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Managing Microfinance Risks

Some Observations and Suggestions

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July 2008

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Reprinted with permission from the *Asian Journal of Agriculture and Development*, Vol. 4, No. 2.

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Abstract

Risk is an integral part of financial intermediation. Hence, risk management must be at the heart of finance. However, it is disturbing to note that systematic risk management is still not as widespread as it should be in the microfinance industry. Except for a few flagship microfinance institutions (MFIs), which constitute the core of the industry, most MFIs do not pay adequate attention to systematic risk management.

The microfinance industry has grown rapidly during the last decade in breadth, depth, and scope of outreach. The rapid growth seems to continue, given the massive unserved and underserved market. The growth of the industry has changed the risk profile of MFIs. Yet many MFIs seem to continue to seek growth without much attention to attendant risks. Surprisingly, many MFIs appear to neglect even the basic credit risk management which helped MFIs achieve high growth rates historically.

The growing interest of many MFIs in agricultural microfinance must be seen in the broader context of risk management in the industry. Financing agriculture is more risky than financing trade or industry; it is also more risky than financing nonagricultural microenterprises. However, MFIs interested in agricultural microfinance should be more concerned about their internal structures and capabilities rather than the widely discussed, and often cited, pervasive risks in agriculture and their ramifications for the MFIs' pursuit of growth in agricultural microfinance.

MFIs should recognize the inherent risks in agriculture. However, if they build their institutional capacity to effectively deal with risks generally associated with financial services for poor and low-income households, their prospects for success in agricultural microfinance would certainly be much brighter. In addition, no amount of sophisticated and modern technical tools and analysis can help achieve effective risk management in respect of nonagricultural or agricultural microfinance if risk management is not embedded into the institutional culture and its value is not

shared by all employees. Achieving this goal remains one of the most challenging tasks in risk management which MFIs need to address. To help in this effort, we need to bring into the discussion—now dominated largely by issues related to introducing sophisticated systems and technical tools of risk management—the institutional cultural issues and issues related to cognitive biases in executive decision-making behavior.

Introduction

The breadth, depth, and scope of outreach of the microfinance industry have grown significantly during the last two decades. The Asia and Pacific region accounts for the bulk of this growth. According to the Microcredit Summit Campaign (2006:24), by 31 December 2005, some 3,133 microcredit institutions reported reaching 113.26 million clients with a current loan, and about 97 million of these clients were in the Asia and Pacific region. Of the total number of clients reached by these institutions, about 82 million were among the poorest when they started with the program, and 91% or about 74 million of the poorest families reported are in Asia where over two thirds of the world's poor people live. The erstwhile microenterprise-credit-only institutions are now providing a broader range of credit products. Their loans are no longer confined to short-term working capital loans but now also include loans with relatively longer maturities, and those intended for other purposes such as acquiring fixed assets. Some microfinance institutions (MFIs) even venture into the financing of agricultural operations. Other MFIs have expanded their deposit services, thus contributing to the expansion of the scope of outreach. Grameen Bank, for example, has achieved impressive results in mobilizing voluntary savings through its new deposit products offered under the Grameen Pension Scheme to the members, and other deposit products offered to both members and nonmembers (Rutherford 2006).

The last two decades have also seen a significant increase in the diversity of institutions providing financial services to the poor and low-income households. The previous predominance of non-government organizations (NGOs) in the retail markets of many countries has been challenged by new developments such as the transformation of some pioneering NGOs into fully or partially regulated financial entities, the emergence of specialized microfinance banks, the entry of commercial banks into microfinance, and the increased involvement of cooperatives and rural banks. The increasing involvement of nonfinancial institutions such as telecommunication companies in microfinance is adding to this diversity.

One of the significant changes in the microfinance industry has been the growth in commercial and semi-commercial borrowings, including loans denominated in foreign currency to finance operations. According to Abrams and Stauffenberg (2007, p. 1), in the last 3 years, the volume of international private lending for microfinance has exploded: in 2005 alone, outstanding loans doubled to nearly $1 billion. Structured finance transactions are also becoming important in the microfinance market. In 2006, Bangladeshi MFI BRAC securitized the $180 million equivalent of its portfolio.

As will be shown later, although MFIs and the industry have suffered serious setbacks in some countries, the industry has been relatively stable in most countries. A number of institutions such as BRAC and the Association for Social Advancement in Bangladesh, the SKS Microfinance and Spandana in India, and the Compartamos in Mexico have managed to sustain their growth rates remarkably well without sacrificing portfolio quality. The incredible resilience of the industry was illustrated during the Asian financial crisis in the late 1990s and the aftermath of the tsunami which struck Asia in 2005. However, it must be recognized that the changes in markets, products and services, delivery models, and technology used in the industry have had, and continue to have, profound implications on the overall risk profile of the industry over time. MFIs or others which provide microfinance services can no longer afford to focus only on credit and liquidity risks and consider other types of risk on an ad hoc basis, often in a reactive manner. Risks in microfinance must be managed systematically and the importance of risk management will further increase as the industry matures further and microfinance markets become more competitive (Powers 2005).

This paper briefly outlines the different categories of risks that MFIs face and discusses what type of risks are becoming more important, why there is greater need for risk management now than before, and what has been the industry experience, so far, in microfinance risk management. The paper also outlines some principles for risk management in microfinance, in general, and in agricultural microfinance, in particular. The main objective of the paper is to further advance the discussions related to microfinance

risk management including that of agricultural microfinance; the recommended tools and techniques for use by MFIs is not meant to be a comprehensive discussion.

For the purposes of this paper, microfinance risk is defined broadly as "the potential for events or ongoing trends to cause future losses or declines in future income of an MFI or deviate from the original social mission of an MFI." We have included the deviation of the social mission in our definition because such deviation can occur without necessarily causing losses or declines in future income and, in our view, the risk of mission drift is one of the most significant risks in microfinance. This is not considered part of the risk profile of conventional financial institutions because they do not have a social mission.

Categories of Microfinance Risk

At the initial stages of growth in the microfinance industry, most MFIs were concerned only about financial risks. Even in the financial risk category, their focus was almost exclusively on credit risk. When the demand for loans began to rise exponentially, MFIs also began to be concerned about a particular type of liquidity risk wherein the MFIs would run out of enough cash to meet the demand for loans. The industry evolution has brought additional risks. In a publication released in 2000, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) cited three major risk categories: financial, operational, and strategic. GTZ also listed subcategories of risk under each main category. More recently, Churchill and Frankiewicz (2006) listed four risk categories, namely: institutional risks, operational risks, financial management risks, and external risks. As shown in Table 1, they also identify subcategories of risks in each primary category.

Recent Changes in Microfinance Risk Profile

As the industry evolved over the last two decades, the profile of microfinance risk has changed. Traditionally identified risks, such as credit and liquidity risks, have increased in intensity. And additional

Table 1. Typology of risk in microfinance

Source			
GTZ (2000)	**Financial Risks** 1. Credit Risk is the risk to earnings or capital due to borrowers' late and nonpayment of loan obligations. Credit risk includes both transaction risk and portfolio risk. – Transaction Risk refers to the risk in individual loans. – Portfolio Risk refers to the risk inherent in the composition of the overall loan portfolio. 2. Liquidity Risk is the risk that an MFI cannot meet its obligations on time. 3. Market Risk includes interest rate risk, foreign currency risk, and investment portfolio risk. – Interest Rate Risk is the risk of financial loss from changes in market interest rates. – Foreign Exchange Risk is the potential for loss of earnings or capital resulting from fluctuations in currency values. MFIs most often experience this risk when they borrow or mobilize savings in foreign currency and lend in local currency. – Investment Portfolio Risk refers to longer-term investment decisions rather than short-term liquidity or cash management decisions.	**Operational Risks*** 1. Operational Transaction Risk (the document does not give a definition) – Human Resources Risk (the document does not give a definition) – Information and Technology Risk is the potential that inadequate technology and information systems will result in unexpected losses. 2. Fraud Risk is the risk of loss of earnings or capital as a result of intentional deception by an employee or client. 3. Regulatory and Legal Compliance Risk is the risk of loss resulting from noncompliance with the country's regulations and laws.	**Strategic Risks** 1. Governance Risk is the risk of having an inadequate structure or body to make effective decisions.

Source				
Churchill and Frankiewicz (2006)	**Institutional Risks** 1. Social Mission 2. Commercial Mission 3. Dependency 4. Strategic 5. Reputation	**Financial Management Risks** 1. Asset and Liability 2. Inefficiency 3. System Integrity	**External Risks** 1. Regulatory 2. Competition 3. Demographic 4. Macroeconomic 5. Environmental 6. Political	**Operational Risks** 1. Credit 2. Fraud 3. Security 4. Personnel

Remarks: GTZ includes credit risk under financial risks while Churchill and Frankiewicz include it under operational risks. The latter source explains and discusses each subcategory of risks but does not provide definitions. The Bank for International Settlements does not include credit risk under operational risks. However, financial experts generally recognize the fact that operational risks have significant potential implications for credit risk.

* Basel II framework updated in 2005 defines operational risk as "the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events."

GTZ = German Agency for Technical Cooperation; MFI = microfinance institution.

risks in such areas as social mission, foreign exchange, competition, and system integrity have surfaced and are assuming greater importance. Some of these risks seem to be less known and have yet to receive the attention they deserve from MFI managers.

Many people agree that the initial success of MFIs can be largely attributed to the management of credit risks. Successful MFIs have managed to maintain high levels of loan recovery rates, generally over 95%. These remarkably high loan recovery ratios triggered the initial wave of funds from funding agencies and the subsequent inflow from a variety of social investors which they could use to expand their operations. While many successful MFIs continue to contain credit risks within desired levels, they face greater challenges than before as indicated by the increased volatility of their portfolio-at-risk (PAR) ratios. The sources of these challenges include increased competition in the market, addition of new credit products with longer-term structures, shift to individual lending, increased scale of operations, and geographical expansion and efforts to deepen the outreach.

Credit risk also has other dimensions. Initially, microfinance credit risk was assumed to have been confined almost entirely to risk associated with the possible default by borrowers of MFIs. This is reflected in the definition of credit risk as "the risk to earnings or capital due to borrowers' late and nonpayment of loan obligations." However, a broader definition of credit risk also includes the risk of default by other financial institutions, which have payment obligations to MFIs (Bruett 2004). This is particularly true with MFIs that continue as NGOs. Such payment obligations may arise because MFIs use those institutions as depository institutions, investment outlets, or for money transfers. Also, such risks may arise due to the agency services that MFIs provide to other financial institutions. MFIs suffer losses when these institutions are unable or unwilling to meet their payment obligations. However, MFIs tend to overlook this dimension of credit risk although it is real, as evident in some cases. For example, when the National Bank (central bank) of Cambodia suspended the license of the Farmers' Bank in 1997, the bank ceased operations and ACLEDA (which was an NGO-MFI at

that time) was not able to recover $267,932 that it held on account with the Farmers' Bank (Clark 2006, p. 101). Similarly, a number of cooperative rural banks in Sri Lanka lost access to their deposits when a commercial bank that held a significant amount of their deposits ran into difficulties and its accounts were frozen and operations were suspended by the central bank. Credit risks are more acute today than in the early stages for those MFIs which have accumulated a significant amount of reserves, part of which in turn is kept in other financial institutions in the form of deposits or investments.

Aside from generally recognized default risks by clients, another type of credit risk arises when MFI clients deposit their savings in other financial institutions which are weak and not covered by a credible deposit protection scheme. Clients may not have ready access to their funds and thus lose a source of loan repayment for their MFI loan if the bank where they keep their deposits runs into difficulties (Bruett 2004). In such cases, loan recovery rates may suddenly fall.

Another risk whose importance has grown significantly in recent years is the foreign exchange risk. About 5 years ago, very few MFIs borrowed in foreign currency because they relied largely on grants and long-term concessional loans from funding agencies given in local currency through national apex agencies or such other mechanisms. However, foreign currency loans now constitute an important source of financing for the loan capital requirements of an increasing number of MFIs—most notably the dynamic, better-performing ones. A recent survey by the Consultative Group to Assist the Poor (CGAP 2006, p. 1) estimated that of a total of $1.2 billion in foreign investment in MFIs, $750 million is debt capital and at least 92% of this debt capital is in hard currency. Some MFIs also mobilize deposits in foreign currency. These foreign currency loans and deposits create foreign exchange risks for those MFIs whose principal assets are microloans denominated in local currency. Devaluation of the local currency in relation to the foreign currency may generate substantial losses to an MFI. Devaluation, however, is not the only possible source of foreign exchange risks. The MFI with foreign currency loans are also exposed

to convertibility and transfer risks. In these cases, MFIs may have the financial capacity to make their foreign currency payments, but may not be able to do so because of national government restrictions or prohibitions on making foreign currency available for sale or transferring foreign currency outside the country (CGAP 2006).

Interest rate risks have also grown in importance in recent years. The partial shift in borrowing from commercial or semi-commercial sources at fixed rates of interest to variable interest rates has contributed to this. At the early stages, when MFIs borrowed funds, such borrowings consisted almost entirely of fixed interest rate loans. Given that variable rates are likely to rise while MFI loans are mostly at fixed interest rates, and considering the difficulty of adjusting microcredit interest rates upward, the variable interest rates on debt capital generally expose MFIs to potentially greater interest rate risks.

Mission drift risk has also increased with the maturity of the industry. While the increased commercialization of an MFI operation does not necessarily mean that it will move away from its original social mission to provide services to the unserved and underserved poor, MFIs are now under tremendous pressure to move upmarket given the changes in markets and ownership, and the greater internal and external pressure to achieve reasonably high level of returns on equity. Such movements, which could occur in lending as well as in deposit services, can potentially be at the expense of the services to the original target groups.

Many MFIs are also now subject to greater operational risk than before because of a number of factors. First, some MFIs have become regulated financial institutions and therefore, subject to regulatory and compliance risk. Second, most MFIs have expanded their geographical coverage and their operational areas include those more prone to calamities, security problems, and other such risks. Some types of operational risks generally increase with distance from the head office, and control difficulties are more pronounced at branches located in remote areas. Furthermore, the employees in these areas are more likely to remain in the same positions for too long—a situation that can potentially create other complications. Third, the scale of cash operations of most MFIs has increased and

many MFI staff members have easy access to the cash resources. Fourth, many MFIs have increased their reliance on new information and communication technology. MFIs face operational risk whenever this technology malfunctions or breaks down. In addition, technological investments expose MFIs to technology risk which occurs when these investments do not produce the anticipated cost savings in economies of scale or scope, or do not result in anticipated increases in revenue.

The importance of liquidity risks has also grown owing to a number of reasons. First, the average term structure of loans has increased in most MFIs because of increases in loan sizes, introduction of new loan products with longer maturities, and other related factors. Second, the demand for loans continues to grow at high rates. Third, short-term liabilities seem to have increased in importance in the liability structure. Thus, some MFIs are funding medium- to long-term loans with relatively short-term liabilities which consist, among others, of passbook savings.

Two other types of risk have assumed greater importance in the microfinance industry in recent years. These are the competition risks and political risks. The competition risks have increased—a natural outcome of the growing level of competition in the market as the industry matures over time. Although some early entrants have consolidated their position in the market and continue as market leaders, they have lost their near-monopoly position to new players. In some countries such as the Philippines, the new players include nonfinancial institutions like telecommunication companies, while some others include incumbent commercial banks and new nonbank financial institutions. The competition has made client retention more difficult. In Bolivia, market competition significantly affected the niche market players such as BancoSol in the late 1990s and led to significant operational and financial problems.

MFIs also face much greater political risks than before. Such risks, ironically, appear to be greater for the leading MFIs which follow sustainable growth paths. In a number of countries, populist governments have imposed or attempted to impose interest rate caps on microcredit (CGAP 2004; Fernando 2006). High interest rates

charged by MFIs to achieve financial sustainability have come under increasing criticisms from politicians in countries such as Bangladesh, Cambodia, India, and Sri Lanka in recent years. Politicians repeatedly request some leading MFIs to provide debt forgiveness to borrowers in distress and reduce interest rates on microcredit. In some countries, the central or local governments have introduced new subsidized microcredit schemes. Politicians are also increasingly questioning the need to continue granting tax exemptions to profit-making NGO-MFIs. These factors together indicate greater potential political risks than before for the microfinance industry, in general, and the leading MFIs, in particular. Rhyne and Otero (2006, p. 57) predict the greater prominence of political risks in the next decade, as microfinance grows further and becomes more visible.

Another risk that has gained more importance in recent years is the reputation risk. Among other factors, the increase in regulatory burden has contributed to this. Reputation is critically important for MFIs of all types. MFIs with a strong positive reputation can attract better staff and more clients and maintain customer loyalty. They can market their services at lower costs and expand their geographic coverage relatively easily. In addition, relative to those with less solid reputations, these MFIs can have better access to larger amount of funds from various sources, including social investors and semi-commercial and commercial sources.

Risks in Agricultural Microfinance

Agriculture is widely considered to be inherently riskier than industry or trade because it is more easily, directly, frequently, and severely affected by such factors as inclement weather, pests, diseases, and other natural calamities. The poorer farmers suffer disproportionately from these than the nonpoor. Returns in agriculture are not only more volatile but also generally much lower than those in most commercial and nonfarm microenterprises. Hence, agricultural microfinance is riskier than agricultural finance in general and non-agricultural microfinance in particular. Agricultural microfinance, for example, becomes riskier when the agricultural activities of poor

farmers are concentrated in specific geographic locations, thereby resulting in high covariant risks that make localized MFIs more vulnerable to local disasters. If poor households are engaged in the monoculture of crops, they pose greater risks of vulnerability. In addition to these, poor farmers face greater market and price risks than the nonpoor because of their relative inability to mitigate such risks. In some countries, government-operated crop and livestock insurance schemes exist to protect the small and marginal farmers, among others. However, in practice, such schemes do not protect these groups because of various reasons. Also, if poor farmers do not own the land they cultivate and rely on share tenancy, the lenders to such farmers tend to face greater risks.

Other factors make agricultural microfinance riskier. Many agricultural activities may require relatively longer-term loans than microenterprises although poor farm households may not be able to repay frequently because of their cash-flow pattern dictated by the cropping cycle. The precision of crop schedules and the need to use inputs systematically to achieve optimum returns from those inputs also add to the risks in agricultural finance (CGAP 2005a, p. 3). For example, if planting is not done at the right time or fertilizer-responsive varieties are not used together with fertilizer as required, the farmers may not achieve the desired results and thus be unable to generate the surpluses needed to meet debt service requirements. Or farmers may simply resort to higher-risk, higher-return cropping strategies in their pursuit of higher incomes (CGAP 2005a, p. 2). In general, information asymmetries may be greater for poor farm households than microenterprise operators, thus contributing to higher credit risks for agricultural microfinance.

MFIs financing agriculture may also run greater political risks because of the greater tendency of politicians to identify small and marginal farmers as an important constituency to achieve their political and social objectives. Politicians are, for example, more likely to push for debt forgiveness for poor and marginal farmers than for microenterprise operators. Similarly, they are more likely to promise heavily subsidized government microcredit for poor farmers than other economically active poor households.

Scope diversification generally reduces the overall risks faced by a financial institution. However, this is true only if the diversification results in the addition of relatively less risky operations. Because agricultural microfinance—as pointed out—is a relatively more riskier operation for a typical MFI, it may be logical to conclude that in general agricultural microfinance increases the overall risks the MFIs face. Therefore, if an MFI is planning to add agricultural finance to its existing scope of operations, one can generally expect it to face a greater overall level of risk than before.

Although agricultural activities are risky, financing poor households engaged in agricultural activities may pose lesser risks if the sources of their household income are sufficiently diversified. Thus, from a risk point of view, we need to recognize that there is a subtle difference between microfinance for agriculture and microfinance for the agricultural operations of poor households with diversified sources of income.

The Industry Experience with Losses

There is a dearth of information and data on losses incurred by MFIs due to the absence of comprehensive risk management systems. However, available anecdotal and other evidences tend to indicate the various instances when many MFIs, including some flagship institutions, suffered significant losses because of insufficient attention to risk management. This is illustrated in the following examples:

ACLEDA's[1] 1996 liquidity crisis

As ACLEDA's business expanded much more rapidly than the capital available to finance the growing portfolio, a liquidity crisis developed. The list of prospective borrowers lengthened, with waiting time to borrow reaching 3 months and then growing further to 6 months. With little excess liquidity in any branch and the great difficulty of transporting cash among branches owing to the dangerous terrain, ACLEDA began to disburse only as much as it collected daily from

[1] ACLEDA (Association of Local Economic Development Agencies) was a nongovernment MFI in Cambodia at this time. It became a specialized bank in August 2000 and a full-fledged commercial bank in December 2004.

borrowers, making installment payments in each branch. ACLEDA's portfolio growth rates, which hit an all-time high midyear, decreased throughout the last 7 months of 1996. Lending capital for small enterprise loans—the largest share of the portfolio—decreased most. Recently opened branches were unable to expand their operations and ACLEDA had to put on hold the opening of new branches until additional funding could be found (Clark 2006, pp. 98–99).

Serious delinquency crisis of 2001 at ACLEDA

In 2001, in 11 mature branches, the aggregate write-off in the case of microloan portfolio increased to 10.20% from 4.02% in the previous year and, in the case of small loan portfolio, to 5.50% from 2.52% also in the previous year. In two of these branches, both the PAR over 30 days and write-off rates in respect of microlending exceeded 20%. Detailed data revealed that four branches accounted for 72% of the total delinquency in the microcredit portfolio (Box 1).

Delinquency crisis at NWTF[2] from 1992 to 1994

Loan collection rate dropped to 87.2% in 1992 from 95.1% a year ago and the PAR increased from 6.8% to 16.3%. The number of active clients dropped to 2,950 in 1994 from 6,340 in 1992. It took nearly 5 years for NWTF to recover from this crisis (Chan 2003).

Liquidity crisis at NWTF

At one time, NWTF also faced a severe liquidity crisis because of deficiencies in demand projections. NWTF did not have adequate funds to meet the demand for loans and had to ration credit and deal with discontented clients.

Delinquency crisis at the Center for Community Transformation (CCT)[3] in 1998

CCT was a small MFI in the Philippines, with plans for growth. In 1998, CCT experienced a serious delinquency crisis. The PAR exceeded 16% and the number of active clients declined substantially.

[2] NWTF (Negros Women for Tomorrow Foundation) was an NGO-MFI in the Philippines at this time. In 2005, NWTF started operating a microfinance thrift bank, the Dungganon Bank.

[3] CCT is an NGO-MFI in the Philippines.

Box 1. ACLEDA's balloon loan and its burst

Lending to agricultural customers was not a new venture for ACLEDA. In 1996, ACLEDA developed a balloon loan product as part of its rural financial services to serve farmers. The defining feature of the loan is that the principal is paid at the end of the loan term, not at regular intervals throughout the loan term.

ACLEDA's balloon loans required regular interest payments throughout the term unlike in other microcredit organizations in Cambodia, which required payment of both principal and interest only at the end of the loan term. Although ACLEDA's product was relatively less risky, it still involved a great deal of risk. Unlike a loan with regular installments of principal and interest, a repayment schedule of a balloon loan does little to predict the likelihood of the borrower's ability to repay the loan at some point in the future because it is generally pegged to a future lump-sum return on investment, such as a harvest.

While trade, services, and manufacturing accounted for the dominant share of the portfolio, by the end of 1997, 25% of ACLEDA's microcredit customers borrowed for agriculture. By 2001, 14% of ACLEDA's microcredit portfolio was exclusively in agriculture. Several rural branches, such as Pursat and Kampong Cham, invested over half of their portfolio in crop loans. Battambang branch had 29% of its portfolio in crop loans. In Pursat branch, 85% of the portfolio was concentrated in balloon loans.

In late 2000, ACLEDA's portfolio quality began to deteriorate and then plummeted throughout 2001. Pursat, Battambang, Kampong Cham, and Kampong Thom each held contaminated portfolios above 20%, and each had sizable portfolios concentrated in balloon loans. And loan losses began to mount. Because ACLEDA was considered a flagship MFI in the country, the rapidly deteriorating portfolio was beginning to attract lots of public attention, and ACLEDA acted promptly.

Although the acuteness of the crisis was indisputable, ACLEDA's analysis revealed three saving graces. First, ACLEDA was adequately provisioned. The loan loss reserve was equivalent to 80% of the outstanding balances of all loans with installment payments overdue for 30 days or more. Second, while some branches plummeted into default, others barely blinked. Several branches where delinquency spiked quickly brought their portfolio under control. The total portfolio of the branches in crisis represented about one third of ACLEDA's overall portfolio for the period. However, the geographical diversity of a national network left some glimmer of hope that the crisis could be contained. Third, the most serious default was in the micro portfolio, which represented 30% of the total portfolio, but 80% of the borrowers.

ACLEDA's analysis showed that balloon loans were a major cause of massive delinquency. Over half of the write-off rate of 10% in the microloan portfolio was attributed to balloon loans. By the end of 2001, the write-offs for balloon loans were almost seven times greater than the entire outstanding balloon loan portfolio at the end of the year. The quest for rapid growth and heavy reliance on new and inexperience staff were also major factors for the crisis. However, in-depth analysis of the crisis confirmed that the deteriorating portfolio quality was primarily a management issue: one that was exacerbated by agricultural lending and the balloon loan.

Note: Reproduced from Clark, 2006, pp. 204–208.

PROSHIKA's delinquency crisis

PROSHIKA, one major MFI in Bangladesh, has been experiencing a severe crisis since its PAR (over 30 days) increased from 6.0% in 1999 to 15.0% in 2000 and 18.0% in 2001. The PAR was brought down to 9.03% in 2002 but increased again to 14.75% in 2003 and 24.49% in 2004. Its write-off ratio was 15.72% in 2001 and 11% in 2002.

Liquidity problems in Bank Dagang Bali (Indonesia)

This bank was considered one of the most successful microfinance intermediaries in the region and had a history of over two decades of successful operations. This family-owned bank was unable to comply with the regulatory requirements of Bank Indonesia (the Central Bank) in early 2004 and had serious liquidity problems because of bad management and poor governance. The Central Bank liquidated it in 2004.

Political crisis in microfinance in Andhra Pradesh in India in 2006

A major crisis broke out in March 2006 for MFIs in this state when the authorities in the Krishna district closed down about 50 branches of two major MFIs in the district. The chief minister of the State said that the MFIs were exploiting the poor through exorbitant interest rates and unethical means of loan recovery. The affected MFIs were able to open the closed branches after some time (Shylendra 2006, p. 1959).

Delinquency crisis at K-Rep in 1997[4]

K-Rep, a flagship MFI in Kenya, experienced rapid growth in its loan portfolio during 1991–1996 period. And K-Rep's PAR (over 30 days) increased from 5.0% in 1995 to 18.3% in 1997. Although K-Rep brought its PAR down to 2.74% by the end of 2002, it has shown an increasing trend since then. The ratio had increased to 9.42% by the end of 2005 (www.mixmarket.org).

[4] At this time, K-Rep was a nongovernment MFI. K-Rep was transformed into a commercial bank in late 1999.

Box 2. Corposol/Finansol crisis

Corposol, a microfinance institution in Colombia, acquired a commercial finance company, Finansol, in 1993 and adopted an aggressive growth strategy. Corposol had majority ownership in Finansol which issued microloans, while the former provided client training. These institutions were internationally celebrated for their growth and success in servicing a large number of microenterprises. However, Finansol's delinquency rates increased from 9% in 1994 to 17% in 1995 to a peak of 33.5% at the end of 1996. These weaknesses developed into a full-blown crisis by mid-September 1996.

In 1996 Finansol was forced to establish a new management team and recapitalize itself. In September 1996, the Colombian Superintendency of Companies ordered the official liquidation of Corposol. Finansol was restructured and renamed as FINAMERICA in 1997. At the end of 2005, it had 26,723 active borrowers and an outstanding loan portfolio of $37.7 million. Its portfolio at risk over 30 days was 2.99% and risk coverage was 88.00% (www.mixmarket.org).

Source: Lee, 2002, pp. 152–174.

Crisis at Finansol in 1995–1996

Finansol was a regulated microfinance company in Colombia. From 1995 to 1996, it ran into serious liquidity and capital inadequacy problems—among many other problems—because of poor governance, fraud, and a sharp fall in loan collection (Box 2).

Bolivia's microfinance industry crisis during 1998–2000

During the 1996–98 period, Bolivia experienced an oversupply of microcredit mainly because of excessively aggressive growth strategies that a number of consumer loan companies adopted. This led to serious over-indebtedness among borrowers of MFIs. Among the severely affected MFIs was BancoSol (Rhyne 2001). As a result of the crisis, the number of active borrowers of BancoSol decreased from 81,553 at the end of 1997 to 50,904 at the end of 2002, and its PAR over 30 days increased from 3.03% in 1998 to 9.58% in 2000 and 10.16% in 2001. This crisis also severely affected another MFI, Prodem.

Risk Management

Risk management is the process of controlling the likelihood and potential severity of an adverse event: it is about systematically identifying, measuring, limiting, and monitoring risks faced by an institution. Risk management is important simply because "risk... pervades finance as gravity pervades physics" and to "survive and prosper in financial markets, participants must manage risk in ways that increase their wealth" (Von-Pischke 1991, p. 25). Risk management strategies attempt to address risk ex ante.

An MFI may adopt certain elements of risk management although it may not have a comprehensive risk management system. According to the Federal Reserve Bank (quoted in GTZ 2000, p. 5), comprehensive risk management includes practices designed to limit risk associated with individual product lines and systematic, quantitative methods to identify, monitor, and control aggregate risks across a financial institution's activities and products. A comprehensive approach to risk management reduces the risk of loss, builds credibility in the marketplace, and creates new opportunities for growth (GTZ 2000, p. 5). Because effective risk management ensures institutional sustainability and facilitates growth, it has significant implications for MFIs with a social mission to serve an increasing number of poor households.

With the increasing level of maturity in the industry, many microfinance stakeholders seem to realize more now, than was the case about 10 years ago, that risk management is at the heart of the microfinance industry as it is in the broader banking industry. If an MFI is keen to continue its operations, it must take risk management seriously and put in place systematic measures for the purpose. However, it appears that comprehensive risk management has not yet become the norm in the microfinance industry of most countries.

The Industry Experience with Risk Management

The microfinance industry in most countries has an NGO origin. This factor seems to largely explain why many MFIs have not adequately incorporated risk management systems and procedures in their organizations. In addition, the excessive reliance of many, if not most

MFIs, on grants and external concessional funds (including those provided by numerous government agencies) has also contributed to the inadequate importance given to risk management in the microfinance industry.

Recent changes in the industry landscape—particularly the prevalence of more market-oriented approaches; the increased level of industry maturity; and the requirements and concerns of financial regulators and supervisors, funding agencies, international microfinance networks, social and commercial investors, and microfinance rating companies—have driven an increasing number of MFIs to pay more attention to risk management than in the past. However, as GTZ (2000, p. 7) noted, although many MFIs have grown rapidly, serving more customers and larger geographic areas, and offering a wider range of financial services and products, "their internal risk management systems are often a step or two behind the scale and scope of their activities."

Although reliable data and information are not available to support the claim, this may be an understatement of the inadequacy of risk management in the microfinance industry. A more accurate statement may be that many MFIs are many steps behind in risk management relative to the scale, scope, nature, and complexity of their activities and the market environment in which they operate.

Most MFIs do not yet have comprehensive risk management systems. The norm in the industry appears to consist largely of efforts to manage certain types of risk but not the overall risk of the institution in a systematic manner. Surprisingly, many MFIs seem not to have made a systematic effort to manage even credit risk.[5] This is evident not only in the lack of reliable, accurate, and timely data on many MFIs' loan collection rates and portfolio quality, but also in the absence of systematic efforts to analyze their loan portfolios from a credit risk management point of view. Moreover, many MFIs, including those with a number of years of operational history, have awfully low risk coverage ratios despite having high or moderately high PAR, as shown in Table 2.

[5] The effective management of credit risk is critically important for MFIs because they depend excessively on interest income from loans, and loans are their main asset. High administrative costs also make MFIs more vulnerable to defaults.

Table 2. Portfolio at risk and risk coverage ratio—(selected Asian MFIs)

Institution[1]	Type of Institution (Country)	Portfolio at Risk (PAR)[2] —over 30 days (%)			Risk Coverage Ratio (%)[3]		
		2003	2004	2005	2003	2004	2005
Cantilan Bank	Rural bank (Philippines)	6.2	13.6	14.3	26.2	21.7	32.3
ASKI	NGO (Philippines)	14.0	13.8	4.3	28.6	16.2	66.3
Bangko Kabayan	Rural bank (Philippines)	–	5.4	7.5	–	41.5	27.5
1st Valley Bank	Rural bank (Philippines)	13.1	4.8	4.5	11.0	45.0	61.4
NWTF	NGO (Philippines)	11.8	4.6	4.9	4.0	7.1	76.6
Basix (as of 31 Mar)	Nonbank finance company (India)	13.0	8.0	4.8	4.8	9.6	10.4
Nirdhan (as of 31 Jul)	Microfinance bank (Nepal)	8.9	5.5	10.3	68.0	50.7	25.6
PROSHIKA	NGO (Bangladesh)	14.8	24.5	21.6	56.4	58.3	81.3
Buro Tangail	NGO (Bangladesh)	2.0	2.1	3.0	100.0	69.6	44.5

[1] As of end of each year, unless otherwise stated.
[2] PAR = outstanding balance, loans overdue > 30 days/adjusted gross loan portfolio.
[3] Risk Coverage Ratio = Adjusted Loan Loss Reserve/PAR > 30 days. If loans are based on adequate marketable collateral, this ratio does not have to be high.

ASKI = Alalay sa Kaunlaran (Support for Progress); MFI = microfinance institution; NGO = nongovernment organization; NWTF = Negros Women for Tomorrow Foundation; PAR = portfolio at risk.

Source: www.mixmarket.org.

There appears to be a sharp imbalance in most MFIs between their growth plans and the level of attention given to the risk management demands generated by those growth plans. Most MFIs seem to be overly ambitious about their growth plans. The growth optimism that prevails in most MFIs is further reinforced by their excessive reliance on past successes as powerful indicators of the future. The past successes seem to have driven many MFIs into an overconfident mode about their ability to achieve consistently better performance in the future. Many MFIs do not seem to fully recognize the critical role of risk management for the successful implementation of their growth plans in an increasingly competitive

market environment.[6] This factor, more than any others, has contributed to inadequacies in risk management in most MFIs.

The microfinance industry has also not made much progress on disaster risk management. According to Pantoja (2002, p. 30), "disaster risk is one of the most critical yet neglected external risks faced by MFIs, which for the most part, continue to deal with it in an ad hoc manner." As a result, in disaster situations, MFIs become "organizations in distress as well as potential instruments of recovery" (Nagarajan 1998). However, recent disasters such as the 1998 flood in Bangladesh, hurricane Mitch in Central America in 1998, and the December 2005 tsunami in Asia, among other events, have drawn greater attention to the issue of disaster risk management.

The industry experience also tends to suggest that inadequate attention to risk management is not confined to a particular type of organization such as unregulated, primarily credit-only MFIs, or small-scale unit banks such as rural banks. While regulated microfinance commercial banks appear to pay a great deal of attention to systematic risk management, the evidence (for example, the eventual liquidation of Bank Dagang Bali) suggests that even such banks and nonbank financial institutions can suffer from significant inadequacies.

While inadequacies continue to exist, an increasing number of MFIs are making efforts to improve some of their risk management practices. For example, as compared with about 5 years ago, more MFIs now seem to have comprehensive credit manuals, follow more aggressive loan loss provisioning policies, and carry out frequent detailed analysis of their loan portfolios. An increasing number of MFIs have also come to realize that the internal audit department plays a preeminent role in risk management.

As Clark (2006, p. 110) noted in respect of ACLEDA, as it "grew from a staff of 27 to a staff of over 1,000, and from 5 branches to 27, internal audit became a prominent feature on

[6] In addition to organizational factors, the cognitive biases of decision makers explain this lack of emphasis. As noted by Watkins and Bazerman (2003, p. 76), a few of the most common cognitive biases include: (i) the tendency to harbor illusions that things are better than they really are, (ii) assuming that potential problems will not actually materialize or that their consequences will not be severe enough to merit preventive measures, and (iii) giving weight to evidence that supports our preconceptions and discounting evidence that calls those preconceptions into question. And these biases are self-serving.

the organizational chart. The technology and the computerized MIS (management information system) made pattern recognition possible within a short period of time. Financial audit, IT (information technology) audit and operations audit are on the ACLEDA internal audit department's menu. Reporting directly to the Audit and Risk Committee of the Board, the internal audit department works together with each department—human resources, credit management, marketing, finance, treasury, the IT department, and each branch in ACLEDA's network."

Some regulated medium- and large-scale MFIs such as the SKS Microfinance in India have integrated risk management into their institutional culture more effectively than most small-scale regulated MFIs. Also, a small core group of medium- and large-scale NGO-MFIs —consisting of flagships, such as the BRAC, ASA, and Buro-Tangail in Bangladesh, among others—has made concerted efforts to improve risk management. However, the lack of research on these efforts and outcomes makes it difficult to discuss the recent improvements in detail. It appears that risk management has improved in MFIs alongside strategic technical or investment links with strong networks or for-profit investors.

Whether the industry has significantly progressed in addressing risks associated with agricultural microfinance is an important question. In fact, attempting to answer this question is more difficult than assessing the general progress in microfinance risk management for two main reasons. First, very little reliable published data are available on the agricultural portfolios of MFIs. Second, very little research work has been carried out on risk management practices used by MFIs in respect of agricultural microfinance. The CGAP (2005b) research on agricultural microfinance activities carried out by few MFIs, however, has produced encouraging results.

The ACLEDA Bank, learning from its delinquency crisis of 2001, has made significant improvements to managing risks associated with agricultural microfinance and other operations. Although the bubble burst in 2001 with respect to its balloon loans for agriculture, it continued this service but instead adopted a policy to limit the balloon loans to 10% of the branch portfolio unless the branch

history proves superior portfolio quality (Clark 2006, p. 208).[7] Some MFIs continue to operate successfully despite a heavy concentration of their portfolio in agriculture. For example, EMT (now AMRET) in Cambodia had over 70% of its total portfolio in agriculture at the end of 2002. EMT's PAR over 60 days was only 0.1%. This agricultural concentration at EMT continues. According to the latest rating report by M-Cril, AMRET not only had 70% of its total portfolio of $9.2 million in agriculture, but also had 35% of its portfolio in crop loans at the end of June 2005. The PAR over 60 days as of the same date was 0.06%. By the end of 2005,[8] AMRET's total loan portfolio was about $11 million, PAR over 30 days 0.07%, write-off ratio 0.03%, and risk coverage ratio 773.00%, according to the data reported in the MIX Market website (www.mixmarket.org).

Some General Principles on Microfinance Risk Management

Based on an examination of current trends in microfinance risk management, one general observation stands out: Most MFIs pay more attention to crisis management than to risk management, and the attention to risk management is highly uneven across and within MFIs. Given this, MFIs must make concerted efforts to put in place comprehensive risk management systems appropriate to their institutions. Although institutional variations make general recommendations less relevant, it is possible to outline a number of general principles that MFIs need to follow in developing risk management systems and procedures.

- Risk management must be an integral part of the institutional culture, whether an institution is an NGO, a nonbank financial institution, a specialized MFI, or a cooperative.[9] Otherwise, many

[7] In El Salvador, Banco ProCredit has successfully increased its exposure to agricultural loans in recent years under a systematic risk management system (Buchenau and Meyer 2007).

[8] AMRET is the second largest MFI in Cambodia and had 106,926 active borrowers, and 28 branches (district offices), at the end of June 2005. A remarkable characteristic of AMRET is its low average outstanding loan per client ($87).

[9] This may sound naïve, or, in a sense, redundant given that modern financial intermediaries are essentially in the risk management business. However, we need to bear in mind that most MFIs do not regard their operations in this manner. Hence, the need to emphasize this as a guiding principle.

Box 3. Embedded risk management at Banco ProCredit (Ecuador)

Sociedad Financiera Ecuatorial was a finance company providing microfinance services in Ecuador. In September 2004, it was transformed into a commercial bank, Banco ProCredit (BP), which is a member of the international group ProCredit Holdings.

BP, in accordance with the directives of the Superintendency of Banks and Insurance, implemented an integrated risk management plan to support the management and the board of directors in the analysis, monitoring, and control of risk to which the business is exposed. Risk management has been embedded into the institutional culture of BP which focuses on ensuring effective integrated management of the types of risk associated with a financial institution specializing in serving micro- and small enterprises. Integrated risk management at the BP involves all employees of the bank who base their decisions and actions on recommendations from the Integrated Risk Management Committee (IRMC) which, in turn, takes into account suggestions made by the various departments.

In 2004, the bank's board of directors approved a risk management manual, which sets forth the policies, procedures, and methodologies used to identify, measure, control, and monitor risks. IRMC, appointed by the board of directors, develops and proposes integrated risk management strategies, policies, and procedures and determines the bank's risk profile and level of exposure to the various types of risk.

BP also has an Integrated Risk Management Department (IRMD) and an Integrated Risk Management Unit (IRMU). These are responsible for the operational aspects of risk management and, among other things, analyze all risks identified, monitor compliance, recommend appropriate provisioning levels, and make recommendations to the management regarding use of resources to minimize risk exposure.

Source: Banco ProCredit-Ecuador, 2005.

employees would be prone to take risk management lightly. It is important to inculcate the realization that it would be far wiser and more prudent to manage risk than to cope with risk, and that risk management is a collective and continuous activity which engages everyone in an organization in varying degrees (Box 3). However, risk management should essentially be a top-down activity: it should begin at the top of the organization and systematically go down to embrace all other layers of the organization.

■ The one-size-fits-all approach is inappropriate for microfinance risk management. In the microfinance industry, many MFIs tend to adopt measures that other more successful or larger MFIs have

adopted. While such strategies seem to have partly worked in developing or introducing new products and services and even some delivery models, the same strategy cannot be effectively adopted for overall risk management primarily because of the institution specificity of the overall risk profiles. Hence, each institution must develop tailor-made risk management systems and procedures appropriate to its own risk profile, organizational type, the applicable legal and supervisory requirements, scope, scale, and complexity of the products and services, service delivery modalities used by the institution, and the liability structure, among other things.

- A comprehensive approach that covers all types of risk to which the institution is exposed, or likely to be exposed, is indispensable. The system, at a minimum, has to be sufficiently forward-looking to accommodate institutional growth and social mission objectives for the short to medium term. The main rationale for a comprehensive approach stems from the fact that most risks are interrelated. For example, the liquidity risk of an MFI could easily lead to credit risk if borrowers begin to lose confidence in the MFI's ability to serve their demand for loans continuously. Similarly, credit risk may aggravate liquidity risk.

- The chief executives and board of directors of MFIs must explicitly recognize the potential impact of cognitive biases and organizational pressures on risks. These two factors could easily lead to an executive over optimism in their organizations. Such over optimism could, in turn, result in the underestimation of potential risk, particularly of new initiatives and growth strategies.[10]

[10] Lovallo and Khaneman (2003) present an excellent analysis of how cognitive biases and organizational pressures lead to executives' over-optimism. They point out that most people are highly optimistic most of the time and show a typical tendency to take credit for positive outcomes and to attribute negative outcomes to external factors, irrespective of their true cause. They also cite competitor neglect as another common cognitive bias and point out that "In making forecasts, executives tend to focus on their own company's capabilities and plans and are thus prone to neglect the potential abilities and actions of rivals" (p. 60). Bazerman and Chugh (2006, p. 90) point out that cognitive blinders could "prevent a person from seeing, seeking, using, or sharing highly relevant, easily accessible, and readily perceivable information during the decision-making process." They describe this as "the phenomenon of bounded awareness."

- Risk management should not be seen as something that must be put in place merely to meet the regulatory and supervisory requirements of financial authorities. Risk management needs to be seen more as a critically important way to ensure financial soundness, operational efficiency, growth, and stability of the institution to achieve its mission. Thus, those MFIs that are not subject to prudential regulation must also have an appropriate risk management system and procedures.

- It is important to recognize that risk management is not the management of financial ratios based on balance sheets and income statements. While such ratios play an important role in an effective risk management system, a comprehensive system goes well beyond those.

- MFIs need to consider risk management not as an activity to which attention needs to be paid periodically, but as a continuing process to which unbroken and unwavering attention is required as an integral part of their daily operations.

- The primary responsibility for putting in place an effective risk management system and procedures must rest with the board of directors and the chief executive officer of an MFI; the board and the chief executive, in addition to others, must also share implementation responsibilities. The direct link between governance and risk management must also be recognized.

- Some elements of risk management in microfinance must go well beyond one's own institutional boundaries and must include—to the extent possible—measures that would help the MFI clients to manage their risks more effectively. This is one of the fundamental differences between risk management in conventional financial institutions and MFIs. For some MFIs, such measures may include financial literacy programs and basic health education for the clients. Three factors justify such wider measures: (i) poor households suffer from multiple disadvantages which prevent them from fully utilizing

their access to financial services, (ii) most MFIs provide loans without collateral and run greater risk if their client households' economic activities do not perform as expected, and (iii) MFIs have a social mission.

- Risk management practices should be market oriented. For example, some MFIs have attempted to manage their credit and competition risks through a memorandum of understanding with their potential competitors, while others (NWTF is an example) ask their borrowers/members for a commitment not to shift to the competitors. These are not market-oriented practices.

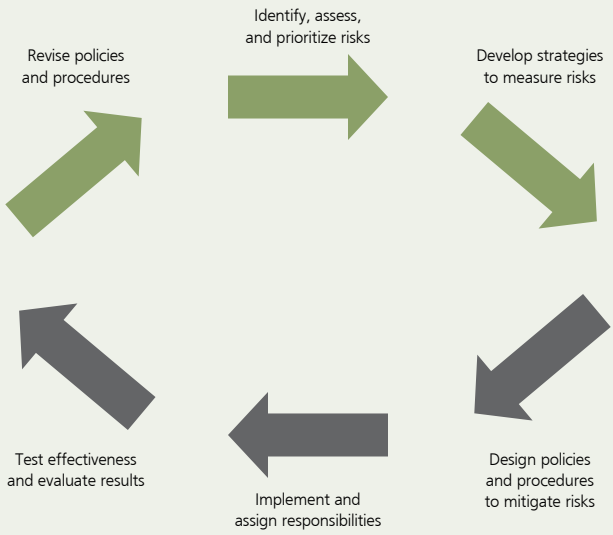
- A comprehensive risk management system must include a "feedback loop" (Figure 1) from the highest to the lowest levels of the MFI, often including the board of directors, among others (GTZ 2000, p. 36; Campion 2000, p. 8).

Managing Agricultural Microfinance Risks

As argued earlier, MFIs involved or planning to increase their involvement in agricultural microfinance must pay much greater attention to risk management than others. Some recent developments in many rural economies have probably increased further the risk in agricultural operations. Dismantling guaranteed prices for many farm products and liberalizing trade have generally led to declines in farm output prices. In many countries, the cost of production in small-holder agriculture may have increased, thus reducing the profit margins from farming. Agricultural production in many developing countries are also moving more toward high-value crops for which scale economies are more important to take advantage of the new markets and marketing arrangements. In terms of responding to this increased demand for high-value crops, poor households often find themselves at a relatively disadvantaged position vis-à-vis the nonpoor farm households.

However, at the same time, other factors may have had a positive impact on the prospects of agricultural microfinance. For

Figure 1. Risk management feedback loop



Source: Reproduced from (GTZ 2000, p. 36).

example, most rural households today are pluriactive and have nonfarm sources of income because of the significant economic transformation that has taken place in many rural economies. According to the Rural Asia study of ADB (2000), the rural nonfarm economy accounts for 20–40% of total rural employment, and 25–50% of total rural income in Asia. In East Laguna in the Philippines, the share of nonfarm income in total household income had increased from 13% to 64%, according to some studies (Rigg 2006, p. 183). A similar picture of rural economic diversification and a progressive shift from farm to nonfarm livelihoods is evident in the Central Plains of Thailand (Rigg 2006, p. 183).

A survey of rural households in 240 villages across 16 states in India showed that during the period 1971–1999, the share of nonfarm incomes in total rural incomes rose from 19% to 48% (Foster and Rosenzweig 2004, pp. 517–518). In many countries, many poor farm households are essentially part-time rather than

full-time farmers. These households are less vulnerable to external shocks than those depending exclusively on agriculture and pose significantly lower levels of risk to the lenders. In this context, it may be possible to argue that although the agricultural operations of poor households may have become riskier in recent times, the risk in agricultural microfinance may have declined because of the significant diversification of the sources of income of many rural households engaged in agriculture, among other things. But risks have not disappeared from agricultural microfinance.

Although agricultural microfinance is riskier and more difficult than nonagricultural microfinance, a small number of MFIs seem to have been engaged in agricultural microfinance with relatively encouraging results. Their collective as well as individual experiences make it possible to suggest some general principles and strategies from a risk management point of view, which MFIs would do well to consider when planning to either venture into agricultural microfinance or merely increase their current involvement in agricultural financing.

- It is difficult, if not impossible, for an individual MFI to change the external environment in which the agricultural economy operates. Hence, the most fundamental principle that MFIs must follow is to take this external environment as, more or less, given when planning for entry into agricultural microfinance. This implies that MFIs must look primarily into their internal capacity to handle agricultural microfinance.[11] MFIs with weak internal systems and overall organizational capacity should not consider agricultural microfinance until such internal capacity is built.

- Adopting specific limits on the share of agricultural loans at institutional and branch levels are important. Over time, branches should be allowed to gradually increase their agricultural loans to this limit based on the quality of the portfolio and the adequacy of needed human resources. ACLEDA Bank adopted this method with

[11] The Banco ProCredit El Salvador has adopted this principle to expand its urban operations into rural areas (Buchenau and Meyer 2007).

impressive results and has been able to expand its involvement in agricultural microfinance in recent years. Successful MFIs do not lend only to agriculture and most set a limit to the share of their agricultural portfolio (Gonzalez-Vega 2003, p. 60).

■ Increasing the degree of diversity of agricultural lending can be accomplished, for one, by lending to a wide variety of farming households, including clients engaged in more than one crop or livestock activity (CGAP 2005a). Another way would be to finance the farming operations of households with diverse sources of income. This is one strategy that the Caja Los Andes (now Banco Los Andes ProCredit) in Bolivia adopted. Efforts to achieve geographical diversification of agricultural lending to reduce exposure to possible covariant risks are essential.

■ Human resource capabilities required to carry out agricultural microfinance need to be built. Credit officers need to be equipped with special training in agricultural credit appraisal and management before embarking on a program to expand agricultural financing. MFIs are advised not to assign responsibility for agricultural financing to new staff or staff with inadequate field experience and knowledge of farming operations.[12] As the experience of many farm credit institutions bear out, collection difficulties have arisen because they had adopted unrealistic assumptions in credit analysis to begin with and did not make risk-based adjustments in the forecasts of crop yields and prices. In addition to cognitive biases in decision making, such deficient practices reflect the lack of knowledge of farming conditions and inadequate or inappropriate training. Successful agricultural lending requires credit analysts to take into account worst-case scenarios and forecasts about future conditions likely to affect the production and price outcomes, among other things, rather than relying on unrealistic "normal year" assumptions (Von-

[12] The use of ill-prepared and newly hired staff to carry out field operations has been a major cause of delinquency problems at many MFIs. This was the root cause of the delinquency crisis of NWTF during 1992–1994. The same factor was responsible, to a large extent, for the serious delinquency crisis (2001) in the ACLEDA Bank. In 2000, ACLEDA hired 182 new staff, most of them credit officers. An additional 320 new staff joined it in 2001. In 2001, for each staff member who had worked for more than a year for ACLEDA, there were two who had worked less than 1 year (Clark 2006, p. 206).

Pischke 2003, 1991, 1989).[13] Caja Los Andes employs loan officers with thorough knowledge of agricultural inputs, risks, and business models and local culture. Loan officers are thoroughly trained in lending methodology before they undergo on-the-job training under the close supervision of a branch manager for at least 1 year. Calpiá in El Salvador (now Banco ProCredit) has also adopted a similar approach to human resource development for agricultural finance (Navajas and Gonzales-Vega 2003).

- MFIs need to make agricultural credit decisions including decisions on loan sizes, based on the household debt capacity[14] rather than the expected surpluses of the loan-financed agricultural investment. Caja Los Andes in Bolivia (CGAP 2005a) and Banco ProCredit El Salvador, for example, use this practice. The entire household's ability and willingness to repay is assessed and loan amounts and repayment schedules are determined accordingly, based on the household cash flow that incorporates all revenue and expenses of the entire household as a single unit. In analyzing household debt capacity, particular attention needs to be paid to possible "senior claims."[15] Neglect of this may lead to an overestimation of the ability to repay a loan. And overloading a borrower with debt is one way to ensure poor loan collection performance.

- It is important to tailor loan disbursements, recovery of loan installments, and loan maturities to suit the borrower–household's corresponding crop cycle and cash-flow pattern rather than to the institution's own convenience. This would mean that an MFI may offer different disbursement and recovery plans. Most MFIs with a relatively successful track record in agricultural microfinance adopt

[13] When loan officers at Banco ProCredit El Salvador calculate a farmer's crop productivity, they take the weighted average of i) the higher yield ever reported, ii) the most recent yield, and iii) the worst yield recorded. And the formula assigns the first two variables a score of 1 each, and the last variable a score of 2. The sum is then divided by 4. Prices are imputed as the minimum expected market price (Buchenau and Meyer 2007, p. 16).

[14] Von-Pischke (1991, p. ix) defines debt capacity as "sustainable borrowing power." It is created by a loan applicant's estimated future debt service capacity and is equal to the amount of credit this capacity can command in financial markets.

[15] According to Von-Pischke (1989, p. 136) "senior claims are financial obligations that the borrower regards as more important than repayment of the prospective loan. Examples are purchases of food and fuel, taxes, school fees, expenditures for emergencies, and important social ceremonies."

such flexible disbursement and recovery plans. Depending on the client's requirements, some MFIs offer two or three periodic disbursements with periodic interest payments and one balloon payment of the principal, while some others offer irregular disbursements and repayment facilities tailored to the cash-flow pattern of the household (CGAP 2005c, p. 2). If MFIs have loans for agriculture with balloon repayment facility, they need to pay more attention to those loans even if borrowers pay interest on a regular basis. This is an important lesson that ACLEDA Bank learned from its 2001 delinquency crisis.[16] However, regular repayment schedules are possible even with agricultural microcredit when households have other cash-flow sources.

■ If an MFI is planning to engage in agricultural microfinance in an area which had been polluted by failed subsidized programs in the past, putting in place a comprehensive strategy to develop a credit culture that respects loan repayment obligations is absolutely essential. A hard stance on repayments—as reflected in a established reputation for not tolerating delinquency—can have a profound impact on perceptions and habits that many farm households may have on loan repayment, thereby reducing the credit risk. Calpiá in El Salvador and Banco Los Andes ProCredit (formerly Caja Los Andes) in Bolivia adopted such strategies.

■ It would be useful to establish and rely on meaningful partnerships and alliances with organizations involved in the value chain relevant to the farming activities that would be financed. Such partnerships and alliances will reduce information asymmetries and transaction costs and improve the timeliness of service provision, thus reducing overall risk associated with agricultural lending.

■ Agricultural lending must be combined with deposit and other financial services as much as possible. Deposit services enable a lender to gather valuable information about the farm households to which it extends loans while deposits help the households build liquidity

[16] In Cambodia, many other microcredit institutions also offer balloon loans.

that can be used for lean times. If MFIs are able to link lending and deposit services to incoming remittance flows to the households, their ability to manage agricultural microfinance risk will further improve.

- It is important to rely on weather-based agricultural insurance as much as possible. Basix in India has been attempting to do this. And India's ICICI Bank is also another institution which makes an effort to use this modality to reduce risks inherent in lending to agriculture. The Centenary Rural Development Bank in Uganda offers weather insurance[17] to its clients to hedge against correlated risks from natural disasters (Skees 2003, p. 25). However, given that microinsurance itself is a risky business and any insurer unable to reach large numbers of clients places itself in a precarious position, MFIs should consider playing the role of an agent of corporate insurers in providing this kind of insurance (Churchill 2006).

- Providing loans for building assets could reduce inherent risks in agricultural microfinance. Examples are loans extended to install rooftop water harvesting mechanisms or construct wells for irrigation. Some MFIs in South Asia provide such loans. While such loans themselves involve risks for the lender, they also can potentially lower lender's risk in the medium to long term.

Conclusions

The microfinance industry has experienced dramatic growth during the last two decades, in general, and the last decade, in particular. The next decade will most probably see a continuation of this growth. Such growth is not only sought by many MFIs but also needed in most countries because the unserved and underserved markets continue to remain large. However, pursuit of growth—in terms of breadth, depth, and scope of outreach—does not mean that MFIs

[17] Weather insurance is far superior to traditional crop insurance schemes for several reasons: (i) weather insurance does not suffer from the usual moral hazard and adverse selection and high-administration cost problems of traditional crop insurance; (ii) the insurer does not have to check claims because the sole trigger of payouts is weather data; (iii) weather insurance schemes can eliminate room for corruption that is rampant in most crop insurance schemes in developing countries; (iv) payouts to policyholders can be made promptly because information on weather conditions is, or can be made, readily available; (v) policyholders are not required to file the claims (ADB 2004, p. 7).

can ignore risk management. In contrast, risk management has become more important now than it was 10 years ago, and its importance will continue to grow. Other factors such as the increasing competition in markets and the integration of new technology into the industry further reinforce the importance of microfinance risk management. The growing interest of MFIs in agricultural microfinance further reinforces the importance of risk management in MFIs.

However, it is disturbing to note that systematic risk management is still not as widespread as it should be. The increased emphasis on microfinance risk management at the level of international promoters of microfinance has not yet had its full impact on most institutions at the retail level.

Many MFIs do not seem to pay adequate attention to systematic risk management. Many continue to seek growth without much attention to attendant risks. Even basic credit risk management, upon which the industry's growth prospects have been built historically, is neglected by many MFIs. The tendency to attribute institutional setbacks to external factors appears to continue. Many small- and medium-scale MFIs tend to focus their resources on crisis management partly on the assumption that it is the same as risk management.

The growing interests of many MFIs in agricultural microfinance must also be seen in this context to understand the real issues involved in agriculture microfinance and whether MFIs should be concerned more about their internal structures and capabilities rather than the widely discussed, and often cited, pervasive risks in agriculture and their ramifications for MFIs' pursuit of growth in agricultural portfolios.

MFIs should recognize the inherent risks in agriculture. However, if they build their institutional capacity to effectively deal with risks generally associated with financial intermediation, this would significantly increase their prospects for success in agricultural microfinance. Thus, risk management should be high on the agenda of senior management.

While many cases of risk management failures across countries and different types of MFIs exist, many MFIs seem to ignore the possibility that they might be confronted with similar difficulties.

MFIs must abandon this attitude of complacency or indifference, if they are to progress. In the meantime, given the paucity of high-quality data and information on MFI risk management systems and practices, promoting research programs in risk management and in agricultural microfinance would be immensely valuable. Such research could significantly contribute to advancing the discussions on risk management in microfinance, including agricultural microfinance and generate valuable insights for MFIs to improve their risk management systems and exposure to agricultural financing.

It is also necessary to recognize the value of learning from past mistakes in the industry. This is particularly important because such learning does not appear to be currently taking place systematically. To facilitate such learning, both regulators and other industry stakeholders, including MFIs themselves, should seriously consider measures to develop a centralized risk information facility while simultaneously complying with the confidentiality of information between competing institutions.

No amount of sophisticated and modern technical tools and analysis will be able to help achieve effective risk management in respect of nonagricultural or agricultural microfinance if risk management is not embedded into the institutional culture and its value is not shared by all employees. This remains one of the most challenging tasks of risk management that an MFI should accomplish.

To help address this issue, we need to bring into the discussion the institutional cultural issues and issues related to cognitive biases in executive decision-making behavior, especially given the current focus on the introduction of sophisticated systems and technical tools of risk management.

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About *Managing Microfinance Risks*

Risk is an integral part of financial intermediation. Hence, risk management must be at the heart of finance. However, systematic risk management is still not as widespread as it should be in the microfinance industry. Except for a few flagship microfinance institutions (MFIs), which constitute the industry's core, risk management is often overlooked by most MFIs, who seek growth.

To serve a majority of the poor and low-income households on a sustainable basis, MFIs, including those interested in agricultural microfinance, must build their internal structures and capabilities for risk management. However, it is important to recognize that modern technical tools and analysis cannot help achieve effective risk management in respect of nonagricultural or agricultural microfinance if it is not embedded in the institutional culture and valued by everyone. For most MFIs, achieving this goal remains one of the most challenging tasks in risk management.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries substantially reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two thirds of the world's poor. Nearly 1.7 billion people in the region live on $2 or less a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance. In 2007, it approved $10.1 billion of loans, $673 million of grant projects, and technical assistance amounting to $243 million.

Asian Development Bank
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
www.adb.org/microfinance
Publication Stock No. BBK161208

Printed in the Philippines