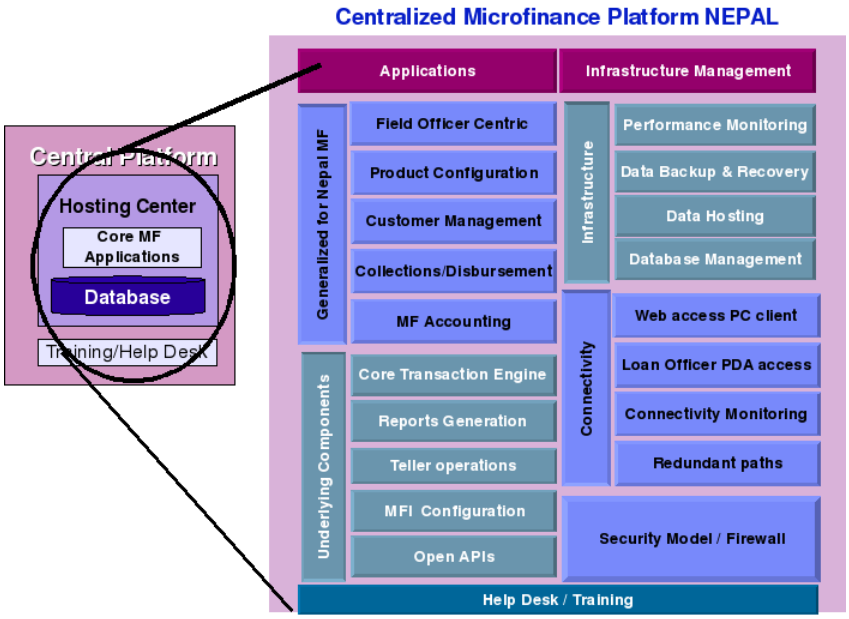
information.

In case power is not readily available at the head or branch office, power solutions may be used that may consist of solar power with batteries, generator, or a combination of the two. Solar panels would make a good solution in Nepal, which has started to make use of such solutions in the rural environment. Because of the monsoon season, a backup generator or other source of electricity is required. By combining the solar panels with a generator in tandem with a battery, the power solution will be able to supply power for the computer equipment of an MFI without much interruption.

Technology with the Loan Officer

The MFI may opt to equip the loan officer with a point-of-sale type of device that allows the loan officer to make loan transactions electronically. In this way, the loan officer will be able to carry out a larger range of client-oriented tasks without the availability of a full branch. The loan officer with a point-of-sale device can demonstrate the workings and benefits of branchless banking.

At the central office, the centralized ICT platform can be broken down into a number of functional blocks. At the highest level, there are core functionalities that are offered to the end users, which include loan officers, managers, and auditors. In addition, there are system management functionalities that deal with connectivity, security, and infrastructure around the data center. The following diagram illustrates some of these functionalities:



The above diagram shows two categories of functional blocks:

- applications, which include generalized applications for Nepal microfinance and underlying components; and
- infrastructure management, which includes infrastructure, connectivity and security.

The above two categories of functional blocks will be discussed in more detail in the following section.

Applications

Generalized Applications for Nepal Microfinance

The following functional blocks will need to fit a generalized Nepal microfinance model. Such a model would offer a common set of requirements for all MFIs in Nepal and sufficient flexibility in configuration and user interfaces.

Field officer-centric focus: Field officer productivity is a key to growth and success. Enabling higher ratios can be achieved via building custom interfaces for the field officer. These interfaces include scheduling of group meetings, generating collection sheets, tracking next loan cycles, and tracking progress to performance goals. These functionalities also involve approval processes that are normal to an MFI and capture a set of business rules that are applied to the field officer. For example, the loan officer may need to submit a request for a new loan to a committee for approval at the head office, or merely have local group members sign off on a new loan. The differences in these approaches, as an example, require flexibility in the way field officers do their work.

Product configuration: Products in Nepal follow typical Grameen methodologies, including loan cycles, sequence within a group getting a loan (1-2-2), grace periods, and interest calculations. MFIs often have unique product designs that include grace periods, no-penalty early repayments, declining balance mixed with flat rates, commissions and fees, and balloon payments. The system must support all of the most common products flexibly through configuration screens. Where differences exist due to calendar-based calculations, the system should allow for an MFI to override defaults and input specific interest rates.

Customer management: Grameen methodologies include both the notion of group and individual as part of a group. Such a methodology introduces a set of requirements around tracking both individuals and groups and, in terms of loan cycles, nonpayments and fees. The central ICT platform will enable lending methodologies that are amenable to groups, individuals as part of a group, and individuals.

Collections and disbursements: Of the two, disbursements are usually the easiest to handle, with checks or cash being handed over to the borrower. Collections, however, involve the field officer and, in some cases, the teller to record payments. Combined with the overall processes of the MFP, collections are the core of an institution's operational system. MFPs may collect payments in cash in the field, in the branch, or via a third party bank and record only the transaction slip. Data and cash processes can be done by different roles or by the same ones. To speed up processing, many MFPs adopt an exception-based approach, according to which a field officer marks only those transactions that were unanticipated (early repayment, not-paid, penalty paid, etc.). A centralized ICT platform should be able to support such an exception-based approach through its interfaces and process flows. To be efficient, these collections should be batched by group and center and allow for a streamlined process. The application should record actual events as close to real-time as possible.

Such an approach allows improved liquidity management and cash control.

Microfinance accounting: Accounting at the branch can be a simple set of transactions, including utility and rent payments. It allows the production of branch reports that illustrate the branch's performance. The centralized ICT platform should strictly enforce accounting principles, such as never allowing a transaction to be undone once it is completed.

Underlying Components

Core transaction engine: A core transaction engine is used to track loan and savings transactions. The engine is also used by other components and is commonly found in banking software.

Reports: Generating reports should ideally not be considered a separate functional area but is embedded in each of the above-mentioned functional groupings. The reporting area is often complicated by a lack of clear requirements and is more properly thought of as an implementation issue rather than an application design issue.

MFI requirements for reports are often tied to specific procedures. Typical reports include Portfolio at Risk (PAR), loan officer productivity, cash balance, transaction listing by branch/loan officer, list of clients and loan cycles, etc. Standardizing the reporting requirements is one way to influence MFIs to adopt common reports.

Teller operations: Some institutions may operate in teller-mode. In a teller-mode, a customer comes to a bank and transacts in person with a teller. The functionality is typical to banking applications and involves day opening, cash handling, and day closing procedures.

MFI configuration: In a centralized ICT Platform, individual MFIs may sign on and create their own settings. Such settings may include rules by which permissions of individual users within the MFI are governed and levels of data reporting that an MFI allows. This requires a sophisticated multitenant hosting environment.

Open APIs: These are to enable additional functionalities. Per the requirements outlined in the appendices, the central ICT platform will need to provide a minimal set of common features for all of the MFIs as well as a the capability to integrate new modules on top of the existing core as needed by individual institutions.

Infrastructure Management

Infrastructure involves a set of building blocks required for successfully running a central ICT platform. Such building blocks are often not visible to the end user but are critical for the working of the system. The building blocks include three main areas: (1) core infrastructure; (2) connectivity; and (3) security.

Infrastructure

Performance monitoring: To ensure service-level quality, the performance of the machines as well

as the user experience needs to be carefully monitored.

Data backup and recovery: Data should be backed up daily and stored at an external site. Incremental backups are advised. One full system backup per month would be appropriate. Recovery procedures would need to be tested and validated by an external auditor.

Data hosting: The database requirements depend upon the design of the vendor solution chosen and how it is implemented. Each MFI would likely have tens of thousands of records per month, and millions of records over a relatively short period of time. The data hosting would need also to ensure rapid retrieval of most-likely data. For example, if users request a typical report on a regular basis, but such a report takes a long time to print, then the data hosting may prepare such reports in advance and store them in a cache.

Database management: Although advanced applications have multiple ways of ensuring data integrity, databases tend to get corrupt from time to time. A database management role is needed to ensure that corrupt data gets corrected and data remains error free.

Connectivity

Web access: The head or branch office of the MFI may want to access the microfinance applications using just a Web browser provided the office has high-speed Internet connectivity. Providing such functionality requires good connectivity and the ability of the centralized ICT platform to provide such service.

Point-of-sale (POS) access: Simple models involving POS access allow for most branch operations to be done with the help of readily available POS devices that use low power and are robust.

Connectivity monitoring: Monitoring of the Internet connectivity across the entire network is essential. As problems develop or as anticipated downtimes occur, alerts and advice can be communicated and corrective actions be taken.

Because connectivity is a key aspect, a centralized point-of-service provisioning is recommended. Such provisioning ensures that the MFI has a single point of contact for any issue and makes the entire services approach seamless. The connectivity situation in Nepal and requirements of the central ICT platform are described in greater detail at the end of this chapter.

Security Model / Firewall

Security checks what activities a single user may do and how information may be exchanged electronically between the central platform and a head office or branch office. Security protocols are needed to ensure that customer data is never stolen, that unauthorized users are blocked, that logs of intrusions are kept, that permissions are up to date, that data access is restricted to specific user roles, and so on. Firewalls and virtual private networks may be provided by the centralized ICT platform to allow for high security applications.

Connectivity for the Proposed Technology Solution

A connectivity strategy may be important for the centralized ICT platform that employs multiple modes of online and limited connectivity. The connectivity infrastructure in Nepal is fair to start with and continues to expand. However, a number of microfinance service providers still need to overcome cost, availability, or reliability issues to get their local branch offices connected. Finding a low-cost solution to connect will be an important aspect of the workings of the centralized ICT platform.

A number of connectivity modes are currently available in Nepal that can be used by MFIs to connect with the centralized ICT platform:

Fixed-line with dial-up: There are six service providers in Nepal that provide fixed-line or mobile connectivity. Dial-up is available anywhere there is fixed-line connectivity.

Mobile with data: GPRS or EDGE (data) connectivity is available over mobile links. The mobile network within Nepal is extensive and has been rolled out throughout Nepal. As of March 2008, 95 percent of the districts and 55 percent of the village development committees (VDCs) were covered with mobile connectivity. The VDC coverage was expected to reach 61 percent by mid-2008. CDMA-based mobile service provides broadband connectivity at speeds of 240kbps whereas GSM-based mobile services offer data connectivity with minimal speeds of 40kbps.[75]

Internet service providers: There are approximately 10 network service providers that provide bandwidth to a large number of ISPs (Internet service providers)[76] within Nepal. Competition for Internet provisioning is intense within Kathmandu though limited outside. Most network connections in the country pass through a national gateway in Kathmandu.[77] Internet service providers purchase bandwidth from one of the major players or set up their own network back to the main gateway in Kathmandu. From 2006 to 2008, GPRS, EDGE, and 3G became available in Nepal. Wifi, VOIP, and WiMax have been introduced. As of January 2008, the number of licensed ISPs stood at 36.[78] Teledensity stood at 10.13.

Satellite access: VSAT providers are operating in very remote areas of the country but are considered expensive. Currently, they are available in limited locations, such as hotels and hospitals, where connectivity is a requirement. STM Telecom Sanchar Ltd, which holds the rural voice license, operates a purely VSAT arrangement at all districts and has a few Internet centers scattered throughout the country. There are six other VSAT providers[79] within Nepal.

High-speed connections: Leased line, ISDN, and ASDL are offered by ISPs and the incumbent operator within Nepal.

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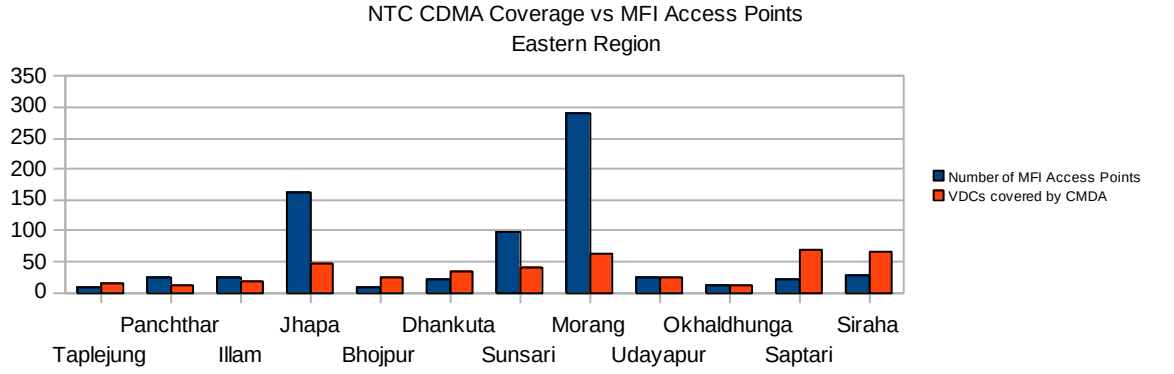
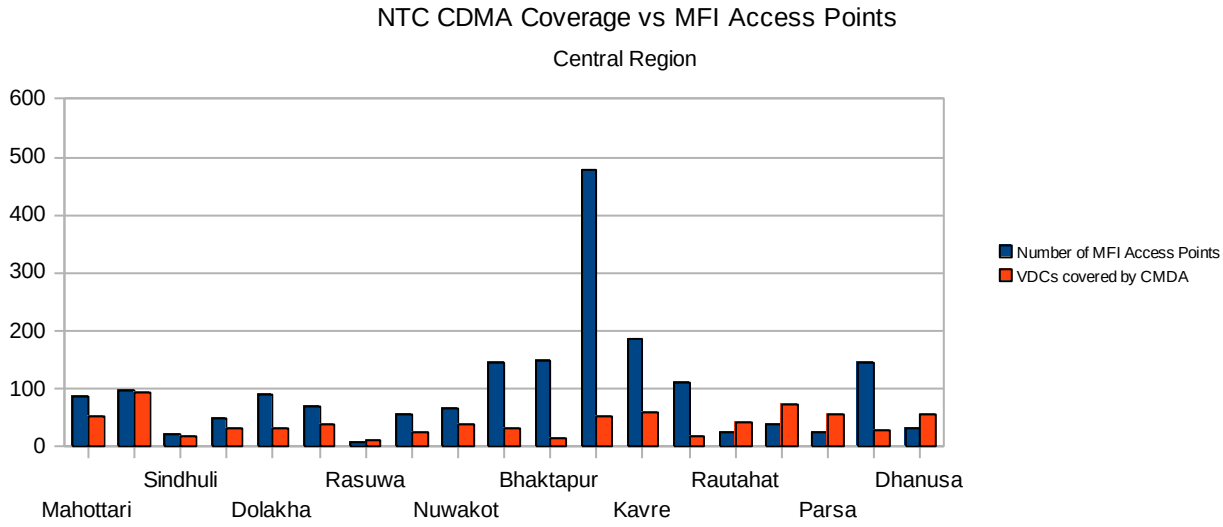
[75] http://www.spicenepal.com and interview with Spice Telecom Nepal CEO.
[76] Nepal Telecom Authority. Onsite visit 11-June-2008.
[77] Conversation with Nepal Telecom Company– private ltd , February 2008.
[78] "Management Information System " 19th Report of Nepal Telecomm Authority. (Poush 2064) (16 December 2007 - 14 January 2008) . http://www.nta.gov.np/index.html
[79] "Management Information System " 19th Report of Nepal Telecomm Authority. (Poush 2064) (16 December 2007 - 14 January 2008) . http://www.nta.gov.np/index.html

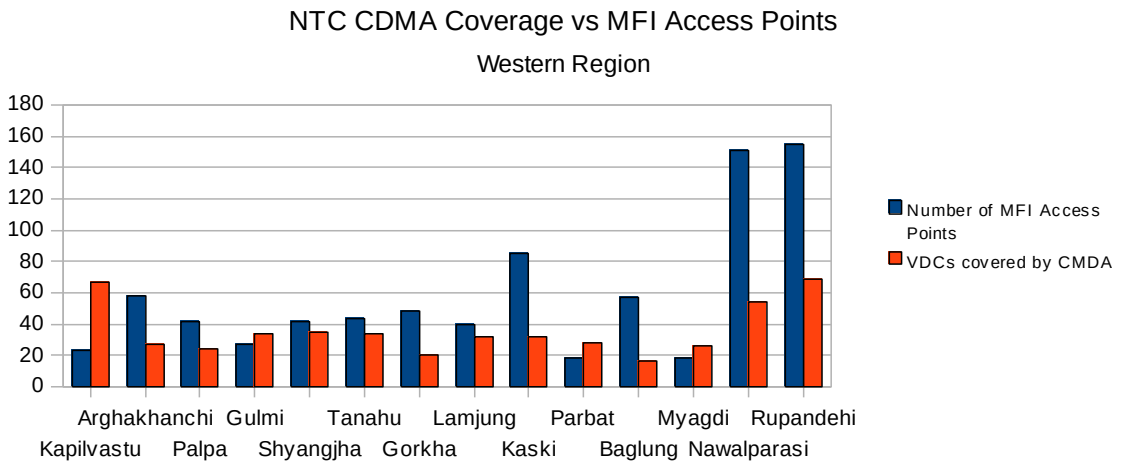
Availability of Connectivity in Areas of Branch Offices

The following charts demonstrate the number of MFIs in each district and the corresponding number of VDCs that have mobile connectivity. The charts indicate the availability of connectivity in the districts of Nepal where MFIs are operating branch offices:



Source: NTC CDMA Network – Directorate of Wireless Telecom and Mapping Exercise, World Bank





Pricing

The following table offers a sample of prices (excluding setup and additional onsite equipment charges):

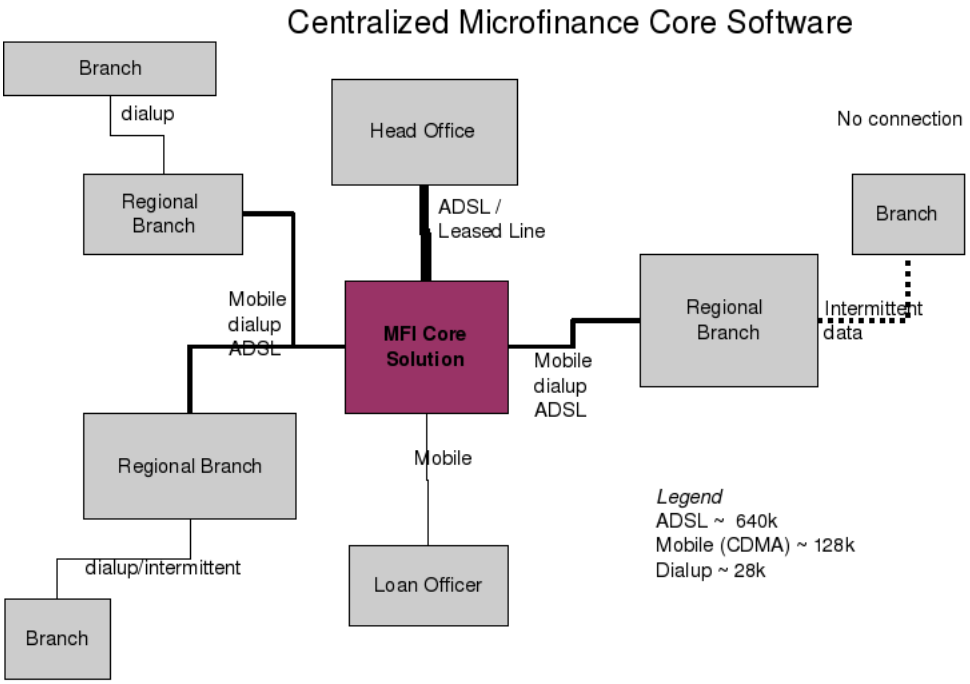
NTC Nationwide IP Connectivity and Pricing		
PSTN Dialup	**Nr**[p]	**USD**
Unlimited Home surfing	1800 per year	27.69
Wholesale bandwidth		
1 MB full duplex	per year	$7,200.00
Satellite access		
1 MB full duplex[80]	per year	$21,000.00
ISDN		
64kpbs	15000 per year	$230.77
128kpbs	30000 per year	$461.54
Leased line – symmetrical bandwidth		
640 kbps (10 channels @ 64kpbs each)	588000 per year	$9,046.15
64 kbps (1 channel)	60000 per year	$923.08

Connectivity in the Centralized ICT Platform

Because different types of connectivity are anticipated, a key aspect in the design of the centralized ICT platform would be to operate using minimal connection speeds. Branch offices are expected to have access to not higher than 64Kbps connection speed and would likely rely on CDMA/GPRS

[80] Nepal Telecom Authority. Onsite visit 11-June-2008.

(wireless) or dial-up access. Branch offices without reliable connectivity may use online/offline mode to connect with the centralized ICT platform. Head offices or regional branch office hubs are expected to have higher speed connections using ADSL or CDMA/GPRS (wireless) access. Remote branches may connect using only dial-up or through loan officers who use a point-of-sale device and a mobile connection. The following diagram captures the various scenarios.



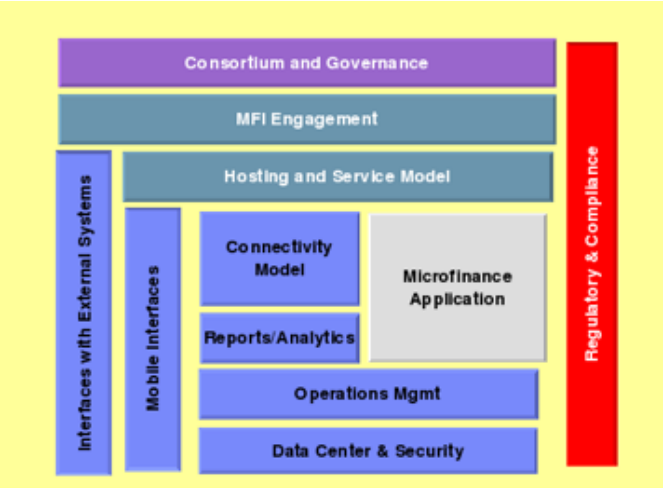
7 INSTITUTIONAL DESIGN

This chapter describes the various models that could be followed to develop the institution that needs to be in place to govern and implement the centralized ICT platform. The various models will be evaluated against a set of principles to provide recommendations on the approach that maps best to those principles. Additional details on the recommended approach, including cost considerations, will be provided.

Institutional Purpose and Principles

An institution is required to provide governance and support to the centralized ICT platform. As identified in the accompanying figure, a number of functional and operational roles need to be developed around the centralized ICT platform. These include: governance, microfinance engagement, technology hosting, and regulations.

A **governance** role is important for ensuring that the effort is well received by participating organization and that there is sound fiduciary accountability across all aspects of the centralized ICT platform. To ensure **microfinance institution engagement,** it is important to establish shared cost models and generate market demand. A **hosting and service** role is required to manage the technical aspects of the centralized ICT platform, from the applications to the connectivity, from the data center to security, including reports and operational aspects. The institution also needs to **interface with external systems** to establish connections to other enabling applications, such as mobile banking, credit bureaus, and remittances. A **compliance** role is also required to ensure the effort remains in adherence with all existing and evolving regulations.



A set of principles that guide the formation of the implementing institution should be established as a first step in considering the organizational approach.[81] Based on interviews with market participants, the following guiding principles have emerged.

[81] Hock, Dee and Senge, Peter M. 2005. "From One to Many: VISA and the Rise of Chaordic Organization". Berrett-Koehler Publishers. 307 pages.

1. The implementing agency should be **respected** by the participants and stakeholders in Nepal's microfinance industry to establish trust that the data of participating MFIs will be held in confidence
2. The implementing agency should be a **neutral** player in the market, independent of any financial institution or technology vendor and acting as a body focused on the overall industry rather than institutional objectives
3. The implementing agency should be **representative**, allowing and encouraging the participation of all four categories of MFIs—MFDBs, FINGOs, SCCs, and SFDLs—irrespective of size.
4. The implementing agency should be **capable** of managing participants as well as the technology development and implementation process
5. The implementing agency should be **efficient** in its business and costing practices, thus ensuring that all interested parties will have the capacity and capability to pay fees and purchase services
6. The implementing agency should have a business plan that will lead it to **financial sustainability**, thus ensuring its ability to deliver services to its customers.
7. The implementing agency should be **financially accountable and transparent** to all participants, establishing rules for annual reporting and transparent operations

Institutional Approaches

Public Sector Models

Under a public sector model, a government body or some other public entity would establish the requirements for the centralized ICT platform, contract with technology vendors, and provide governance and oversight to the project. Once implemented, the public agency would provide services to MFIs and other market makers.

Due to its market strength, a government agency could establish a regulatory framework that forces financial institutions to participate in the centralized ICT platform. This approach was taken by the Government of Ghana in an attempt to implement a nationwide point-of-sale platform. The Government signed a $32 million agreement with technology provider Net1 for the service. The President of Ghana and the Central Bank have made it compulsory for the 169 commercial banks, savings and loans providers, and community banks in the country to become part of the initiative. In this circumstance, the Government absorbed the cost of implementing the solution.[82]

To achieve its purposes under this model, the Government could quickly approve the centralized ICT platform and could establish a new entity or empower an existing public entity to become the implementing agency. Whichever approach is undertaken, the Government would likely provide for funding the project, either singly or in participation with other funding agencies.

[82] www.moneyweb.co.za/mw/view/mw/en/page201650?oid=207123&sn=Detail

Private Sector Models

Under a private sector model, a privately held company would enter the market to establish a centralized ICT platform. Examples from other parts of the world suggest that this entity would be either a commercial bank or a technology company.

Commercial bank model: When a large financial institution drives this process, participation is generally limited to those institutions the founding partner targets for inclusion. Initial members set all financial conditions, including the cost of participation as well as charges that will be levied by each of the participants to each other and to their customers. Since the initial participants are usually larger banks, the conditions that are set are generally conducive to their business needs.

A new initiative is being driven by Mercy Corps in Indonesia. Known as the Bank of Banks, this project will establish a new bank to provide wholesale loans to MFIs and other small financial institutions in Indonesia. As part of their offering, the Bank of Banks will develop a centralized ICT platform that it will use to manage the data of their participating MFIs. Decisions about cost structures and participate will be made by the Bank of Banks.[83]

This model requires a large financial institution and a largely untapped market for success. Financial sustainability is a core requirement for a commercial bank to undertake such an effort.

Technology company model: In this scenario, a technology company would either emerge within the country or an international company would enter the market to provide the centralized ICT platform as a service to MFIs. The company would assume the cost of developing, implementing, and supporting the service. In addition, the company would underwrite the cost of promoting, selling, and marketing its solution to potential customers. Players in the market would chose to participate based on cost and effectiveness of services.

In Nepal, the Credit Bureau is an example of a private company that is managing a technology solution for a group of financial clients. Initially Government-held, the Credit Bureau is now owned in large part (90 percent) by the private sector. Owners of the organization include banks and other financial institutions. The Government owns the remaining 10 percent. The Credit Bureau is run as a for-profit business. Technology requirements are outsourced to technology vendors.

Due to their business motives, these companies are bound to seek profits. If they are targeting the microfinance industry, one way they seek profitability is to establish themselves in large markets. In cases where microfinance customers are not yielding positive returns, these companies may need to shift their business objectives to more lucrative clientele. IBM is engaged in the development of a centralized ICT platform for the Latin America microfinance market, where estimates for 2007 indicate that more than 600 institutions are serving over 8 million clients and providing more than $8.6 billion in credit.[84] FINO, an India-based technology company incorporated in 2006, originally targeted microfinance clients.[85] The company is now serving the banking, microfinance, insurance,

[83] Interviews with Mercy Corps and IFC, Indonesia

[84] Microfinance Gateway. June 14, 2008. microfinancegateway.com/content/article/detail/48730

[85] Contract work with FINO prior to incorporation

and government sectors.[86]

This business-driven approach ensures efficiency in the system and match-to-market requirements. Success depends on the level of market participation at prices that make the solution sustainable within a relatively short time period.

Public / Private Partnerships

A public/private partnership model assumes joint participation by a number of stakeholders interested in advancing the microfinance market. Under this model, the participants could create a new legal entity or they could establish a new division under an existing entity to serve as the implementing agency for the centralized ICT platform.

Existing entity: In this model, potential users of the centralized ICT platform would partner with an existing public or private entity in the microfinance sector to create a new division to become the implementing agency. Governance would be provided by the CEO and board of directors of the existing entity. An ICT manager would be hired to manage the new division. This individual would be responsible for the operational aspects of the platform and would report to the CEO. Technology development, implementation, and support could be outsourced. To ensure that the technology solution continued to meet the needs of the microfinance industry, a technical advisory board would be formed from the potential users and other investors in the platform. This group would provide technical oversight on issues related to standards, data security, problem resolution, and other issues of concern to participating members. The technical advisory board would work with both the CEO and the ICT manager.

Ownership of the platform under this model would be split among the users of the platform, private investors such as the technology vendor, Government, and other investors interested in supporting the microfinance sector. All of these organizations would have to make an equity investment to participate in or support the platform. Since shares would be allotted to the investors, it would be preferable if the existing entity already had a share-holding mechanism in place.

This model, while complex, benefits from its participatory nature and the ability of the potential users to select a trusted entity to serve as the neutral party of the industry.

New entity: Potential users of the centralized ICT platform could jointly form a new private or public limited company that would become the implementation agency for the centralized ICT platform. In Nepal, key participants could include apex organizations, microfinance banks, NGOs, and other microfinance stakeholders. Participating institutions would underwrite the cost of the agency as well as the technology development, implementation, and management. If the market was lucrative enough and a private organization was established, a technology company or other investors could be encouraged to assume equity positions in the new agency.

Shareholders would establish a board of directors for governance and would hire a CEO or general manager to oversee operations. The centralized ICT platform could be developed and managed within this new organization, or it could be outsourced to a technology company.

[86] FINO website. June 14, 2008. www.fino.co.in

In Nepal, Sana Kisan Bikas Bank (SKBBL) provides an example of a new entity that was established by a group of stakeholders for a joint purpose. The Small Farmers Co-operatives that are served by SKBBL are also shareholders. Although they purchased a relatively small stake in SKBBL initially, these co-operatives are purchasing a larger position over time. Other initial investors were two commercial banks, the Government of Nepal, and a private company.

Due to the joint ownership of this organization, it would have credibility and neutrality among the initial equity investors. The majority stakeholders in this entity would likely be public-sector players. The organization would need to be established with the support of the Central Bank.

Analysis of Potential Approaches

To determine which of the models would be most appropriate in Nepal, each will be evaluated against the principles described earlier in this chapter. As a reminder, the principles that should govern the institutional agency were **respected**, **neutral**, **representative**, **capable**, **efficient**, **financially sustainable**, and **financially accountable and transparent**.

Public Sector

The Government would not be a representative body because it could not provide share-holding to the MFIs. From interviews with market players, it was learned that these organizations would like ownership in the centralized ICT platform. They also requested an opportunity to participate in the discussions related to standards, sector norms, and issues related data sharing for credit bureaus and financial performance. These points parallel some of the agreements reached during the Microfinance Summit Nepal 2008.

The Government is better positioned to act as a facilitator rather than a direct provider of services.[87] Facilitation involves creating an enabling environment and, if needed, supporting initiatives that can help private institutions increase access. As the implementing agency, the Government would be a direct provider of services.

Private Sector

Commercial banks: A commercial bank would not be viewed as a neutral entity by other players in the market. Evidence suggests that a key reason why the FINO platform was not accepted more readily by MFIs was the direct link they perceived between FINO and one bank in India, ICICI Bank.[88] In addition, a commercial bank functioning as the implementing agency would not be representative of the entire microfinance industry. Since the bank's financial interests would most likely be linked to the centralized ICT platform, it is not likely that the bank would make issues related to the platform financially accountable and transparent.

In Nepal, a commercial bank would have to be identified that would be willing to accept the role of

[87] World Bank. 2007. "Access to Financial Services in Nepal". Washington, D.C.
[88] Interviews with microfinance institutions in India. 2005, 2007, 2008.

institutional agency. During the interviews conducted for this report, the banks that are providing wholesale funds to MFIs were questioned about their interest in playing this role. Although these institutions indicated that they would like to participate in a centralized ICT platform due to the benefits it could provide their businesses and the industry, they were not interested in playing the agency role.[89]

Technology companies: A technology company would not be a neutral player, representative of the industry, or transparent. Instead it would cater to those organizations in the market that would be willing and able to purchase its services. If not all the players chose to participate or could not afford the solution, then the current fragmentation in the market would remain.

Due to the nature of its business, a technology company would need a financially sustainable business model to function as the implementing agency. If profitability and growth goals were not being met, the company might drift away from its original mission to provide a service to the microfinance industry.

Based on the financials provided in the technology section of this report, the current microfinance market in Nepal will not be able to cover the cost of a centralized ICT platform without some form of subsidy. This scenario makes it unlikely that a private technology company would enter the market on its own to provide this solution. It is more probable that a technology company would enter the market as one of the partners in a larger public/private partnership.

Public / Private Partnerships

Interviews with market players suggest that this is the preferred model. MFIs and apex organizations told the consultants working on this report that they would be willing to participate in a public/private partnership, that they would be interested in purchasing shares of the agency, and that they would be willing to pay for services.

New entity: Since the institutional agency would be newly formed, it would have to establish offices and hire management. One of the most important success factors in creating a new entity would be identifying and hiring the organization's CEO. This person would need to either be already well respected in the microfinance community or he/she would have to be able to garner respect quickly. In addition, this individual would have to be highly competent in their ability to manage this complex organization. That competency includes prior experience running a large, complex technology system. The CEO would need to have enough knowledge of the requirements of such a system to be able to hire highly skilled and appropriate ICT experts and trainers.

Since there are many unknowns, developing a new organization involves a level of risk and uncertainty, particularly around the areas of neutrality, trust, and competence described above. In Nepal, there is also some question as to whether the Central Bank would be interested in supporting the development of another new entity. The Microfinance Policy approved by the Cabinet in June 2008 already establishes an STI and a trust. There may not be provision or interest in the creation of a third institution to implement the centralized ICT platform.

[89] Interviews with apex organizations in Nepal. June 2008.

Existing entity: An existing entity would already be familiar to microfinance participants. The principles of respect, trust, neutrality, and transparency would have already been established between the parties. The largest challenge with this model would be to identify a neutral, respected institution in Nepal that had the expertise to run a large-scale technology implementation. The other challenge would be to ensure that the centralized platform was aligned with the mission of the existing institution. The scale of the centralized ICT platform might be such that it would dwarf the existing activities and initiatives of the entity. This could create both a conflict of interest and confusion about the true role and priorities of the entity. If such an organization could be found in Nepal, the important elements for success would be the creation of a business plan that ensured financial sustainability and to hire extremely competent management to handle all the technical and training aspects of the centralized ICT platform. The CEO of the existing entity would be responsible for relationship management.

Another challenge of this model is to ensure that all the players in the market would feel comfortable aligning behind the existing entity.

Recommended Approach

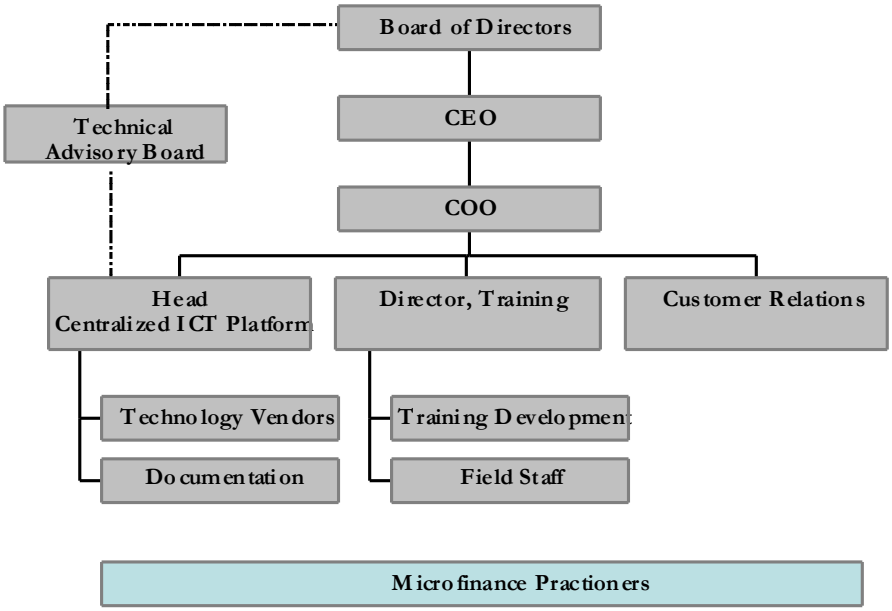
Based on the analysis of each of the models presented above and feedback from the market, a public/private partnership that creates an entity appears to be the best model for Nepal, even though there may be hurdles with the Central Bank. The primary reason this model is preferable to the an existing entity is the fact that discussions in Nepal did not point to any current organization that all players were willing to embrace. Given the challenges that may face the formation of a new entity, it might be necessary at some point in the future to revisit this option and to work to build consensus across the industry.

The following section provides more detail about the way the new entity model might evolve in Nepal.

Organizational Model

The proposed institutional agency could be organized according to the following model.

Institutional Agency Organization



Roles and Responsibilities

MFIs that chose to benefit from the centralized ICT platform would become **members** of the institutional agency. Membership would be obtained by purchasing shares in the agency. Members would also pay annual dues to cover the cost of operations. They may also be required to pay transaction and training fees. The cost of entry, annual payments, and other fees would be set by all shareholders and would be approved by the board of directors.

The board of directors provides **governance and oversight** to the centralized ICT platform. It would also have fiduciary responsibility. The board would be composed of major stakeholders and funders of the institutional agency. Members of the board of directors could not simultaneously participate in the technical advisory board. These duties would need to be distinct and separate. Board members should have term limits and be guided by the agency's by-laws.

The CEO would be the **champion** of the effort. This individual would be responsible for ensuring success of all aspects of development, implementation, delivery of services, and integration with external systems, MFI participation, and compliance. A key element of the CEO's efforts would be to ensure that a majority of the MFIs in Nepal participate in the platform.

The COO would be the operational expert behind the centralized ICT platform. This individual would need to have prior experience managing a large organization that had a number of stakeholders and required the management of staff across the country. The COO would be responsible for the **operational success** of the centralized ICT platform.

The technical advisory board would provide **technical oversight** to the technology platform. Members of the technical advisory board would be elected from among the users of the platform and will have a limited term. A set of guidelines should be developed to define the board's roles and

responsibilities. In general, this group would ensure that the requirements of platform users are taken into consideration. These requirements could include matters related to technology requirements, vendor selection, standards, data security, training, call centers, development priorities, and pricing structures. They would also be called upon to provide guidance and decision making on broad issues that affect all users of the platform. Members of the technical advisory board would serve on a voluntary basis for the purpose of developing the microfinance industry.

The head of the centralized ICT platform would be responsible for the **technical success** of the centralized ICT platform. This individual would report to the COO, but would also have responsibility for managing the technical advisory board. The ICT manager would lead the effort to develop functional specifications, identify technology vendors, and oversee product development and implementation. Once identified, the ICT manager would have ongoing oversight and management of the technology vendors.

A technology vendor or group of vendors would either be shareholders in the agency or they would be hired on an outsourced basis. These vendors would be responsible for all the **technical components of the platform**, such as application development and support, connectivity, networking, data hosting, back-up, disaster recovery, configuration, deployment, installation, training of trainers, and system support. Vendors could also be hired to provide customers support services such as ongoing training, customer call centers, and other customer-facing issues.

Other key staff would be the directors responsible for training of staff at participating MFIs and for managing relationships with the middle management at these organizations to ensure that the solution was successfully meeting their needs. Inputs from the customer support team would feed back to the head of the centralized ICT platform to ensure that problems were addressed and that new requirements identified by the platform's customers were incorporated into future versions of the solution.

Cost Projections

Projections were made as to the likely cost of installing the ICT platform. The eventual cost might be lower or higher depending on the situation on the ground. It will also depend on the number of institutions that will sign up for the platform and how long data migration takes. At the moment, some of the institutions claim to have some level of computerization. As the establishment of the platform commences, it might be discovered that this computerization is not at the expected levels, and therefore more costs might be incurred to rectify such situations. On the other hand, there might be many more institutions than expected with sufficient levels of computerization, thus reducing the costs. International experience, however, shows that there is normally more rather than less to be done when on-boarding the institutions, especially with issues relating to data integrity and migration.

How much does it cost to develop and maintain a central technology platform for the microfinance market of Nepal? Low cost is one of the main attractions of the proposed platform. Low cost can be achieved by economies of scale when all the technology resources of microfinance institutions in Nepal are pooled in one place. This section presents a preliminary financial plan based on a simple financial model and a set of underlying assumptions to develop a central technology platform in

Nepal.

If the platform were to be developed, a detailed business plan would need to be prepared for the new host institution. The business plan would examine areas such as the organizational structure, mission statement, corporate strategy, revenue and expense structure, sales and marketing strategy, human resource plan, and implementation plan.

The Methodology

The financial model used to estimate the cost of the central technology platform takes into account the revenues and expenses of the host institution. Revenues are based on a fee that the host institution charges microfinance institutions in return for providing technology services. Expenses are a sum of capital expenses required to set up both the host institution and the central technology platform and operating expenses required to run the operations. The difference between revenues and expenses gives the financing gap. Various financing options would need to be explored to fill the financing gap and bring about the central technology platform.

The model assumes a three-phase implementation strategy spread over nine years. Each phase consists of three years. During the first phase, 10 percent of the microfinance market is captured. Bt the end of the second phase, 50 percent of the market has been captured. By the end of the third phase, 100 percent of the market has been captured. The microfinance market is taken to be the number of microfinance institutions operating during any given year

All estimates used are based on the five-year historical growth rates of the microfinance market of Nepal as shown in table 1 in appendix 9. The growth rates include growth of head offices, regional offices, branch offices, loan officers, customers, and loan portfolio. All estimates assume an organic growth rate suggesting that the use of technology has no effect on the microfinance market in Nepal. In truth, the use of technology can accelerate the rate at which microfinance institutions grow and expand and the rate at which client base and loan portfolio grow. The financial case for developing a central technology platform could be even more favorable if an inorganic growth rate were to be assumed taking into account the use of technology.

To keep things simple, the financial model does not take into account the cost of running a help desk, a call center, or a training facility by the host institution. The model also does not take into account the cost and benefit of software customization or specialized applications that microfinance institutions may require for using the central technology platform.

The Assumptions

The following assumptions are made in setting up the financial model and estimating the cost of the central technology platform:

- **Time horizon:** A time horizon of nine years is assumed during which the entire microfinance market of Nepal is expected to be captured.
- **Inflation rate:** An inflation rate of 5 percent is assumed over the time horizon.

- **Exchange rate:** An exchange rate of Nr₱77.40 for US$1 USD is assumed over the time horizon.
- **Growth rate of microfinance institutions:** The number of microfinance institutions in Nepal is assumed to grow from a rate of 1 percent in year 1 to 9 percent in year nine.
- **Growth rate of head offices:** The average number of head offices per microfinance institution is assumed to grow from a rate of 1 percent in year 1 to 9 percent in year nine.
- **Growth rate of regional offices:** No regional offices are assumed to exist over the time horizon.
- **Branch offices:** The average number of branch offices per microfinance institution is assumed to grow at a rate of 4 percent per year over the time horizon.
- **Loan officers:** The average number of loan officers per microfinance institution is assumed to grow from a rate of 5 percent in year 1 to 9 percent in year nine.
- **Customers:** The average number of customers per microfinance institution is assumed to grow at a rate of 23 percent per year over the time horizon.
- **Loan portfolio:** The average loan portfolio per microfinance institution is assumed to grow at a rate of 30 percent per year over the time horizon.
- **Operating expenses:** The average operating expenses are assumed to be 12 percent of the loan portfolio of each microfinance institution over the time horizon.
- **IT expenses:** Microfinance institutions are assumed to spend on average 8 percent of their operating expenses on information technology. The model assumes that the 8 percent is paid by the microfinance institutions as a fee to the host institution for technology services they would use. The 8 percent forms the revenue stream of the host institution.
- **Head offices:** The following assumptions are made regarding head offices for each microfinance institution:
    - 100 percent of the head offices are in urban areas.
    - All head offices have electric power and thus do not require power units to run computers.
    - All head offices have access to broadband Internet, dialup Internet, and mobile Internet and prefer to use broadband Internet.
    - No head office requires biometric devices since most of the transactional work is done in the field.
- **Regional offices:** No regional offices are assumed to exist at this stage in Nepal. This may be a simplification, but the assumption does not significantly affect the resulting financials of the central technology platform.
- **Branch offices:** The following assumptions are made regarding branch offices for each microfinance institution:
    - 30 percent of the branch offices are in urban areas and the remaining in rural areas.
    - 33 percent of the branch offices in rural areas have no power and require power units to run computers.

- 30 percent of the branch offices have broadband Internet, 23 percent have dialup Internet, 23 percent have mobile Internet, and 23 percent have no Internet.
- 10 percent of the branch offices that do not have Internet are in an area where a critical mass of microfinance institutions exists. As a result, these branch offices require satellite Internet.
- 33 percent of the branch offices require biometric devices.

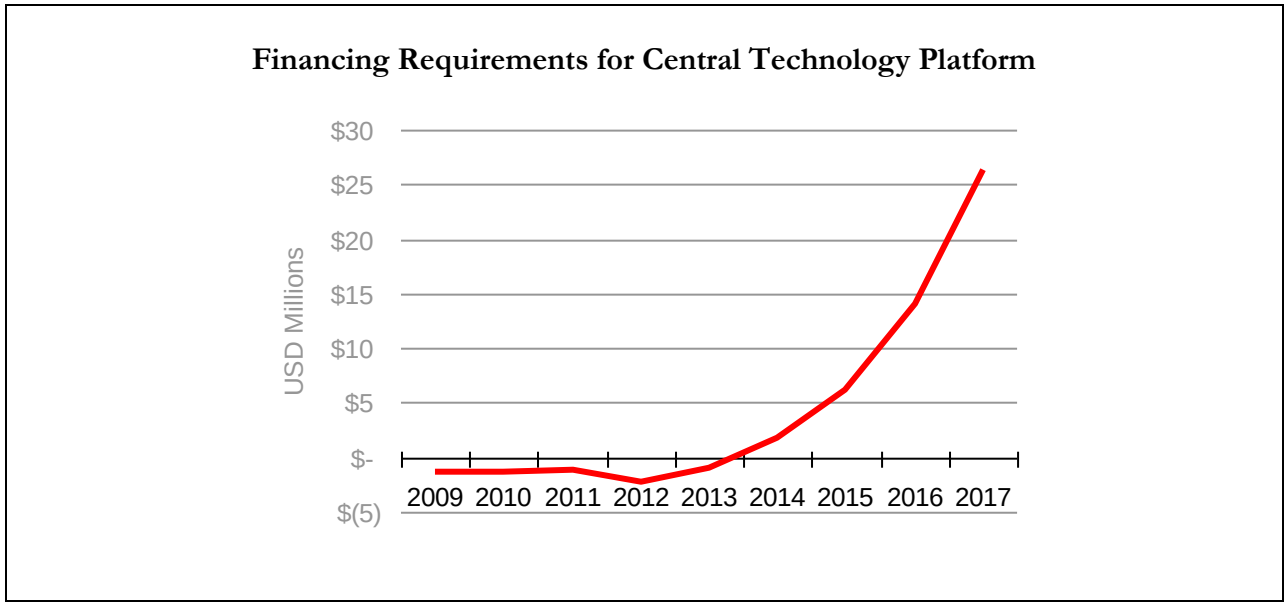
➢ **Loan officers:** The following assumptions are made regarding loan officers for each microfinance institution:

- 10 percent of the loan officers are in urban areas and the remaining in rural areas.
- 45 percent of the loan officers in rural areas have access to mobile internet.
- 50 percent of the loan officers in rural areas with mobile internet use a point-of-sale device and serve as a branchless bank.

➢ **Host institution:** The host institution is assumed to be staffed with 67 employees, consisting of 1 CEO, 5 advisory board members, 5 vice presidents, 10 managers, technical staff, and support staff.

The Cost

Based on the financial model and assumptions given above, the cost for setting up the central technology platform is estimated to be $5.49 million as shown in table 2 in appendix 9. Of the total cost, $4 million is needed during the first three years and US$ 1.49 million during the second three years. The financial plan shows $46.67 million is recovered during the last three years. The following diagram sums up these financial projections:



As shown, the central technology platform exploits economies of scale and is financially viable when it caters to the entire microfinance market of Nepal. The large financial recovery during the last three years indicates that the host institution is capable of recovering its initial investment if it

sustains its operations over the long run.

Sensitivity Analysis

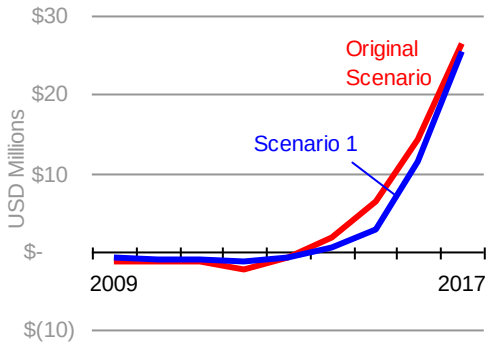
A sensitivity analysis was performed to determine the effects that the assumptions have on the financial model described above. Four scenarios are evaluated: (1) what if implementation phasing were to be done slowly, (2) what if microfinance institutions were to spend less on information technology during earlier years, (3) what if the per unit cost of the basic building blocks used to set up the central technology platform were higher for the host institution, and (4) what if the loan portfolio of microfinance institutions were to grow at a slower rate.

Following are the findings from the sensitivity analysis:

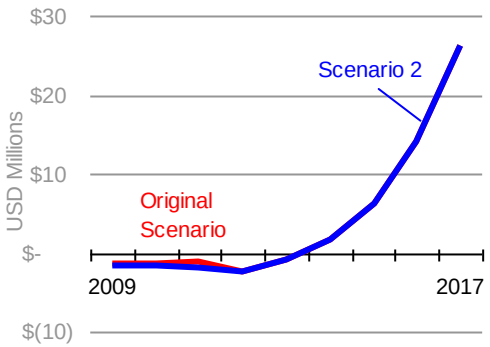
- **Implementation is not sensitive to slower implementation phasing:** The central technology platform would be cost viable even if implementation were to be phased in slowly during earlier years, so the market has time to adopt the central technology platform, and faster during later years. **Scenario 1** in the diagram below shows the effect on financing requirement. In this scenario, 5 percent of the market is captured during phase 1 of implementation, 25 percent during phase 2, and 100 percent during phase 3. All other assumptions are held constant according to the original scenario. The resulting cost for setting up the central technology platform is found to be $4.64 million, of which $2.90 million is required during the first three years and $1.74 million during the second three years. A total of $39.53 million is recovered during the last three years.
- **Implementation is not sensitive to lower information technology expenditures by microfinance institutions during earlier years:** The central technology platform would be cost viable even if microfinance institutions were to spend less on information technology during earlier years. **Scenario 2** in the diagram below shows the effect on the financing requirement. In this scenario, participating microfinance institutions spend 0 percent of their operating expenses on information technology during the first three years and 8 percent during remaining years. All other assumptions are held constant according to the original scenario. The resulting cost for setting up the central technology platform is found to be $6.80 million, of which $5.31 million is required during the first three years and $1.49 million during the second three years. A total of $46.67 million is recovered during the last three years.
- **Implementation is not sensitive to higher per unit costs for setting up central technology platform by the host institution:** The central technology platform would be cost viable even if the host institution faces a higher per unit cost for the building blocks it uses to set up the technology platform. **Scenario 3** in the diagram below shows the effect on the financing requirement. In this scenario, the host institution faces a 50 percent higher per unit cost for setting up and operating the core microfinance software and core database. All other assumptions are held constant according to the original scenario. The resulting cost for setting up the central technology platform is found to be $8.44 million, of which $4.57 million is required during the first three years and $3.87 million during the second three years. A total of $42.89 million is recovered during the last three years.
- **Implementation is sensitive to loan portfolio growth rate of microfinance institutions:** The central technology platform would be cost viable provided microfinance institutions are

able to maintain an appreciable loan portfolio growth rate over the time horizon. **Scenario 4** in the diagram below shows the effect on financing requirement. In this scenario, the average growth rate of loan portfolio of each microfinance institution is lowered from 30 percent to 20 percent. All other assumptions are held constant according to the original scenario. The small change in growth rate however brings a much larger effect on overall costs. The resulting cost for setting up the central technology platform is found to be $11.14 million, of which $4.23 million is required during the first three years and $6.91 million during the second three years. A total of $10.17 million is recovered during the last three years.

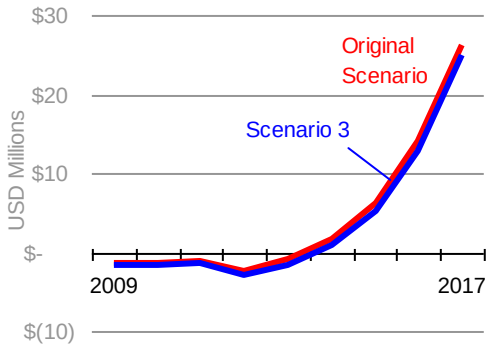
Scenario 1:
Slower Implementation Phasing



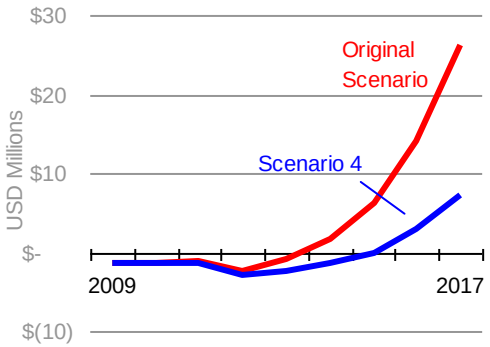
Scenario 2:
Lower IT Expenses for MFIs



Scenario 3:
Higher Technology Costs for Host



Scenario 4:
Slower Loan Portfolio Growth



8 RECOMMENDATIONS

The analysis of the microfinance market in Nepal shows that there is a need to introduce ICT in the sector in order to improve outreach to the remote and rural areas of the country, introduce new innovative products and services, and reduce branch expansion costs. Some of the emerging applications that can make this happen include branchless banking, m-banking, and electronic remittances to very remote and rural communities, leading to financial inclusion. The recommended ICT platform can be sustained if the regulatory bodies in Nepal strengthen their requirements for standards among microfinance providers as has been indicated in the new Microfinance Policy and the declaration by the February 2008 Microfinance Conference that was held in Kathmandu. In addition to helping the Central Bank and regulatory authorities manage key aspects of the microfinance business better, it would also help drive more of the microfinance providers in Nepal to computerize and to consider the advantages of a high-quality, standardized platform such as the one described in this report. The establishment of the platform would benefit the institutions, Government, the private sector, and the microfinance clients and their families, among others. The availability of an integrated financial system would provide the Government and the regulators with a basis to strategically intervene and provide the needed support to those sections of the society that might need help.

There is a need to have a champion or champions to ensure that the recommended ICT platform and the proposed public/private partnership that will implement and run it actually take place. A number of the institutions in the country have been trying to acquire in-house MIS systems, but these have proved not to work effectively or to have been expensive. These institutions are looking for a system that can deliver the services at an affordable cost. There aren't many legacy issues to deal with.

One of the ICT platform's benefits is the fact that the Government can disburse funds from its safety net programs to the populations that may not possess an account through the platform. It can also, as noted, provide access to accurate and online data, which would be used for monitoring the health of the system. This would reduce regulatory costs and also bring the microfinance activities into the mainstream financial sector. Because of these and other benefits, it is recommended that Government participate in the establishment of the platform and hence the recommendation that the institutional approach should be a public/private sector partnership.

The following are specific recommendations that relate to the ICT platform:

1. **Identify phases of development:** Since the centralized ICT platform has a national scope, the development of the entire platform can be a significant task. To make the development more manageable, it is recommended that the establishment of the platform starts with a pilot set of MFIs and on this basis work out a robust plan to scale up operations of the

platform nationally over a well-defined period of time.

2. **Set up the framework right the first time:** Even though the actual development of the centralized ICT platform may be done in stages, it is important to set up the overall framework in a proper way from the very beginning. If the framework lacks the scalability aspect of technology design or the neutrality aspect of institutional design, a ramp-up of the platform operations and adoption by MFIs may be difficult to come about.
3. **Rely on common off-the-shelf technology solutions:** Because lower cost is one of the main elements of a centralized ICT platform, it is important to rely on common off-the-shelf technology components in building the platform. Common off-the-shelf solutions would adhere to industry standards, provide lower costs due to economies of scale, and provide standard interfaces that would allow components from different vendors to connect with one another.
4. **Rely on outsourced solutions:** The institution hosting the centralized ICT platform may want to outsource technology development and operations and management in a way that would allow costs to be minimized. The institution may wish to retain human resource functions that are core competencies for operating the centralized ICT platform and outsource development and administration functions.
5. **Establish memorandums of understanding for access to microfinance data:** The security of confidential data of each MFI is an essential element of the centralized ICT platform. In order to ensure such security, MFIs may consider preparing memorandums of understanding with Government, the financial sector, and the private sector, allowing each entity to have access to limited information that has been agreed upon. The institution hosting the centralized ICT platform would then ensure that the memorandums of understanding are strictly enforced.

From an enabling policy and regulatory environment point of view, the main recommendations to ensure a sustained microfinance platform include the following:

1. **Support linkages with formal and informal sectors:** The planned Microfinance Act should include provisions for the linkage between the formal and informal financial sector. The new Microfinance Policy does not refer to these linkages. If the new policy truly allows regulated institutions to provide services beyond their client base, MFIs could build their revenue base without having to secure additional loan customers. For example, they could use the centralized ICT platform to offer deposit taking, money transfer, bill payment, and remittances services. However, a caveat is that there is no provision in the new policy or any of the previous policies that deal with deposit insurance. Thus clients' funds could be at risk.
2. **Strengthen standards:** The regulatory bodies in Nepal should strengthen their requirements for standards among microfinance providers. In addition to helping the Central Bank and regulatory authorities manage key aspects of the microfinance business better, it would also help drive more of the microfinance providers in Nepal to computerize and to consider the advantages of a high-quality, standardized platform such as the one described in this report. With the increased oversight and transparency that would ensue, the customers would be the final beneficiaries of these changes. Although the provision of supporting standards in the Microfinance Policy is a step in the right direction, this provision may not be strong enough to motivate MFIs to adopt the standards that will be a core part of the

centralized technology platform. A stronger decree from the regulators, enhanced by some of the benefits provided by the central platform, could go a long way toward creating the drivers that are needed to entice regulated MFIs to the platform.

3. **Enable branchless banking:** In addition to technical risks, operational and/or reputation risks may need to be addressed through policies. Should branchless banking be implemented in Nepal, development of risk-based anti–money laundering rules and rules for combating financing of terrorism that are adapted would need to be designed for poorer customers who are moving small amounts of money. In addition, the concept of proportionality would need to be applied to any branchless banking or correspondent banking models introduced through the centralized ICT platform for the benefit of microfinance customers.
4. **Strengthening data security and privacy:** The primary concerns that regulators are likely to have in relation to a central technology platform are related to data security and data privacy. Regardless of the technology solution that is adopted in Nepal, it will be important that vendors ensure there is no leakage of data between financial organizations. On the technology side, data encryption and other security measures should be used. In addition, there should be contractual agreements between participating vendors and financial institutions to clearly articulate data privacy procedures. In the longer term, cyber laws should be extended to include further provisions for e-commerce, consumer protection, and privacy means.
5. **Oversee the microfinance platform:** An oversight function related to data security and competitive issues will be required. This role should be played by the Central Bank or by another relevant regulatory body. This requirement further enforces the need for the Ministry of Finance and the Central Bank to support the centralized technology platform effort from the earliest stages.

9 APPENDICES

1 Interviews Conducted

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Appendix 1

Interviews Conducted

Microfinance Development Banks (MFDB)

- Swabalamban Bikas Bank (CSD)—Mr. Keshar Bahadur Shrestha, CEO
- Chhimek Bikas Bank (CBB)—Mr. Ramchandra Joshi, CEO
- Deprosc Bank—Mr. Bishnu Pathak, CEO
- Gramin Bikash Bank Limited, Biratnagar—Mr. Syam Dev Yogi, CEO
- Madhyamanchal Grameen Bikash Bank—Mr. Ram Dev Mandal, CEO
- Paschimamnchal Grameen Bank—Mr. Dharma Nath Pandey, CEO
- Nirdhan Utthan Bank Limited (NUBL)—Dr. Harihar Dev Pant, Executive Chairperson
- Sana Kishan Bikas Bank Limited (SKBBL)—Mr. Upendra Bahadur Karki, General Manager

Financial Intermediary NGOs (FINGO)

- Centre for Self-Help Development (CSD)—Mr. Mukunda Bahadur Bista, Executive Director
- Deprosc-Nepal—Mr. Pitamber Acharya, Executive Chairperson
- Manushi—Ms. Ambika Pradhan, Director
- Neighborhood Service Society Center (NSSC)—Mr. Udaya Khatiwada, Executive Director

Savings & Credit Co-operatives (SACCO)

- NEFSCUN—Mr. Ram Prakash Dhakal, CEO
- Womens Co-operative Society (WCS)—Ms. Saraswati Shrestha, Executive Chairperson

Technology Companies

- Magnus
- Microbanker
- National Telecom (NTC)—Mr. Sugat Ratna Kansakar, Managing Director
- SmartChoice Technologies—Mr. Rabindra Malla, CEO
- Spice Nepal—Mr. Sergery Egorov, Chief Marketing Officer
- Synergy Solutions
- World Link—Mr. Dileep Agrawal, Managing Director

Regulators and Others

- Center for Microfinance—Mr. Ganesh Bahadur Thapa, Chairperson
- GTZ—Mr. Jan Kerer, Senior Advisor
- Nepal Rastra Bank—Mr. Sushil Ram Mathema, Executive Director, MFD
- Ministry of Technology (HCL)—Mr. Manohar Bhattarai, Executive Member

Appendix 2

Microfinance Market

Leading Microfinance Institutions by Size

Microfinance Development Banks (MFDB)

1. Nirdhan Uttthan Bank Limited
2. Chimek Bikash Bank Limited
3. Swabalamban Bikash Bank Limited
4. Gramin Bikash Bank Limited, Biratnagar
5. Madhyamanchal Grameen Bikash Bank Limited
6. Paschimanchal Bikash Bank Limited
7. Deprosc Bikash Bank Limited
8. NERUDE Bank Limited

Financial Intermediary NGOs (FINGO)

1. CSD
2. Jivan Bikash Samaj (JBS)
3. Deprosc Nepal
4. Chimek Samaj Sewa Kendra (NSSC)
5. FORWARD
6. NRDSC
7. Manushi
8. SOLVE

Savings & Credit Co-operatives (SACCO)

1. NEFSCUN (represent 549 SACCOs, 215,000 individuals)
2. National Co-operative Development Bank (200 SACCOs, 100,000 est)
3. Women Co-operative Society (single SACCO, 5,000 members)
4. VYCCU (single SACCO, 4,000 members)
5. Budha Mahila Co-operative Society (single SACCO, 3,000 members)

Small Farmer Co-operatives Limited (SFCL)

1. Small Farmer Development Bank Limited (Bank, 219 SFCLs, 129,000 individuals)

Appendix 3

Market Reach Breakdown by MFI Type

Market Reach: SACCOs

Outreach	Mid-July 2004	Mid-July 2005	Mid-July 2006	Mid-July 2007
# of SACCOs	2,345	2,692	3,241	3,392
# of Clients	342,370	393,826	393,826	403,126
Saving (Nr^{p} M.)	7,504	8,883	8,883	8,963
Lending (Nr^{p} M)	13,132	15,055	15,055	15,099

Source: CMF (2008)

Market Reach: FINGOs

Outreach	Mid-July 2004	Mid-July2005	Mid-July 2006	Mid-July 2007
# of Clients	57,818	98,291	159,232	257,956
Saving (Million Nr^{p})	196	340	635	1,029
Lending (Million Nr^{p})	218	409	749	1,482

Source: CMF (2008)

Market Reach: SFCLs

Outreach and Services	Mid-July 2004	Mid-July 2005	Mid-July 2006	Mid-July 2007

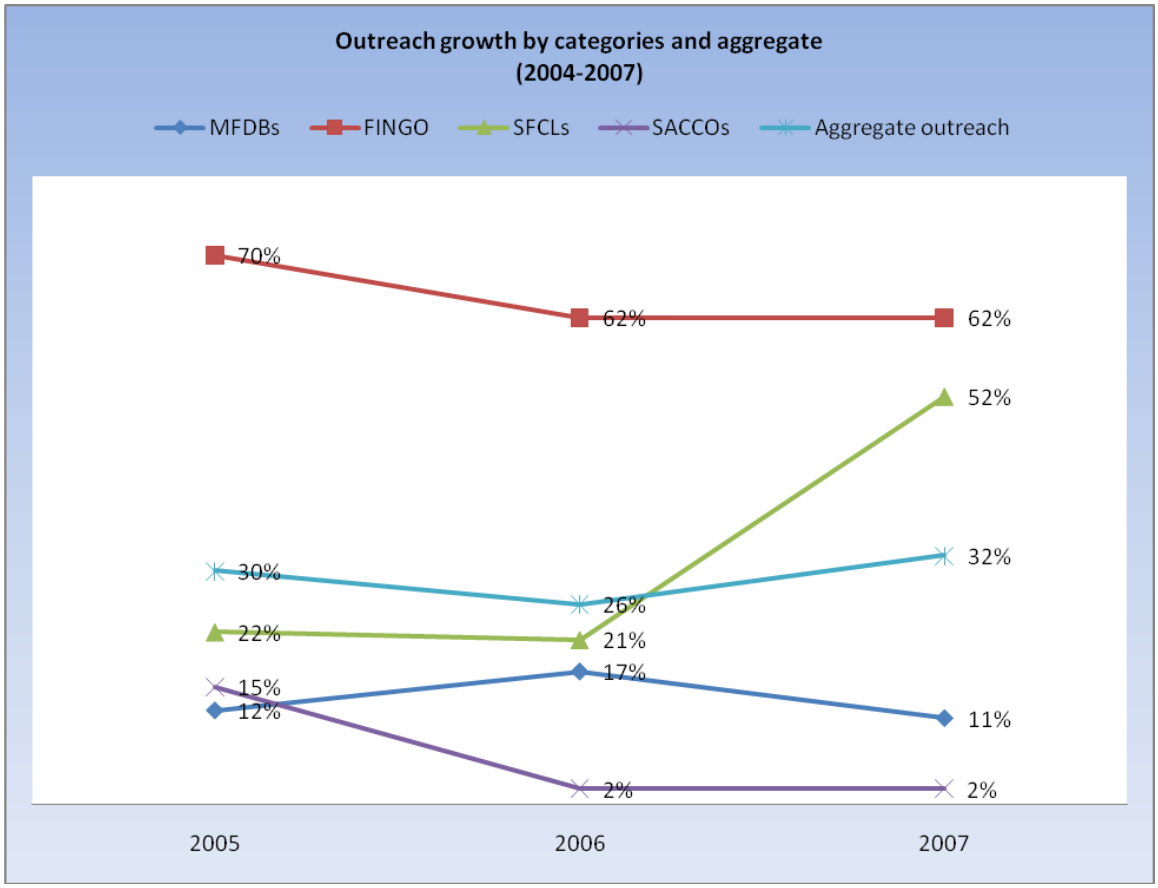
# of Clients	58,300	71,010	85,700	129,900
Saving (Nr^{p} in M)	215	297	433	727
Lending (Nr^{p} in M)	509	687	832	1232

Source: CMF (2008)

Market Reach: MFDBs

Outreach	**Mid-July 2004**	**Mid-July 2005**	**Mid- July 2006**	**Mid-July 2007**
# of Clients	270,030	303,348	353,719	392,770
Saving (Million Nr^{p})	68.77	89.51	159.67	170.97
Lending (Million Nr^{p})	14,755.72	17,865.34	21,481.97	26,127.41

Source: CMF (2008)



Source: NRB (2007), SKBBL (2007), DOC (2007), Primary data FINGO (2007) and compiled by CMF (2008)

Appendix 4

Microfinance Summit Nepal 2008 Declaration

For the purposes of this report, special note should be taken of commitments 1, 2, 3, 5, 6, 7, 10, and 16 as they speak directly to some of the market challenges that are faced by the microfinance industry and they demonstrate a strong desire among practitioners to address these critical issues.

Preamble

Recalling the national development plan and that the Millennium Development Goals (MDGs) of UN calls for reducing poverty by half by 2015 per country, globally reaching 175 million poor families;

Bearing in mind that the Global Microcredit Summit held in Halifax, Canada declared a goal of ensuring that 100 million of the world's poorest families move from below US $1 day earnings to an adjusted purchasing power parity above US $1 a day;

Recognizing that adopting an inclusive approach for poverty reduction through appropriate financial services contributes to ensuring a peaceful, democratic future for Nepal, summit delegates promulgate the 21 article Kathmandu declaration on February 16, 2008.

Summit Goals and Commitments

1. Reaching 2 million poorest of the poor with microfinance services for their sustainable income by 2010, and reaching a total of 3 million poorest of the poor by 2015 up from the baseline figure of 1.18 million as of July 2007.
2. Summit delegates commit to work in a coordinated and co-operative way in order to ensure sustainable income for the poorest of the poor.
3. Summit delegates commit to avoid duplication and to increase synergy.
4. Summit delegates commit to share best practices and success stories and encourage their replication and scaling up in the remote and under served areas of the country.
5. Summit delegates commit to diversify products, services and approaches to ensure inclusion of disadvantaged groups such as women, youth, children, Dalits, marginalized janjyatis, socially and geographically excluded, all over the country and to track impact to ensure we meet this goal.
6. Summit delegates commit to form a Microfinance Network Nepal and determine sector norms and standards for market discipline and self regulation.
7. Microfinance institutions commit to regularly disclose social and financial performance data to ensure transparency and good governance practices.
8. Summit delegates have noted with satisfaction the assurance given by the Minister of Finance to review the tax policy for MFIs (including co-operatives) into hills, mountains and other underserved communities in order to exempt them from tax to compensate for the operational losses incurred during expansion.
9. All rural development programs should include relevant business development services and skills in order to improve the capacities of clients to access financial services and increase their income.

10. It is expected that the Regulatory authorities, CGAP and other development partners pilot E-finance to reduce operational cost and increase efficiency in the hills and mountains.
11. Poverty Alleviation Fund and other development programs should build capacity of small MFIs, service providers and their clients.
12. There should be at least one branch of Microfinance Development Bank, FINGOs, co-operative bank in each district of Nepal.
13. Self Help Groups should be given proper legal status with satisfactory independent ratings and be linked with MFIs.
14. NRB, Commercial banks and other financial institutions should support MFIs including collecting deposits from migrant workers families.
15. MFIs should develop standard tracking tools for social performance, to measure how well MFIs are able to fulfill their social mission of bringing women, dalits including madhesis, janjyatis, the ultra-poor, youth, disabled, and other marginalized groups out of poverty.
16. Microfinance Network should initiate the establishment of a Microfinance Credit Information Bureau to overcome overlapping of microfinance services and to establish fair competition and/or co-operation among practitioners.
17. Summit delegates recommend that interest rate is best determined by market forces.
18. Specific policies and guidelines should be declared to operate microfinance through co-operatives.
19. All MFIs and promoting agencies agreed to submit annual action plan to the secretariat by May 2008.
20. The summit declares 2nd Microfinance Summit to be held in February, 2010.
21. The summit forms a task force to consult with Government and NRB on the draft Microfinance Policy involving practitioners of different models, promoters, service providers and microfinance experts
22. The summit forms a separate task force to initiate and work with Government (as defined above) to draft micro insurance policy involving practitioners of different models of microfinance, promoters, non-financial service providers of microfinance, and micro insurance expert.

Appendix 5

Enabling Environment

National Micro Finance Policy, 2064 (English Translation)

1. Background

It is found that Poverty is the major problem in the development of Nepal as ratio of Absolute Poverty is 30.8 percent according to Living Standard Determining Survey done by Central Bureau of Statistics in 2003/04 AD. For the solution of this problem, it is extremely felt that a long-term policy is required to decline above mentioned ratio of Absolute Poverty. In this policy, it seems necessary to increase the credit assess to mainly rural and poor communities to conduct income generating, employment oriented and professional programs by managing required sources and mobilizing small savings in one side and in the other side, it becomes appropriate to follow the working policy that develop economy of country as a whole by creating the environment of self confidence in underprivileged groups.

2. Past Endeavor

The act of providing credit for poor communities in an institutional manner initiated from commercial banks with Nepal Rastra Bank directive started in 2031 Baisakh as "Small Sector Credit Program". After the Nepal Rastra Bank issued directive to commercial banks to compulsorily invest a certain portion of their deposits to priority areas, agriculture, and cottage industry and service business and to poor communities, credit started flowing in these sectors. Institutional credit program started to flow after the Fifth Plan (2032-037) when Agriculture Development Bank through the Small Farmers Development Program started to provide micro credit providing financial services to the poor communities. Maintaining the provision of investing 3 percent of total credit to the poor communities, priority sector credit program is completely removed now; since investing in these sectors have become optional for commercial banks, it is necessary to declare Micro Finance Policy as per requirement of nation in micro finance sector by reforming the institutional structure for the management of supply of institutional loans going to the rural areas.

3. Present Condition

In the sector of micro finance in Nepal, commercial banks, rural development banks, other micro finance development banks of the private sector, rural self-reliant fund, nongovernment financial institutions that works as mediator, small farmers' small farmers' co-operative institutions, and various projects related to micro finance in an institutional manner. From their activities, medium and marginalized & poor communities' family and individuals have been greatly benefited. Though there has been increment in the flow of micro credit from commercial banks, development banks, co-operative institutions, nongovernment agencies and funds of various other organizations, the reach of such credit programs have not reached the poor communities as expected. Thus, considering the rise in demand of financial resources at the local level, it is important to develop institutional mechanisms to coordinate, simplify, promote, set standards, regulate and monitor at the national level by simplifying and coordinating the flow of micro credit and increasing the access of the poor people.

In the present situation of huge demand of financial services in the poor communities, there are no sufficient services and that expansion of micro finance services is one reliable and easy way out to mange institutional loan and to enhance the access of poor communities in such loans. In such context, where there is no sufficient present institutional structure and existing legal provisions, it was considered necessary to formulate one national micro finance policy to manage required institutional and legal provision, Nepal Government has issued this "**National Micro Finance Policy 2064."**

4. Problem and Challenge

Still today in Nepal, the institutional financial services have not reached the poor families. According to one latest Rural Credit Survey, only 20 percent of the total demand of credit in the rural sector from the institutional sector is supplied. According to one study of the Asian Development Bank there is a gap of Nr^{p} 13 billion in the demand and supply of the rural credit. This clearly shows that the supplies of credit in the rural areas have not been good in terms of demands. Because of conflict in the past, the credit providers mainly the service provided by commercial banks became district headquarters centric as a result of which the gap between demand and supply in such rural areas has been increasing further. Since it is proved that the financial services of rural banks and private sector micro finance banks and micro finance institutions that implement the rural banking process and are affiliated with various credit programs targeting the marginalized and poor communities help to uplift the social and economic status of the poor people, we can be assured if such programs are conducted effectively in an integrated and coordinated approach which will help reduce poverty in Nepal as desired.

5. Necessity of New Policy

Considering the economic condition of the country, geographical and social structure and capacity to mobilize sources, the micro finance program seems to be very useful for the nation. To fulfill the objective of the poverty alleviation which is the main agenda for economic development of the country, micro finance is seen as one important and effective tools and it is today's necessity to develop it into one supportive tool for poverty alleviation and thus the formulation of National Micro Finance Policy is seen to be very timely.

It has become important demand of time to provide employment opportunities by making easy access to capital, tools and sources through micro financial facilities to people of rural geographical zone, socially and economically backward and poor families and dedicated entrepreneur and skilled people. There is the situation that the savings with the community organizations established at the local level by utilizing such funds as seed money and mobilizing external resources in an appropriate manner and capital formation has not been institutionalized. It has become necessary to implement micro finance programs in a flexible manner according to national diversity and geographical and social conditions. Thus, this policy has been formulated to encourage the enterprising capacity of the poor family creating appropriate opportunities to include such families in the mainstream of national development and simplifying, coordinating and managing both the service users and service providers bringing micro finance services into single legal framework.

6. Definition and Work Area

Micro Finance refers to that financial service that helps poor communities to involve in the activity of income by providing them self employment opportunities through micro savings, micro credit, and micro credit insurance/micro credit security developing their professional skill.

Besides above mentioned activities, the Micro Finance related national policy shall include also social

and community service. After implementing this policy and addressing the geographical and social diversity of Nepal, timely flexible operational policy and operational pattern can be implemented. This policy shall also provide legal ground for both service users and service providers to work together with mutual agreement and coordination.

7. Goal

The Goal of National Micro Finance Policy-2064 will be to assist in poverty alleviation through sustainable, simplified and access oriented micro finance services.

8. Objectives

To achieve such objective the goal of National Micro Finance Policy, 2064, following objectives are set:

8.1 Increasing the access of micro finance services for poor and weak financial status family and women group and conducting income generating and employment-generating work.
8.2 Making the micro finance service reliable and accessible through micro finance institutions.
8.3 Helping micro finance service supplying organizations to develop required capacity to be established in sustainable and self capable manner.
8.4 Formulating required law related to micro finance.
8.5 Developing appropriate institutional mechanism to increase the micro finance service and to make such service disciplined.

9. National Micro Finance Policy:

To increase the access of community institutions and institutions involved in micro finance transaction and expand micro finance service, following types of policy shall be implemented by creating healthy and competitive environment and encouraging private sectors as well in this endeavor:

9.1 Simplifying the flow of micro finance service targeting poor communities according to the economic and social diversity of geographical and rural and urban sector.
9.2 Developing clear standards for identification of beneficiary poor people of micro finance services and strengthening the mechanism of providing micro finance service with or without collateral (collective guarantee).
9.3 Providing necessary help for the social mobilization and empowerment, institutional development and re-structuring and encourage financial institutions that provide wholesale credit established or establishing from private and public sector in this work.
9.4 Affiliating various poverty alleviation related programs and projects with this policy and operating it in a coordinated approach.
9.5 Help to develop targeted group's professionalism by coordinating with reputed agencies to develop professionalism.
9.6 Formulate provision of establishing relationship with micro finance service provider institutions with the provision of getting accreditation to local level existing community institution, saving and credit group, institutions involved in micro finance transaction easily.
9.7 Increase the access of micro finance to poor communities and motivate such communities on saving mobilization.

9.8 Formulate a separate agency in the direct supervision of Nepal Rastra Bank to timely regulate, supervise, monitor and evaluate by making service provider self-disciplined managing necessary institutional and legal provision to provide micro finance service in sustainable and simplified manner.

9.9 Establish **National Micro Finance Development fund** to make resource available for easy supply of micro finance service in long-term manner. Also mobilize resources and tools through this National Micro Finance Development Fund that obtain from various national and international agencies.

9.10 carrying out the survey with regards to information concerning existing co-operative and micro finance institutions number, service delivery and access;

9.11 Manage the provision of training regarding micro finance for the capacity increment of the people working in micro finance sector.

9.12 Shall be carrying out loose policy in deposit collection on the basis of service provided by micro finance institutions and their share capital.

9.13 Shall be taken flexible policy with regards to corporate tax that has been applied to the institutional income tax of micro finance institutions and interest obtained from deposit kept in such institutions by poor communities.

10. Strategy and Work Policy

11. Institutional Structure

A separate agency shall be formulated to regulate and supervise in timely manner for the institutional development of micro finance provider organizations.

12. Economic Part

Shall encourage for the establishment and Program of micro finance service provider institutions in private sector.

13. Legal Provision

Necessary act rules will be formulated for the implementation on the basis of National Micro Finance Policy 2064.

Appendix 6

Telecommunication Policy, 2060 (2004)

1. **Background**

Even though policies undertaken after the restoration of the Multi Party Democracy in Nepal appear to have moved forward the right direction, it is not found that the achievements gained in the economic and social sectors could have met the expectations of the majority of the people. Even though achievements appear in such some sectors as education, health and social sectors particularly in the last decade, Nepal falls under the group of the countries ranked as the lowest of the world from the human development point of view. His Majesty's Government has, by realizing such situation, taken the poverty alleviation as the principal goal of the national development. For the attainment of this goal, His Majesty's Government has taken broad and sustainable economic growth, social sector development, targeted programmes and good governance as the principal foundation of development strategy. In this context, His Majesty's Government is of the opinion that the telecommunication sector must play significant role for the overall development of the country.

2. **Necessity of Telecommunication Policy**

His Majesty's Government has accepted the telecommunication service as the basic prerequisite of the development. In order to promote private sector's participation in the telecommunication sector, the Telecommunication Policy, 2056 (1999 A.D.) has created favorable environment to some extent. The Government has made commitment to maintain full competition by keeping the telecommunication sector open since 2004 A.D. through this policy.

The telecommunication is more significant in comparison with the other infrastructures in the context of difficult geographical structure of Nepal. The technological development rapidly taking place in the telecommunication sector and dynamic change also taking place in its structure has opened up new opportunities in this sector. It would be possible that the Nepalese peoples may be benefited from the gradual depreciation universally taken place in the tariff of the telecommunication service. In this context, the necessity of timely and dynamic policy is realized to utilize the additional possibilities and opportunities to be appeared in the telecommunication sector in future for the prosperity and welfare of Nepalese peoples by utilizing the achievements gained in telecommunication sector to the maximum extent and the Telecommunication Policy, 2060 (2004 A.D.) has, therefore, hereby been formulated for substitution of the Telecommunication Policy, 2056 (1999 A.D.).

3. **Objectives**

The main objective of the Telecommunication Policy is to create favorable environment in order to make the telecommunication service reliable and accessible to all people at the reasonable cost throughout the Kingdom in collaboration with the private sector et al. in order to support the social and economic development of the country. The following objectives have been determined in order to give support for accomplishment of this paramount objective.

3.1 In order to bring the access of general public of rural and urban areas of the Kingdom to the telecommunication service, arrangement shall be made in a manner that the telecommunication service shall be available within the shouting distance in the inhabitated

areas.

3.2 The telecommunication service shall be made available to meet the demand in the urban areas of the Kingdom. Arrangement shall be made in a manner that the corporate telecommunication service shall be available to the business areas.

3.3 Opportunity shall be provided to the consumers of the urban areas to choose service from various providers. Arrangement of opportunity to choose service accordingly shall be gradually extended in the rural areas also.

3.4 Arrangement shall be made for getting opportunity to use appropriate information and communication technology for poverty alleviation and development of the rural areas.

4. **Strategy**

4.1 Universal Access to the Telecommunication Service:

The telecommunication service shall be extended in a manner that there shall be universal access to the service. The telecommunication service shall be made available to the consumers through the shared telephone. Emphasis shall be given to extend telephone as fixed, mobile, etc. Therefore, the satellite system may also be applied for extension of service. Other services pertaining to information and communication shall be made available through the Community Centre.

4.2 Universal Service Obligation:

The telecommunication service provider shall be required to provide service to any consumer of the urban areas immediately after ordering therefore.

4.3 Development of Corporate Service:

Arrangement shall be made in a manner that the leased line, data and other similar corporate service shall be available to the government bodies and private business sector in the urban areas through more than one service provider.

4.4 Liberalization of the Telecommunication Sector:

The telecommunication sector is kept open for the service providers. However, the number of the service providers may be limited by virtue of radio spectrum. While providing directory service, the service provider shall be required to provide such service covering all costumers consuming the service.

4.5 Open Licensing Regime to Be Applied:

The open licensing regime system shall be applied for providing opportunity to all service providers to enter into the telecommunication sector. Transparent methods shall be applied upon granting such license. Moreover, an environment for healthy competition shall be created.

4.6 Private Sector's Participation to Be Encouraged:

The private sector's participation shall be encouraged for the telecommunication sector. Foreign investment shall be attracted. Arrangement shall be made to regularly inform private sector about the particular of reform taken place in the telecommunication sector and about the opportunity available in this sector also.

4.7 To Enter into Information Society:

Arrangement of other necessary prerequisites such as extension of telecommunication service and Cyber Law shall be made and Nepal shall be got to effectively enter into the Information Society.

4.8 Appropriate Information and Communication Technology for the Users of the Rural Areas:

Appropriate information and communication technology shall be made available as per the capacity and need of the users of the rural areas. In this connection, the information and communication technology based on radio, television and telephone that do not require special training and literacy shall be made available in collaboration with the private sector et al. The service of information and communication technology shall be made available to the rural users through the small service providers.

4.9 Persons who have engaged in the Development Activities shall be caused to Use Information and Communication Technology Fully:

In order to bring effectiveness in the development activities as the rural development and construction of infrastructure, the governmental and nongovernmental person and entity shall be caused to fully use the information and communication technology as Internet by developing necessary capacity up to the District and village level.

4.10 Commercialization of the Nepal Telecommunication Corporation:

In connection with commercialization of the Nepal Telecommunication Corporation, the Corporation shall be converted into a company and the ownership of His Majesty's Government shall be gradually decreased. In order to meet the increasing competition, various reform programmes shall be conducted to make the company competent.

4.11 Institutional Development of Implementation of Policy:

For successful implementation of the Telecommunication Policy, the institutional development shall be gradually made by increasing human resource and economic capacity of the Ministry of Information and Communication and the Nepal Telecommunication Authority. In connection with the formulation and implementation of policy and law pertaining to the information and communication technology, role and responsibility of the Ministry of Information and Communication and the Ministry of Science and Technology shall be clearly defined by avoiding duplication.

4.12 Economic Efficiency of the Telecommunication Sector:

Emphasis shall be given to increase economic efficiency of the telecommunication sector by creating an environment that promotes healthy competition among the telecommunication service providers.

5. **Working Policy**

5.1 Universal Access to the Telecommunication Service

5.1.1 The following Strategies shall be undertaken to provide the telecommunication service throughout the Kingdom by fiscal year 2063/64 (2006/2007).

5.1.1.1 The existing service providers shall be caused to extend their service without subsidies.

5.1.1.2 The mobile service providers shall be selected on the basis of the condition that the service shall be provided to the rural areas of the Kingdom without

subsidies.

5.1.1.3 The service shall be extended to the rural areas in the Eastern Development Region through the licensed service providers on the basis of the least subsidies in 2060 (2003/2004).

5.1.1.4 The service shall be provided to the areas where the service is not available from the aforesaid measures through the service providers selected by means of tender on the basis of least subsidies in a manner that the amount shall be borne from the rural telecommunication fund for rural telecommunication development.

5.1.2 Arrangement shall be made to levy only one per cent customs duty on equipment to be imported by the telecommunication service providers to provide service to the rural areas. The Nepal Telecommunication Authority shall certify the equipment imported for providing service to the rural areas.

5.1.3 The telecommunication service shall be extended to the inhabitated place scattered in the remote and rural areas except Municipality and the use of rural telecommunication shall be made intensive. The rural telecommunication providers whose annual income is less than Nr[p] 2,000,000/- shall be exempted from license fee and annual fee to encourage them for the said activities.

5.1.4 The universal accessibility to the telecommunication service shall be implemented through the shared telephone or other telecommunication media. System of providing common use of telephone and providing opportunity to the telephone holders to re-sell the service to the other shall be kept open to make universal accessibility to the service by using the available facility to the maximum extent.

5.1.5 The rural telecommunication fund shall be set up for the rural telecommunication development. The rural telecommunication fee to be compulsorily paid by all the service providers, subsidies from His Majesty's Government and amount received from the donors shall be credited to the rural telecommunication fund. This fund shall be operated by the Nepal Telecommunications Authority.

5.1.6 The Nepal Telecommunication Authority shall develop principle and procedures for operation of the rural telecommunication fund by fiscal year 2061/62 (2004/2005). The Authority shall fix annual telecommunication fee. The rural telecommunication fund may be closed after accomplishment of the main objective of the fund.

5.2 Universal Service Obligation:

5.2.1 The service obligation shall be applied to an incumbent service provider (incumbent) to provide the service to all the consumers of the urban areas of the Kingdom immediately after ordering for such service. The incumbent service provider shall not be allowed to refuse to provide the service.

5.2.2 The service obligation shall be applied to the dormant service provider to provide service to the other service provider ordering therefore. The incumbent service provider shall be required to provide the service so demanded within one month. If the incumbent service provider fails to provide such service within one month, he/she shall be required to give information about the reason of delay and about the additional time required for providing service. The dominant service provider shall be required to compensate other service providers for unreasonable delays, interruption or essential changes in the service without giving sufficient information. The other service provider shall also be required to compensate the incumbent service provider for loss and damage caused by the other service provider to the

dominant service provider by irregularly using the service provided by the dominant service provider.

5.3 Development of Corporate Service:

5.3.1 Various data, broadband, PABX network, etc., shall be included for connecting leased line and corporate data network in the corporate telecommunication service. The open license shall be granted to the service provider to provide the corporate telecommunication service. However, number of such open licenses may be limited through the limited source as radio spectrum, etc.

5.3.2 The dominant service provider shall be required to provide broadband service as well as advanced technology including corporate telecommunication service.

5.3.3 License shall be granted authorizing the licensee to provide Internet and other data service through cable television and wireless technology.

5.4 Liberalization of the Telecommunication Sector:

5.4.1 An environment shall be created to make multi service providers (multi-operators) active and to operate multi-service. As per the same, any service provider may provide any service. However, the number of service providers may be limited through the limited source as radio spectrum, etc, in such circumstance.

5.4.2 Simple, transparent, stable and non- discriminatory regulatory regime which attracts investment and encourages healthy competition shall be activated.

5.4.3 Arrangement shall be made for interconnection to connect various service providers' network with each other. The new service providers may justifiably conduct service under this arrangement. The dominant service provider shall publish condition and procedures for interconnection and shall be required to allow connecting its own network with the network of the new service providers without discrimination. The Nepal Telecommunication Authority shall frame rules relating to interconnection on the basis of reference paper of the World Trade Organization and the World best practice, which incorporates the dispute resolution mechanism also.

5.4.4 The price system guided by market and based on healthy competition shall be set up in the telecommunication service. However, in the event of unnatural and unhealthy competition taken place between the service providers or in the event of monopoly found in the price, the price may be regulated.

5.4.5 Same taxation rules shall be applied to all service providers.

5.4.6 His Majesty's Government shall keep its bodies open to use the service of the various service providers on the basis of price and quality.

5.4.7 Any telecommunication service shall not be classified using names such as basic, mobile and additional service of the telecommunication (value added). Various consumers shall have right to choose the service as per their need and interest.

5.4.8 The license fee and radio spectrum fee including other fee shall be collected only for sufficiently covering the overhead (operation) cost of the body working therefore.

5.5. Open Licensing Regime to be applied:

5.5.1 The open licensing regime shall be applied to the new service providers. Arrangement shall be made for standard licensing and individual license in the open licensing regime. Separate license shall be required to be obtained for the source as radio spectrum, numbering capacity and right of way.

5.2.2 The standard license shall be granted to any applicant possessing minimum

qualification to meet the specified requirement. Person obtaining standard license may operate any service except the service that used the scarce spectrum. However, person obtaining standard license may take service with the assistance of scarce spectrum of any other service provider. If the person obtaining standard license wishes to obtain individual license, he/she shall be required to be selected by taking part in competition through tender as referred to in Section 5.5.3.

5.5.3 The individual license shall be granted to the service provider who has been selected through tender. The telecommunication service providers shall be selected in the limited number by virtue of the limited spectrum. While selecting service providers for individual license, ground of providing service to the maximum population of rural areas and similar other grounds shall be taken into account. The person / agency obtaining individual license shall be required to obtain standard license to provide other services not mentioned in the individual license.

5.5.4 The procedure for fixing license fee shall be the same for the similar types of the service providers. The Nepal Telecommunication Authority shall fix the annual fee at the rate of certain percent based on the annual income certified by the auditor.

5.5.5 The previous license shall be converted into new regime.

5.5.6 While granting open license, principle of neutral technology shall be undertaken. The service provider may choose any telecommunication technology. Equipment selected by the service provider for the technology shall be required to be internationally recognized (as per the international specification), advanced and field proved. The previous service provider shall be required to enter into the open licensing regime and compulsory provision relating to technology stipulated in his/her license shall remain as usual until entering into this regime.

5.6 Private Sector's Participation to Be Encouraged

5.6.1 Private sector's participation shall be encouraged to attract investment in the telecommunication sector.

5.6.2 Foreign investment shall be attracted in the telecommunication sector. Minimum 20 (twenty) per cent native participation shall be required for such investment.

5.6.3 The private sector shall be regularly informed on the reform to be made in the telecommunication sector. In this connection, the Ministry of Information and Communication and the Nepal Telecommunication Authority shall give information on the running telecommunication sector reform and study from time to time.

5.6.4 The private sector shall be informed on the open and neutral technology, licensing procedure, method and other necessary subject matters.

5.7 To enter into Information Society

5.7.1 The infrastructure of telecommunication shall be developed to effectively enter into the information society.

5.7.2 Other necessary arrangement including cyber law shall be made from the collective effort of the concerned Ministries, bodies and the private sectors.

5.8 Appropriate Information and Communication Technology for the Users of Rural Areas:

5.8.1 The users of the rural areas shall be encouraged to utilize information and communication technology useful to them. The network of information and communication technology based on radio, television and telephone that do not require training and literacy shall be comprehensively extended. Access of

community shall be brought to the national radio and television broadcasting through the surface of the earth in the places, where possible, and through the satellite in other places.

5.8.2 Arrangement shall be made to transmit information relating to development as well as the attractive programme relating to information and communication technology through radio and television.

5.8.3 Small service providers shall be mobilized to provide information and communication technology that require special training and literacy.

5.8.4 The favorable environment shall be created to provide facility of information and communication technology to the general public through the private sector.

5.9 Persons Who Have Engaged in the Development Activities Shall Be Caused to Use Information and Communication Technology Fully:

5.9.1 All the central bodies of His Majesty's Government shall be connected to the internet by the end of fiscal year 2061/62 (2004/2005) Documents published as well as all other information shall be made available in the websites of these bodies. The employees who gained education up to secondary level and are working in those governmental bodies as agriculture, health, education, Post Office that deliver direct service to the general public shall be made e-mail and internet literate by the end of fiscal year 2062/63 (2005/2006) and they shall be got to be oriented towards e-governance by causing them to be used the technology.

5.9.2 Competent focal point shall be designated to co-operate and coordinate for the application of information and communication technology and the capacity of those bodies shall be built up. It shall inspire the comprehensive use of information and communication technology in line with the local need.

5.9.3 The body acting as the focal point shall give assistance to the various governmental and non-governmental agencies for the common use of information and communication technology for development of the rural areas. It shall maintain the updated data of the development project that may benefit the general public. It shall gather appropriate materials pertaining to the various information and communication technology and make available through the medium of CD-ROM, Internet, etc.

5.10. Commercialization of the Nepal Telecommunication Corporation:

5.10.1 The Nepal Telecommunication Corporation shall be immediately converted into a company. The ownership of His Majesty's Government shall be gradually decreased in the company so converted and the ownership of the private sector shall be increased.

5.10.2. The Company shall be commercialized to undergo competition in open and liberal environment and to hike up the value of share.

5.10.3 The Company shall be restructured to increase productivity and to make it more competent, effective and efficient in the act of providing service.

5.11 Institutional Development of Implementation of Policy:

5.11.1 Arrangement of expert human resource and other necessary resources shall be made for the Ministry of Information and Communication and the Nepal Telecommunication Authority to the adequate extent for successful implementation of the Telecommunication Policy.

5.11.2 The timely information shall be regularly made available to the general public to

increase the realization of positive impact on the concerned party. The Nepal Telecommunication Authority shall publish an annual statement containing the situation of providing service, service fee, international service standard international comparison and other necessary information. The Ministry of Information and Communication and the Nepal Telecommunication Authority shall regularly publish various study report including useful information.

5.11.3 The Nepal Telecommunication Authority shall publish manual for the service providers and the consumers. It shall protect the interest of the consumers by implementing dispute resolution mechanism and other appropriate procedures.

5.11.4 The role of the Ministry of Information and Communication and the Ministry of Science and Technology shall be made clear and the policy formulation and implementation shall be gradually made prompt, convenient, simple and transparent.

5.11.5 Term and conditions for appointment for the Nepal Telecommunication Authority shall be fixed in a manner that it shall be attractive to the persons possessing high-level professional expertise.

5.11.6 The exemplary practice shall be undertaken for such matters as protection of the provision of competition based on the principle of World Trade Organization, interconnection, universal service obligation, open licensing regime, independent and fair regulators and utilization of limited source.

5.12. Economic Efficiency of the Telecommunication Sector:

5.12.1 Economic efficiency shall be achieved in the telecommunication sector by encouraging fair competition among the telecommunication service providers. In this context, provision relating to the competition shall be immediately incorporated in the Telecommunication Act until separate legal provision relating to competition has been enacted. The best measure undertaken by the World Trade Organization shall be followed to prevent such unfair and unhealthy practices as to provide cross subsidy to the dominant service provider against the principle of competition, to fix price with the objective of causing loss to other competitors and bringing them to an end, to abuse information from the competitor and to withhold information relevant to the competitor.

6. Legal Provision for Policy Implementation:

In order to implement the provision laid down in the Policy, necessary legislations shall be enacted. The legal provision immediately required in this regard shall be enacted by the end of fiscal year 2060/061 (2003/2004). The act of reviewing law relating to the telecommunication shall be continued, as and when required.

7. Monitoring and Review

7.1 The following High-level Monitoring Committee shall be constituted to coordinate and monitor the implementation aspect of this Policy. The first meeting of this Committee shall be held within six months after coming into force of this Policy. Act of regular monitoring shall be undergone by holding meetings, as and when required thereafter.

Monitoring Committee

1. Minister/State Minister for Information

	and Communication_____	Chairperson
2.	Member (Information and Communication), National Planning Commission_____	Member
3.	Secretary, Ministry of Finance_____	„
4.	Secretary, Ministry of Industry, Commerce and Supplies_____	„
5.	Secretary, Ministry of Science and Technology_____	„
6.	Secretary, Ministry of Information and Communication_____	„
7.	Chairperson, Nepal Telecommunication Authority _____	„
8.	Representative, High-level Commission for Information Technology_____	„
9.	Representative, Federation of Nepal Chamber of Commerce and Industries_____-	„
10.	Chief, Incumbent service provider_____	„
11.	Joint-secretary (Policy/Plan) Ministry of Information and Communication _____	Member-secretary

7.2 His Majesty's Government has brought the Telecommunication Policy, 2060 (2003) into operation by realizing the need of gradually and regularly reviewing this Policy taking into account the rapid development taking place in the telecommunication sector. The Act of review of the Telecommunication Policy shall be timely continued.

Appendix 7

Information Technology Policy, 2057 (2000)

1. Vision

"To place Nepal on the global map of information technology within the next five years."

2. Back Ground

The world's least developed countries including Nepal have availed themselves of the opportunity to rapidly develop education, health, agriculture, tourism, trade and various other sectors using information technology (IT). The extensive application of this technology will engender economic consolidation, development of democratic norms and values, proportional distribution of economic resources and enhancement of public awareness, thereby raising living standards and eventually contribute significantly to poverty alleviation. It is the information technology, which will turn out to be a strong infrastructure for mitigating Nepal's geographical adversities. In the coming years, globally, there will be a significant difference in the economic conditions of the countries developed in the field of information technology and of the countries lagging behind in this field. The persistence of such disparities may not be congenial even for the developed countries. In this context, there is a greater possibility that the international community will extend its support to developing countries in the promotion of information technology. Such assistance will certainly play a vital role in the national development of a least developed country like Nepal. Hence, it has become essential to formulate a policy at the earliest for developing information technology with a view to boosting up national economy.

3. Objectives:

The information technology policy shall be formulated to achieve the following objectives:

3.1 To make information technology accessible to the general public and increase employment through this means,

3.2 To build a knowledge-based society, and

3.3 To establish knowledge-based industries.

4. Strategies:

The following information technology strategies shall be adopted to accomplish the above-mentioned objectives through rapid development and extension of information technology in a fair and competitive manner.

4.1 The Government shall act as a promoter, facilitator and regulator.

4.2 High priority shall be accorded to research, development and extension of information technology with participation of private sectors.

4.3 Competent manpower shall be developed with the participation of both the public and the private sectors for the sustainable development and extension of information technology.

4.4 Domestic and foreign investment shall be encouraged for the development of information technology and the related infrastructures.

4.5 Nepal shall be placed on the global map of information technology.

4.6 E-commerce shall be promoted with legal provisions.

4.7 Information technology shall be used to assist e-governance.

4.8 Information technology shall be applied for rural development.

4.9 Information technology industry shall be promoted.

4.10 Speedy and qualitative service shall be made available at a reasonable cost by creating a healthy and competitive atmosphere among information technology service providers.

4.11 Computer education shall be incorporated in academic curriculum starting from the school level.

4.12 Professional efficiency shall be enhanced through the use of information technology.

4.13 Information technology network shall be extended to rural areas.

4.14 Nepal shall be placed on the international market through information technology.

4.15 Export of services related to information technology (software and hardware) shall be increased to 10 billion rupees within the next five years.

5. Information Technology Policy:

The following policies shall be followed up for the implementation of the aforesaid strategies:

5.1. To declare information technology sector a priority sector,

5.2. To adopt one window system for the development of information technology,

5.3. To prioritize research and development in the field of information technology,

5.4. To create an atmosphere conducive to attracting investment in the private sector, keeping in view the private sector's role in the development of information technology,

5.5. To provide Internet facilities gradually to all Village Development Committees of the country,

5.6. To assist educational institutions and encourage domestic and foreign training to fulfill the requirement of appropriate manpower at various levels pertaining to information technology,

5.7. To computerize the system in all government offices and build their websites for the flow of information,

5.8. To encourage the use of computers in private sectors,

5.9. To develop physical and virtual information technology parks at various places with private sector's participation in the development of information technology,

5.10. To use information technology to promote e-commerce, e-ducation, e-health among others, and to transfer technology to rural areas,

5.11. To establish a National Information Technology Centre,

5.12. To establish a fund at the national level by mobilizing resources from His Majesty's Government, donor agencies and private sectors so as to promote research and development of information technology and other related activities,

5.13. To establish a venture capital fund with joint participation of public and private sectors,

5.14. To include computer education in the curriculum starting from the school level and broaden its scope,

5.15. To establish Nepal in the global market through the use of information technology,

5.16. To enact necessary laws for providing legal sanctions to the use of information technology,

5.17. To use information technology gradually in all government activities and provide legal sanctions to them.

6. Action Plan:

The following action plan shall be adopted to implement the national information technology policy and fulfill its objectives:

6.1 Participation of private sectors in infrastructure development: There may be up to cent percent foreign investment in areas such as information technology park, research and development, technology transfer and human resource development.

6.2 Infrastructure development: The following arrangements shall be made for development of infrastructure related to information technology

6.2.1 An info-super highway and north-south info-highway shall be built taking into account the rapidity of information flow, changes introduced through information flow and the gradual development of multimedia service. Nepal shall be linked with other parts of the world through a broadband information network.

6.2.2 An IT park shall be established at Banepa in Kabhrepalanchok District. Such IT Parks shall be established also elsewhere as required with private sector's participation.

6.2.3 Any company interested in establishing an industry within the park shall be levied only 1 percent customs duty in importing IT related equipments for the next five years.

6.2.4 Internet nodes shall be established in all development regions by fiscal year 2058/059 (2001/2002) and in district headquarters by fiscal year 2060/61 (2003/2004) with participation of the private sector in order to make Internet facility available throughout the Kingdom. In making telephone contact with such nodes, the telephone charge shall be levied on par with local calls; and telephone contact with a nearby node within the development region shall be deemed to be a local call, so long as the node in that district is not established. The use of the Internet shall be gradually extended to rural areas as well. The charge for telephone calls to be used for the Internet shall be gradually reduced.

6.2.5 Telecommunications and electricity services shall be provided to the entrepreneurs involved in information technology sector as per their need.

6.3 **Human Resource Development:** The following measures shall be adopted to develop skilled manpower:

6.3.1 Necessary facilities shall be provided to the universities in the country and graduate and postgraduate-level classes of international standard shall be offered in computer science and computer engineering subjects.

6.3.2 A long-term program with a slogan Computer education to all by 2010 A.D. shall be formulated and computer education shall be offered as an optional subject in some public secondary schools from the coming academic year and shall be made a compulsory subject in phases.

6.3.3 IT shall be used to improve the quality of education.

6.3.4 Private sector shall be encouraged to prepare middle-level manpower required for the information technology sector. Assistance shall be provided to the private sector to set up institutions for education, research and development in the field of information technology in each development region.

6.3.5 Computer knowledge shall gradually be made compulsory to all newly-recruited teachers so as to introduce computer education in schools; and computer education shall also be provided to all in-service teachers in phases using various means including distant education.

6.3.6 Emphasis shall be given to provide computer education from the school level. Internet facility shall be made available free of cost to universities and public schools for four hours a day within the next five years to provide computer education in a systematic way.

6.3.7 His Majesty's Government shall provide scholarships to public and private sector technologists for higher study in information technology.

6.3.8 Necessary scholarships shall be provided to poor and meritorious students from remote areas to pursue higher studies in information technology.

6.4 **Dissemination of Information Technology:** The following measures shall be followed up for the extensive dissemination of information technology:

6.4.1 Educational institutions and hospitals in the areas where telecommunication and electricity services are already available shall be encouraged to use IT enabled services. Even in places where electricity service is not available, the development of information technology through solar power system shall be encouraged.

6.4.2 Distant learning system shall be introduced through the Internet and Intranet apart from radio and television. Networking systems like school-net, research-net, commerce-net and multilingual computing shall be developed.

6.4.3 A three-year program shall be formulated and launched to extend the use of computer in government offices. All ministries, departments and offices shall be linked to the Internet; and other agencies shall also be encouraged to be linked through the Internet.

6.4.4 Websites for all ministries, departments and district offices shall be created within one year. Necessary legal provisions shall be made to reduce the use of papers by using information technology in all kinds of government activities in a phased manner.

6.4.5 An action plan shall be devised and introduced to include computer education as a subject for the examination of a specified rank and make it obligatory for the applicants taking a written examination during recruitment. Provisions shall also be made for prescribing basic computer training as a requirement for the promotion of

employees.

6.4.6 Content shall be prepared to enhance Nepali materials on the Internet to preserve Nepali arts and culture as well as to develop rural areas.

6.4.7 A public awareness-enhancing campaign on the utility of information technology shall be launched extensively through the electronic media.

6.4.8 Provision shall be made for an information officer in each ministry in a phased manner.

6.4.9 In view of the present development of information technology, provisions shall be made to open voice-mail to talk point-to-point for one's own business without a link to the public switched telephone network.

6.5 **Promotion of E-commerce, etc.:** E-business, tele-medicine, tele-processing, distant learning, and the like shall be promoted as follows:

6.5.1 Necessary arrangements shall be made to encourage e-commerce.

6.5.2 Necessary legal infrastructure shall be created for the promotion of tele-medicine, distant learning, tele-processing and e-commerce.

6.5.3 Intellectual property right shall be protected through the formulation of necessary laws in relation to the development of information technology.

6.5.4 Provisions shall be made for the export of software and IT enabled services through IT in the following ways:

(a) The person or organization concerned shall submit certified copies of the documents on agreements relating to export to the Nepal Rastra Bank.

(b) Invoice or bill of exportation made under the agreements referred to in clause (a) shall be submitted to the Nepal Rastra Bank.

(c) The Bank shall validate foreign currency earned on the basis of such documents.

6.6 **Facilities:** The following facilities shall be provided for the development of information technology sector:

6.6.1 One percent (1 percent) customs duty shall be levied on hardware, software and all kinds of computer spare parts imported by training institutions related to information technology, albeit on the recommendation of the National Information Technology Centre on the basis of services rendered and the achievements of such institutions.

6.6.2 As software development and services based on software are operated twenty-four hours, such services shall be declared essential services to guarantee regular production by employees working in the companies related to such services, and arrangements shall be made accordingly.

6.6.3 A venture capital fund shall be established by utilizing capital market with the joint investment of His Majesty's Government and private sector. His Majesty's Government shall make an investment of 100 million rupees initially for such a fund.

6.6.4 Domestic preference shall be given in accordance with the prevailing law on computers, spare-parts and software produced within the country.

6.6.5 Software may be directly depreciated for the purposes of income tax, whereas equipment relating to information technology may be allowed an accelerated depreciation in two years.

6.6.6 In case an investment has been made in foreign currency either as a loan or share capital required to build and operate infrastructure, the investor shall be allowed to repatriate the principal amount and interest of the loan and dividends in accordance with the prevailing laws.

6.6.7 The foreign currency earned from exporting information technology software and services shall be granted facilities on par with facilities provided to other export-oriented industries earning foreign currency.

6.6.8 An information technology development fund shall be established to create public awareness about information technology, assist rural networking, develop information technology with market management, generate required manpower for this sector and make social services easily accessible where such technology is used. Arrangements shall be made for financial contributions towards this fund from His Majesty's Government, private sector, donor agencies and others. The National Information Technology Centre (NITC) shall operate this fund. A feasibility study shall be carried out to mobilize additional financial resources by establishing information technology bond.

6.6.9 Export of software shall be subjected to an additional service charge of 0.5 percent for the information technology fund, in addition to customs duties. The amount obtained from that charge shall be deposited in the fund referred to in clause 6.6.8.

6.6.10 As Nepali nationals working abroad can play an important role in technology transfer and market promotion in this sector; they shall be encouraged to invest their foreign currency earnings in this sector.

7. Institutional Provisions:

7.1 The National Information Technology Development Council, consisting of the following members, shall be constituted under the chairmanship of the Rt. Honorable Prime Minister.

a.	Rt. Honorable Prime Minister	Chairman
b.	Honorable Minister, Ministry of Science and Technology	Vice-chairman
c.	Honorable Minister, Ministry of Information and Communications	Member
d.	Honorable Vice-chairman, National Planning Commission	Member
e.	Honorable Member, National Planning Commission (Information Technology Sector)	Member
f.	Secretary, Ministry of Finance	Member
g.	Secretary, Ministry of Law, Justice and Parliamentary Affairs	Member
h.	Secretary, Ministry of Water Resources	Member
i.	Secretary, Ministry of Science and Technology	Member
j.	Secretary, Ministry of Education and Sports	Member
k.	Secretary, Ministry of Information and Communications	Member
l.	Computer specialist representatives, University/ RONAST (three persons)	Members
m.	Chairman, Computer Association of Nepal	Member
n.	President, Federation of Nepalese Chamber of Commerce and Industries	Member
o.	Persons involved in Information Technology in Private Sector (three persons)	Member
p.	Chairman, Telecommunications Authority	Member
q.	Executive Director, NITC	Member-Secretary

7.2 The National Information Technology Council shall review and revise information technology policy, appraise annual progress and solve problems that may arise and carry out such

other activities as it may deem necessary for the development and extension of the information technology sector.

7.3 To carry out research on and develop information technology, develop manpower required for this sector and a curriculum for information technology, improve the quality of computer training operated by the private sector, ascertain the norms and monitor these and co-ordinate such activities of establishing relations with foreign educational institutions, a National Information Technology Co-ordination Committee, shall be constituted as follows:

a. Honorable Minister, Ministry of Science and Technology	Chairman
b. Honorable Member, National Planning Commission (concerned sector)	Vice-Chairman
c. Vice-chancellors of any two universities	Members
d. Secretary, Ministry of Finance	Member
e. Secretary, Ministry of Industry, Commerce and Supply	Member
f. Secretary, Ministry of Science and Technology	Member
g. Secretary, Ministry of Education and Sports	Member
h. Secretary, Ministry of Information and Communications	Member
i. Two information technologists	Members
j. Representative, Computer Association of Nepal	Member
k. Representative, Federation of Nepalese Chamber of Commerce and Industries	Member
l. Executive Director, NITC	Member-Secretary

7.4 National Information Technology Centre**:** This Centre shall be set up under the Ministry of Science and Technology. As per requirements, its regional and district-level offices shall be established. It shall carry out the following functions: (a) Act as a data bank of information and assist in computerization of records in government offices and in developing and expanding contents, (b) Act as the Secretariat of the National Information Technology Development Council and the National Information Technology Co-ordination Committee, implement or get implemented the policy and plan on information science and information technology, monitor and supervise the same and regulate the activities carried out by the private sector and submit reports on these activities to the council, (c) Render assistance in all kinds of computer-related services of His Majesty′s Government. Also, render assistance in designing, updating and operating websites of all the

agencies of His Majesty's and serve as a data depository by collecting all types of data at the national level, (d) Act as a regulator for the healthy development of information technology, (e) Arrange for coding and standardization required to bring about uniformity with respect to information technology and implement and monitor it.

7.5 Information Technology Park Development Committee**:** This committee shall function as a separate body under the Ministry of Science and Technology. It shall manage and co-ordinate parks to be built in various places in the country and co-ordinate the construction and implementation of info-**cities** and info-villages

8. Legal Provisions:

Necessary laws shall be enacted to regulate transactions to be carried out through information technology as well as other necessary arrangements pertaining to this technology and to protect intellectual property right.

9. Amendment to the Policy:

This policy may be reviewed and amended every two years in view of technological development and expansion of services resulting from rapid developments in the information technology sector. Nonetheless, at the suggestion of various sectors, it may be reviewed and amended if necessary even prior to this period.

Appendix 8

Technology Design

MIS in Microfinance

What constitutes an operational MIS for microfinance is often a matter of interpretation. Paper-based systems have been known to work for large organizations, although over time, these systems fail to deliver on flexibility and transparency. For purposes of this report:

> A management information system, known as a MIS or simply IS, involves all aspects of gathering, storing, tracking, retrieving and using information within a business or organization. Thanks to the development of computers and the software applications that run on them, much of this work can now be automated and the information more readily accessed. However, the software application itself is not the information system. All the policies, procedures, and practices that direct an organization's operations and the staff that interact with the information, combined with the software and hardware comprise an information system. Consequently, the selection and implementation of a new software application for tracking an organization's core information needs generally results in significant changes to the organization and the overall management information system. (CGAP[90])

Given the often fluid operational requirements within organizations, MFIs have historically faced a difficult build-versus-buy decision for the MIS software component, whereby either the solution is developed in-house or is purchased commercially "off the shelf" and customized for their needs. An in-house solution creates long-term issues around new products, financial transparency, or operational risks, while an external vendor may fail to fully meet the needs for features or implementation, while at the same time creating a dependency on an external vendor. This phenomena of "vendor lock-in" has meant that some institutions face too-high switching costs to move to a different system. Moreover, MFIs often struggle with the difficulties of change management.

> Many off-the-shelf software packages lack the functionality or flexibility to deal with these [complex operational] realities and requirements. This raises the need to either modify off-the-shelf software or develop in-house software, which assumes that the MFI has the internal capacity to develop and maintain software or the financial resources to outsource this work.[91]

On the supply side, the MFI market is served by a variety of banking and quasi-banking /account-portfolio management systems. Several dozen software solutions are listed on the CGAP ISS website,[92] for instance, of which the majority are PC-client-based solutions aimed specifically at microfinance operations. The remainder fall into two categories: client-server and advanced banking solution. Of these, the Temenos eMerge solution is notable for that fact that it is actually a front-

[90] Information Systems: Implementation Guidelines - A practical guide to the development life cycle of Microfinance information systems.

[91] "Increasing the Outreach and Sustainability of Microfinance through ICT innovation". Stuart Matheson, Foundation for Development Co-operation. 2005.

[92] http://www.Microfinancegateway.org/resource_centers/technology/iss_software/

end on one of the leading banking software platforms, the T24. Emerge has been implemented in all regions and has ongoing implementation and support for Microfinance.

Based on the experience of the consultants, global banking systems, like iFlex and Finnacle are usually out of the range of microfinance providers, starting pricing at $1,000,000 and above. Lower end solutions, such as Loan Performer, aimed at smaller institutions, have been utilized by even large MFIs but usually lack sufficient flexibility and extensibility to serve all of the needs. Support models are difficult given the margins that these vendors face and the high cost of sales, and most importantly, PC-based solutions, where databases are held in each branch, introduce unacceptable risks as organizations get larger.

CGAP has noted that the penetration of management information systems for operations and accounting has been poor in microfinance. Each region is different, with the lowest percentage of MFIs using computerized systems being 33 percent in South Asia. Africa is a close second with only 36 percent of MFIs claiming they have a computerized system in place[93].

In the market there are some new prospects in the mid-range side, notably the solutions provided by the acquisition of Banker's Realm by India based Crane Consulting[94] and the merger of Fern Computing (makers of Cubis and Abacus) with Southern Horizon (makers of M2 and M3). Nucleus Software, which has a number of solutions (including Orbit), has major software development in India and targets the microfinance providers with a banking system that is moderately customized for microfinance operations.

Despite these positive signs, there is not a "gold standard" for MIS for microfinance, and the market continues to be fragmented.[95]

International Financial Reporting Standards (IFRS), related data standards, financial industry standards, such as card-transaction standards ISO 8583 orISO 7816, and EMV Levels 1 and 2 are required for integration and interoperability. With few exceptions, these standards are generally found only in banking applications that have entered the microfinance sector, based on the consultant's knowledge of the industry. None of these higher level MIS have been implemented in Nepal. Nor is there any evidence that even the most technically advanced MFIs in the country are planning to implement such sophisticated software.

Many companies in Nepal have created their own "microfinance software" solutions. Based on interviews with MFIs, there is some sense that they have learned the hard way that developing a new system with an local vendor is a lot harder than it first appears and, therefore, that there is renewed interest within Nepal in purchasing established or proven software.

93 CGAP Chart of Technology Usage – Survey Results 2004.
94 CraneSoftware Ltd
95 "The Case for Open Architecture for Microfinance", James Dailey, 2002.

MFI MIS Usage in Nepal

The specific status of individual MIS implementations was determined in conversation with a variety of MFIs and the software vendors in the market.[96] Three leading vendors in this sector were identified by the Center for Microfinance (CMF) and validated in conversations with leading MFI players. Outside vendors have not yet made any sales to MFIs in Nepal, although Crane Software from India has been considered by some of the larger MFIs. Nirdham, a leading MFI, has implemented a system developed by a local vendor, but that vendor has no plans to productize the system. Moreover, Nirdham also commented that their in-house system no longer met their needs.

Vendor	Systems for sale	Clients	Status
MicroBanker Nepal	MicroBanker - global offering	Finance companies and some co-ops	Existing
Synergy	Synergy - local	Chimex, several RDBs, FINGOS	Existing implementations and new customers
Magnus Consulting	1. Saral Bitta - local 2. RMDC system - local 3. Mifos - local reseller	SFCLs RMDC CSD, SB	Existing and Starting implementation
Finsys	Finsys - local	Credit unions	Existing

The information provided by CMF and others indicated that the status of the other MFIs was that there were no management systems in place, except for basic accounting systems.

Local and International Vendors

Below are some likely candidates for the solution offering in Nepal and what is known about their capabilities vis-à-vis the criteria. Evaluation of vendor/system options according to criteria would require in-depth evaluation of vendors and should be left to the implementation phase.

	Emerge offered by Temenos (India office)	Orbit offered by Nucleus (India)	Banker's Realm offered by Crane Software (India)	MicroBanker offered by Microbanker-Nepal	Mifos offered by Magnus in Nepal	Iflex – India
Low bandwidth front end – operates over minimal 28k dial, web client	Y	?	N	N	Y	?
Supports report writing by the MFIs independent of the vendors	?	?	Y	Y	Y	N
Simplicity and functional-match on the front end allowing for ease of adoption	?	?	?	?	Y	?
Implementation includes data migration tools	Y	Y	Y	Y	?	Y
Scales to millions of accounts	Y	Y	?	?	Y	Y

[96] Field research, James Dailey and Janine Firpo, consultants February 2008.

Backup and disaster recovery	Y	Y	?	Y	?	Y
Offline mode supported	Y	Y	Y	Y	?	?
Includes data interoperability or standard interfaces for industry-wide	Y	?	?	?	?	?
Includes open APIs for additional functional modules	Y	?	?	N	N	?
Cost	$$$$	$$$	$$	$	$	$$$$

Ways to strengthen the value of particular options
Temenos eMerge, if offered globally as an on-demand service with lower license costs and with a local Nepal implementation partner, becomes a better option

The situation is similar for anything created by iflex or IBM along the same lines

If some of the client-server solutions have been re-engineered for lower bandwidth settings and Web interfaces, then these could become good options for this model (example: MicroBanker seeking to create lower bandwidth version).

If the core banking systems could have a simpler interface enabled or developed for microfinance

Appendix 9

Table 1: Projected Growth of the Microfinance Market of Nepal

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Microfinance institutions	2475	2862	3438	3667	4708					
Head offices	2475	2862	3438	3667	4708					
Regional offices	0	0	0	0	0					
Branch offices						521	542	564	586	610
Loan officers						6024	10619	11150	11707	12292
Customers	728518	866476	992477	1182852	1625199					
Loan portfolio (NPR MM)	15826	18497	19525	21204	28146.58404					

Table 2: Financial Requirements for Central Technology Platform

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Implementation phases	Phase 1: 10% in 3 years			Phase 2: 50% in 6 years			Phase 3: 100% in 9 years		
Revenue									
Total revenue from central technology platform services (US$ millions)	$0.15	$0.39	$0.77	$2.33	$4.75	$8.43	$14.60	$23.73	$37.02
Expenses									
Institution									
Total human resource expenses (US$ millions)	$0.28	$0.29	$0.31	$0.32	$0.34	$0.36	$0.37	$0.39	$0.41
Total institutional setup expenses (US$ millions)	$0.17	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Total institutional ongoing expenses (US$ millions)	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28	$0.28
Technology									
Total capital expenses for host institution (US$ millions)	$0.32	$0.31	$0.31	$1.16	$1.18	$1.22	$1.53	$1.60	$1.67
Total capital expenses for microfinance institutions (US$ millions)	$0.23	$0.23	$0.23	$0.85	$0.87	$0.89	$1.12	$1.17	$1.22
Total capital expenses for branchless banking (US$ millions)	$0.02	$0.04	$0.03	$0.12	$0.12	$0.12	$0.16	$0.16	$0.17
Total operating expenses for host institution (US$ millions)	$0.06	$0.12	$0.18	$0.39	$0.60	$0.79	$1.03	$1.24	$1.44
Total operating expenses for microfinance institutions (US$ millions)	$0.19	$0.40	$0.57	$1.29	$1.97	$2.60	$3.37	$4.08	$4.72
Total operating expenses for branchless banking (US$ millions)	$0.02	$0.06	$0.09	$0.21	$0.32	$0.42	$0.55	$0.67	$0.78
Total expenses for central technology platform services (US$ millions)	$1.57	$1.74	$2.00	$4.63	$5.68	$6.69	$8.40	$9.59	$10.70
Financing gap									
Financing gap for setting up and running central technology platform (US$ millions)	**-$1.42**	**-$1.35**	**-$1.23**	**-$2.30**	**-$0.92**	**$1.73**	**$6.21**	**$14.14**	**$26.32**
Financing gap per phase (US$ millions)	-$4.00			-$1.49			$46.67		

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