Overcoming Obstacles to Agricultural Microfinance: Looking at Broader Issues

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ABSTRACT

This paper presents a general picture of the difficulties in developing a sustainable lending service geared toward smallholder agriculture. Drawing on the experiences of the Philippines and other countries, it traces the rethinking of the agricultural credit policy following the collapse of subsidized agricultural credit programs, and the subsequent rise of microfinance, as pioneered by nongovernmental organizations. Acknowledging that the main challenge is not about the straightforward application of microfinance technologies to agriculture, the paper discusses how crafting an approach to sustainable agriculture microfinance is influenced by myriad of issues.

The paper concludes that overcoming the barriers to agricultural microfinance goes beyond the simple provision of credit, extends outside agriculture, and shuns a "one size fits all" approach. To be able to deal with the complexity and risks in agriculture, rural lenders would have to innovate on their product design, lending technologies and risk management strategies; improve their information base; and strive to have access to market-based risk management products. Moreover, policymakers have to recognize and understand the peculiarities of the rural and agriculture sector, namely: information asymmetry, geographic dispersion, heterogeneity of the population, covariant risks, insecure property rights, and the absence of insurance markets and risk-reducing institutions.

INTRODUCTION

This paper provides an overview of some of the main obstacles to agricultural microfinance and draws attention to certain issues that have to be considered in crafting a strategy to overcome perceived obstacles. At the onset, it is good to delimit the discussion into the financing problem faced by smallholder agriculture, more particularly rural farming households. This is because there is relatively very limited formal lending to smallholder agriculture while commercial agriculture is able to tap commercial loans from both private commercial banks and government banks.

The rise of microfinance in the last 20 years has unlocked the puzzle of how to profitably lend to the poor and the micro-enterprises in densely populated urban areas in East Asia and Southeast Asia. Similar early experimentations with providing micro-loans to Latin American micro-enterprises, as pioneered by international non-government organizations, have metamorphosed into formal lending by local non-government organizations (NGOs) and banks to thousands upon thousands of urban micro-entrepreneurs.

Among such banks, as listed by Christen and Pearce (2005), are: specialized banks such as Mibanco in Peru and K-REP Bank in Kenya, many of them with NGO origins and strong social mission; the mainstream banks for which microfinance is one of several lines of business, such as Banco Caja Social in Colombia and Banco de Pichincha in Ecuador; and the state-owned development banks for which microfinance is

a public mandate, like Bank Rakyat Indonesia and Banco do Nordeste Brazil. The Asian region has some of the more successful micro-lenders such as the Association for Social Advancement (ASA) and the Grameen Bank in Bangladesh; the Thaneakea Phum in Cambodia; the PT Ukabima in Indonesia; the Center for Agriculture and Rural Development (CARD) Bank, CARD NGO, Alalay sa Kaunlaran, Inc. (ASKI), Taytay sa Kauswagan (TSKI), and National Women for Tomorrow Foundation (NWTF) in the Philippines; and many others which have implemented successful urban-based microfinance.

The challenge, however, is how to harness microfinance lending technologies to finance smallholder agriculture.

Put another way, what lessons in microfinance can be utilized to develop a sustainable lending service catering to smallholder agriculture? [1] What policy, regulatory or institutional issues could inform attempts to develop agricultural microfinance as a strategy for providing sustainable finance services to smallholder agriculture? Is our understanding of the risks and the particular conditions inherent in agriculture adequate to inform an intelligent discourse on microfinance as (possibly) applied to agriculture? Can microfinance, therefore, address the lack of accessibility of agriculture-based households to credit and other financial products? The difficult task of answering these questions will take the concerted effort of policymakers, microfinance practitioners, and regulators.

These issues have been tackled by various works, among them, a seminal paper by Christen and Pearce (2005) on managing risks and designing products for agricultural microfinance, various papers presented at a 2003 conference on rural finance in Washington, D.C., a recent review of rural finance in the Philippines by Llanto (2005), and the reports in the MicroBanking Bulletin. This paper does not pretend to present solutions, much less an in-depth analysis of those issues and lessons. It has the more modest objective of presenting an overview of those issues, pointing out potential pathways for crafting a strategy or an approach to sustainable agricultural microfinance, and hopefully sparking a vigorous discussion that would propel the progress of agricultural microfinance.

PAST FINANCING ATTEMPTS THROUGH SUBSIDIZED AGRICULTURAL CREDIT

In a study of rural financial markets conducted for the Asian Development Bank, Meyer and Nagarajan (2003) pointed out the major contrast between, on the one hand, the rapid transformation of the rural economy, made possible by exceptional technological change and an economic revolution that raised agricultural productivity and, on the other, the stagnation in rural financial markets. Government investments in irrigation, roads and power have helped to create markets for the expanding farm production.

The rise in agricultural productivity has raised farm and non-farm income and allowed the region to largely escape the problem of widespread hunger. Summarizing the findings of Rosegrant and Hazell (1999) and other researchers, Meyer and Nagarajan (2003) pointed out the significant rural transformation in Asia in the past three decades, identifying technological change, improved rural infrastructure, and policies that did not discriminate against agriculture as the factors that paved the way for a productivity revolution, thereby significantly increasing agricultural output and efficiency. On the other hand, the economies that promoted massive state intervention, had weak infrastructure, and pursued more inward- than outward-looking policies, were least successful in achieving an agricultural revolution to stimulate a broader economic transformation.

The rapid structural transformation has been marked by the decline in the relative size of agriculture in Asian countries. The share of agriculture value added in total gross domestic product in the Republic of Korea fell from 34 percent in 1966 to about 6.5 percent in 1995 (Rosegrant and Hazell 1999).

In the same period, agriculture's share fell dramatically from 51 to 17 percent in Indonesia, from 33 to 11 percent in Thailand, and from 28 to 13 percent in Malaysia. In slower-growing countries, the declines were from 45 to 28 percent in India, 37 to 26 percent in Pakistan, and 26 to 22 percent in the Philippines. There has also been a significant decline in agricultural labor relative to the total labor

[1] From hereon, the terms "agriculture" and "smallholder agriculture" are used interchangeably.

force. The agricultural labor share in the Republic of Korea fell from 54 percent in 1966 to 14 percent in 1995, and that in Malaysia from 58 to 23 percent in the same period. In 1995, the agricultural labor share in Indonesia, Pakistan, the Philippines, and Sri Lanka was relatively high at approximately 40 to 50 percent. It was 60 to 70 percent in Bangladesh, People's Republic of China, India, and Thailand, and over 70 percent in Myanmar and Nepal (Meyer and Nagarajan 2003).

A significant phenomenon of the transformation of the rural economy is the rise in non-farm activities. Rosegrant and Hazell (1999) observed that rural non-farm activities in Asia accounted for 40 to 60 percent of total national employment and 20 to 50 percent of total rural employment. Survey data indicate the large contribution of non-farm activities, e.g., food processing, and weaving, to rural household income.

Rural landless or near-landless households earn wage income from non-farm activities during off-peak farm seasons. Rural structural transformation has led to the commercialization of agriculture as economies, which took advantage of the Green Revolution technologies and provided the enabling environment for markets to function, including adopting policies that did not discriminate against agriculture, realized marketable surplus directed to both the rural and urban economy. A key insight is that the commercialization of agriculture and the transformation of the economy as a whole happened in market economies with varying degrees of efficiency. Some economies, however, are experiencing difficulties in creating markets and supportive institutions, thus constraining agriculture's contribution to economic growth (Meyer and Nagarajan 2003).

On the other hand, the same study of Meyer and Nagarajan characterized Asian financial markets as "struggling". These authors said that the "undeniable conclusion of this study" is that the rural financial markets in Asia are "ill-prepared for the twenty-first century". The authors blamed heavy government intervention in the rural financial markets through subsidized credit programs and the use of specialized government development finance institutions to finance the policy goals of governments, e.g., the support to Green Revolution, as factors that weakened rural financial systems. The motivation for such intervention was the desire of governments and donors for farmers to adopt Green Revolution technologies, among others.

The common belief then was that unless small farmers had access to funds at "more reasonable interest rates than available from informal sources", the opportunities for productivity brought about by Green Revolution technologies would remain untapped. These views provided the justification to develop targeted and subsidized agricultural credit programs along with other interventions affecting input and output markets. Thus, countries created subsidized credit programs to induce the rapid adoption of the new technology (e.g., seeds, fertilizer and chemicals for production) and generally to address the lack of access to formal credit by small borrowers.

The Bimas project in Indonesia and the Masagana 99 in the Philippines were examples of this strategy. Through these projects, the Indonesian and Philippine governments, respectively, provided highly subsidized loans to farmers who agreed to adopt the new technologies designed to increase farm productivity. In Latin America throughout the decade of the 1980s and until they liberalized their financial sectors in the 1990s, Guatemala, Peru and Bolivia implemented subsidized credit programs, targeting specific sectors of their respective economies in an attempt to provide these sectors access to credit. They used government banks like agriculture development banks to provide credit at highly subsidized lending rates, often using government resources as the source of loan funds (Llanto 1999).

A great number of subsidized agricultural credit programs have collapsed in both Asia and Latin America. In the case of the three Latin American countries mentioned above, the government banks that were used to channel subsidized credit to target clientele were unable to sustain financial losses brought about by the non-repayment of loans and had to close down. The infusion of artificially cheap credit weakened banking systems, imposed huge fiscal burdens on governments, and eroded the financial discipline of rural borrowers. Soon, the sheer weight of unpaid loans and the fiscal costs of subsidized loans made governments rethink their rural credit policies and strategies. Subsidized credit programs went bust when funds stopped

flowing as governments felt the enormous strain of financing those unsustainable credit programs. Thus, a serious rethinking of agricultural credit policy followed in many countries.

In the wake of governments' costly adventure in the wonderland of directed (targeted) and subsidized credit programs is a landscape littered with the remnants of a weakened rural financial system and small rural borrowers who continue to depend on informal credit for the liquidity to finance consumption and investment requirements. Governments expecting to wean small borrowers away from moneylenders found that their basic instrument, that is, credit subsidy, was not only a costly intervention but also an ineffectual tool. Meyer and Nagarajan observed that the existence of subsidized credit institutions discouraged the emergence of market-based institutions in rural areas and contributed to the disparity between households and firms that gained access to formal finance and those that were denied access.

At the height of Masagana 99 in the Philippines, there were more than 1,000 rural banks, many of which participated in the subsidized credit programs but this peak number eventually tapered to only about 600. A large number had to be closed down or rehabilitated while those that survived had to be rehabilitated or strengthened through an infusion of new money, a restructuring of their debt with the government, and painstaking capacity-building efforts.

Multilateral donors, which used to be the biggest source of agricultural finance, have reduced their support for agricultural credit financing. Christen and Pearce (2005) reported that agricultural loans accounted for 31% of World Bank lending in 1979-81, but by 2000-01 those loans had fallen to less than 10%. This drop was partly due to a disappointment with the unsatisfactory performance of large agricultural finance projects and partly to the fact that World Bank rural finance had been increasingly extended to other areas through microfinance projects or as part of community development, infrastructure, or rural development projects. Lending by other multilateral development banks and bilateral aid agencies mirrored this trend.

At the Inter-American Development Bank, total lending to agricultural credit projects under the category "global agricultural credit" fell from US$1.6 billion between 1986 and 1990 to no lending at all in the period 1991-1995. Notably, multilateral funding shifted from agricultural credit projects that addressed narrow agricultural development objectives to projects involving microfinance, more integrated community development, and infrastructure or rural development, thereby reflecting the grave concern of governments and donors alike about the persistence of the problem of global poverty. Thus, when donors and governments started to consider a more comprehensive strategy of nudging forward rural development, agricultural credit projects had to give way to community-wide development projects that were seen as providing a more suitable platform for poverty reduction. The achievement of the Millennium Development Goals became a key component of the poverty reduction strategy, and donor funding followed suit.

It seems that the stagnation of rural financial markets may partly be because of distortions brought about by government intervention in the credit markets. It is equally noted that notwithstanding the heavy government intervention in rural financial markets, many rural borrowers continue to rely on informal lenders such as traders, input suppliers, professional moneylenders and even self-finance. Understandably, traditional banks have shied away from agriculture because the risks in agriculture—arising from climatic conditions, pest infestation, plant diseases, calamities like flooding and drought brought on by both natural and man-made causes—have not been properly understood and managed. Thus, informal lenders with a better understanding and information about the rural and agricultural environment continued to hold sway over small borrowers. Market and price risks that are exacerbated by information asymmetry and poor information infrastructure have also deterred formal lending. Subsidized agricultural credit programs were thought to be the solution but their loan repayment performance turned out to be dismal. Moreover, they were costly to maintain and proved to be unsustainable, forcing governments, which also had to address the requirements of other sectors of the economy, to rethink their rural credit policy and programs. While government economic policies may be biased against agriculture and may cause significant harm to agricultural producers, international market conditions are also a source of risks for those producers. Christen and Pearce

(2005) cited the recent entry of Vietnam into the coffee industry as an example of the impact of changing international market conditions on a country's credit markets. The success of its coffee producers came at the expense of higher cost coffee producers and banks in Latin America. Commercial banks that specialized in lending to small coffee producers throughout Central America carried the burden of millions of dollars of bad debt in their portfolios. Whoever said that agricultural finance was easy?

THE RISE OF MICROFINANCE

While governments were devising new strategies to provide financing to smallholder agriculture and address the perennial problem of lack of accessibility of formal credit, non- governmental organizations (NGOs) were busy providing micro-loans to poor women and micro-enterprises that have been ignored by the banking system. NGOs in Bangladesh and Latin America provided micro-loans to small borrowers and recovered the loans, with profits to show. In Latin America, NGOs and banks using their own micro-lending techniques led the way in providing micro-loans to thousands upon thousands of small borrowers. Some of these were MIBANCO in Peru, Banco Solidario in Bolivia and GENESIS Empresarial in Guatemala. In Asia, the Grameen bank approach of providing micro-loans to groups of poor women without collateral and heavy documentation soon became a mainstream micro-lending technique used by hundreds of NGOs and even small banks to reach small borrowers, typically, micro-entrepreneurs and poor rural households. The successful Grameen bank experience is well-documented and it will not be necessary to expound on it in this paper. The Association for Social Advancement (ASA) improved the Grameen micro-lending technique and showed that with a much simpler and cost-effective approach, credit services could be provided to much more small borrowers than could be reached by using the older Grameen approach. The ASA micro-lending technique is simpler to administer and exploits the small borrowers' preference for individual loans over group loans. ASA realized that group members eventually renege on their individual loans because of the cross-guarantee requirement of a typical group loan. They would rather get individual loans and be wholly responsible for repaying those loans (Table 1).

The traditional formal banking system and costly directed and subsidized credit programs have both failed to provide small-scale borrowers with access to loans and other finance services. This has motivated credit-granting NGOs to take the lead in developing and evolving various micro-financing techniques that could effectively reach the poor on a sustained basis. Microfinance institutions (MFIs) such as credit-granting NGOs provide micro or small loans without collateral at market rates of interest to small-scale clientele, mostly non-farm enterprises and micro-enterprises. Typically, the MFIs' familiarity with the borrowers and the local economy enables it to extend loans based on the borrowers' cash flow and to tailor-fit the loan repayment in accordance with that cash flow. They require the simplest procedures for documentation, lending, loan collection, and monitoring. They liberally use a variety of instruments to create incentives to repay the loan, such as peer pressure, joint liability groups to ensure borrower discipline, rewards to motivate the good behavior of clients and loan officers, and threat of cancellation of future loans for defaulting borrowers, among others (Llanto 1999).

The good news is that the dynamic microfinance markets are coming up with a wide range of financial products and services that are demand-responsive (Table 2).

In recent years, MFIs have changed their focus from providing a simple credit product to offering a full array of financial services, and from targeting micro-enterprises to reaching the broader market of low-income households with varying business and family needs. The increased remittance from overseas workers has triggered the demand for efficient money transfer mechanisms. Thus, the range of MFI products and services may include savings, credit, insurance, and payment products such as money transfers (Rhyne and Otero 2006). CARD Mutual Benefit Association (MBA) became a provider of micro-insurance products, e.g., life and accident insurance for poor households, in response to the demand for those products by those ignored by mainstream commercial insurance providers. Life cycle products in the taxonomy provided by Rhyne and Otero are in demand: education

Table 1. Grameen Bank Approach vs. Association for Social Advancement Method.

	Grameen Bank	ASA Method
Origin	In 1976 Bangladeshi Professor Muhammad Yunus launched the "Grameen Bank Project," which was authorized as a bank in 1983.	ASA Bangladesh was organized in 1978 as an NGO. It decided to specialize in credit delivery for the poor in 1991.
Special features	Unlike the conventional banks, the Grameen provides collateral-free loans to poor women, delivers service to the people, pays attention to the welfare of the borrowers' families, and enforces no legal instrument to recover the loan.	Operation costs are minimal because of standardized accounting and bookkeeping procedures, and a simple branch structure, with a manager and four loan officers. The model is simple and easily replicable.
First introduced in the Philippines	GBA replication started in 1990 through the "Grameen Bank Replication Program" (1990-1997) of the Agricultural Credit Policy Council.	ASA methodology was first introduced to the Philippines in 1999 through the UNDP-funded "Microfinance Support Project" (1999-2002).
Target clientele	Women from low-income households or the "poorest of the poor"	The poor, landless laborers and marginal farmers, especially poor rural women.
Types of service	Financing several income-generating activities, including education, housing, seasonal and sanitation activities.	Simple loan and savings products. ("Single product service")
Place of services	Direct delivery to the community.	Direct delivery to the community.
Lending style	1. Organize groups of 5 persons and federate 5-8 such groups into a center. (The sizes of groups and centers are variable.) 2. Stagger loan releases to group members in a 2-2-1 or 3-2 manner. 3. Give credit in small or variable sizes. 4. Loans are for 6-12 months. 5. Give progressively bigger amounts for repeat loans. 6. Require weekly meetings of group centers attended by the MFI's field staff: Center leaders and members perform loan appraisal and the staff verify information and make periodic visits to client businesses.	*Micro-loans* 1. Organize groups of 10-30 like-minded women. 2. Members give contribution called capital buildup (CBU) for 4 consecutive weeks prior to release of first loan. 3. Within 5-6 months all group members receive loans, with a possible increase depending on the needs and demonstrated competence. 4. The loan amount may increase per year depending on the client's need and competence. *Small business loans* Available for men and women with a demonstrated competence in business.
Training	Training for group members to ensure credit discipline.	For the first 1-2 months: training in group management, leadership and other themes.
Repayment responsibility	Group guarantee (Use group solidarity and peer pressure to ensure repayment). For matured centers with high portfolio quality, meetings are held monthly instead of weekly.	No group liability. Past due loans are considered an individual's obligations. Group members are required to come to a designated collection center weekly at a specific time to make their repayments and deposit their savings.
Repayment method	In weekly installments for a term of 1 year or less.	In weekly installments. Delinquency controlled by sit-down or doorstep technique by loan officers. ("Zero-tolerance")
Compulsory Savings	Compulsory weekly savings or a percentage of the loan that is deducted at the time of disbursement/ repayment to set up center and/or individual fund for emergency.	Mandatory weekly Capital Buildup (CBU) for all types of loan products; and voluntary savings. Allow members to withdraw savings, provided 10% of the loan disbursed remains in the account.
Other features	Relaxed savings withdrawal policy in late 1990s to let the members of 10 years or more transfer savings from group fund to a separate individual account.	Introduced life insurance in 1993 for borrowers of up to 55 years of age. Opened up savings facilities for non-loanees in the late 1990s.

Table 2. MFI product range.

Financial product/services	Examples of MFIs offering product/service
Home improvement	Micasa loan product of Mibanco in Peru is highly successful and growing.
New home purchase	BancoSol (Bolivia) and Banco Solidario (Ecuador) offer mortgages to the upper tier of their clientele.
Education	Uganda Microfinance Ltd. provides school fee loans; Equity Bank in Kenya extends loans to schools.
Consumer	Banco Azteca, Mexico provides loans to consumers buying appliances from Elektra stores.
Working capital	All MFIs provide this.
Credit life, whole life insurance	CARD Mutual Benefit Association (Philippines) and MUSSCO (Malawi) have pioneered in micro-insurance.
Health insurance	SEWA Bank (India) and AssEF (Benin) are strong providers of health insurance.

Source: MicroBanking Bulletin (2006).

savings accounts, loans for home improvement, and pensions. To be counted also are products and services such as leasing, crop insurance, and money management products such as bills payment and remittances.

The bad news is that despite the growing commercialization of microfinance and the emergence of new finance products, with banks and various types of financial intermediaries joining the bandwagon, the asset side of the balance sheet of those microfinance institutions (MFIs) is composed mostly of micro-credits, that is, short-term loans for micro-enterprises, designed for urban-based borrowers with predictable cash flows, e.g., petty traders, vendors, food processors and others. Ryhne and Otero (2006) note the difficulty of delivering the ideal product array described above, which would require MFIs to change, for instance, the financial strategy and business model that have been used to provide simple micro-loans. Thus, micro-loans have remained as the staple product of many microfinance institutions.

Microfinance was initiated in densely populated urban settings in response to the demand for micro-loans with short maturities, which were needed for the liquidity requirements or relatively rapid turnover of micro-businesses such as food vending; borrowers here have usually diversified income sources. The question that arises is whether it is possible to apply the effective lending techniques of urban-bred microfinance to the financing requirements of agriculture-based households, which are chiefly engaged in the typical seasonal farm-based activities, with risks far different from those faced by urban households. Some credit cooperatives/unions in Latin America and village banks, e.g., in Cambodia, have maintained successful agricultural lending programs. However, they are limited in scale.

A potential point of entry for microfinance is the reality that many Asian rural households are engaged in both farm and non-farm activities. But as noted by Gonzalez-Vega (2003), agricultural microfinance will require an understanding of the information, incentives and contract enforcement in a different type of setting. It will have to contend with not only a wide geographical dispersion of a heterogeneous population, but also the attendant covariant risks and many other concerns, which should motivate efforts to innovate in response to those challenges (Buchenau 2003).

SOME KEY ISSUES IN AGRICULTURAL MICROFINANCE

The issue at hand is not about the straightforward application of microfinance technologies to agriculture in order to provide small farmers and other agriculture-based economic agents with access to sustainable finance services. The case at hand is much more complex and challenging than can be imagined. Christen and

Pearce (2005) have documented the problems faced by lending institutions in the agriculture sector. In Uganda a bumper maize harvest in late 2001 and early 2002 caused maize prices (and farmer incomes) to fall, significantly affecting loan repayment in four branches of the Centenary Rural Development Bank. In Mali, Kafo Jiginew, a federation of credit unions suffered a deteriorated portfolio at risk (over 90 days) from 3% of the total in 1998 to 12% in 1999 due to a slump in cotton prices. Cotton loans had a very a large share of the credit union's loan portfolio.

It is, thus, necessary to have a keen understanding of (a) agricultural conditions, (b) the configuration of risks in the rural areas, the availability of risk-mitigation instruments and how to use those instruments, and (c) the incentives that will affect the design of the finance (loan) product, including mechanisms for recovery—in the case of a loan product, the loan recovery methods. These issues can be largely understood in terms of three significant characteristics of rural credit markets identified by Besley (1994), which shape the nature of appropriate credit policy and program responses, namely: 1) the scarcity of collateral, 2) the absence of complementary institutions to reduce risks, and 3) covariant risks and market segmentation.[2]

Scarcity of Collateral

Traditional collateral may be scarce because borrowers may be too poor to have significant assets that can be pledged as collateral. The scarcity of collateral may also be attributed to the relatively small sizes of farm lands and the lack of secure titles to those small pieces of land. In the case of the Philippines, the fragmentation of farm lands and the demise of land markets because of agrarian reform have imposed an additional constraint (Estanislao and Llanto 1995; David et al. 2003; and Llanto and Ballesteros 2002). Certain provisions of the Comprehensive Agrarian Reform Law such as: (a) the prohibition against mortgaging/selling of the land within 10 years of its award and upon full payment by farmer- beneficiaries to the Land Bank of the Philippines; (b) the setting of a ceiling on the ownership of agricultural lands at five hectares; (c) the designation of government as the sole buyer of awarded lands; and (d) the prohibition against share-tenancy arrangements, have eroded the collateral value of land. This has hampered the small farmer's access to credit in the formal financial markets.

The World Bank's Land Administration and Management Project (LAMP) in Thailand and the Philippines underscores the severity of land titling and administration problems in the two countries, particularly in the rural areas of the latter country. Llanto and Magno (2002) note that the inefficient land administration system has resulted in high transaction costs in securing, registering and transferring property rights. There is no efficient mechanism to resolve land disputes, and the land administration system does not generate the reliable information needed by the courts to hear land cases. Also, the high cost of registering land discourages registration and consequently investments on land. Poor land administration can erode public confidence and trust in the titling and land registration system, and this puts especially the poor at a great disadvantage.

Secure property rights, which are a fundamental requirement for a collateral-oriented banking system, may be poorly developed or even absent. Of course, MFIs have long ago shown that micro-enterprise loans, including loans to poor individuals (mostly women), do not necessarily require the traditional land collateral as security. MFIs have lent to asset-less individuals and have successfully recovered the loans. However, one may argue that the context of urban micro-lending is quite different from that of rural and agri-based lending, where borrowers may demand bigger and longer-term loans. The size of the loan may be larger and the loan maturities are typically longer than the usual micro-loans that have to be repaid within a 90-day period in view of the rural borrower's different consumption and investment requirements. Both rural borrowers and lenders face the challenge of discovering alternative mechanisms such as

[2] See Besley (1994). To these three characteristics may be added the following: information asymmetry, uncertainty and seasonality of agricultural activities, greater heterogeneity and dispersion of clientele, greater exposure to systemic risks, the small size of transactions, and the absence of standardized and documented information, which have effectively deterred commercial-bank lending.

contractual arrangements, contract farming and others, viewing rural households as integrated business and family units with multiple sources of income, and adjusting loan repayment schedules to the households' cash flow and to the agriculture cycle.

Thus, rural lenders have to adopt a "business unusual" approach and innovate because the constraint imposed on rural credit markets by the "scarcity of collateral" seems to be a myth. Christen and Pearce (2003) gave the example of Banco del Estado de Chile, which spent two years improving its micro-enterprise lending techniques before expanding into farming activities. It also improved agricultural finance techniques, for example, by integrating crop-based analysis into its wider client analysis and by having flexible loan repayment schedules based on seasonal income cycles. The Economic Credit Institution, a microfinance institution in Bosnia and Herzegovina, uses spreadsheets for key agricultural products compiled by an agronomist as an aid to cash-flow analysis.

Risks, Risks and More Risks

Skees (2003), Ibarra (2003), Bryla (2003), and Christen and Pearce (2005) provide a neat summary explanation of the risk issues faced by rural borrowers such as small farmers and their rational behavior toward risks. Bryla cites a 1999 World Bank study showing how price volatility significantly impacts on the incomes of farmers and the macroeconomic health of their countries. From 1983 to 1998, the prices of many commodities fluctuated from below 50 percent to above 150 percent of their average prices. Facing a spectrum of risks, the most frequently cited of which are price, weather and health risks, farmers respond by adopting low-risk and low-yield crop and production patterns to ensure a minimum income at the expense of rural growth and accumulation of capital. Alternatively, in the absence of insurance markets, farmers try to cope with price and other risks by: (a) asset accumulation, savings, and access to credit; (b) income diversification; and (c) informal insurance arrangements. Ibarra (2003) views the increased labor market participation by small farmers, the reduction of consumption, the resort to interest-free loans or donations from relatives and friends, and the sale of assets such as livestock, as risk-coping strategies, and not risk management strategies.

Successful agricultural microfinance as indicated by the experience of Banco del Estado de Chile is about pooling and managing risk. But how well can rural lenders cope with the correlated risks in agriculture? Traditional agriculture loans portfolios, especially those of government banks or development finance institutions, show a concentration of production loans to certain crops, e.g., rice, maize, cocoa, and livestock. The concentration of production loans creates concentrated risks for the rural lending institution. There seems to be no major problem if the risks involved are individual and are not correlated. However, the reality is that risks in agriculture are correlated. When agricultural commodity prices decline, everyone faces a lower price for their crops. Natural disasters such as widespread flooding that destroy crops, livestock, shelter and rural infrastructure, severely impact rural households in many contiguous areas.[3] Price and yield risks are spatially correlated and this poses a major challenge to agricultural microfinance. On their own, small rural lenders, e.g., rural banks, cooperatives or credit-granting NGOs, are simply not capable of pooling and managing correlated risks. Worse, they may have no experience whatsoever in dealing with these different types of risks. Because of this, many rural lenders, which may have experienced the adverse effects of correlated risks in agriculture on their loan portfolios or which may be aware of the negative experience of other lenders in this regard, would tend to avoid agricultural

[3] Referring to the problems faced by agricultural microfinance in Bangladesh, Md. Shafiqual Haque Choudhury, President of the Association for Social Advancement (Bangladesh), has identified flooding as a critical problem because of the extensive damage wrought on the crops. He cited the vulnerability of farmers to this disaster, especially when it hits just before harvest season, laying their already mature crops to waste and plunging them into a severe crisis. Mr. Choudhury further observed that: "Sometimes it is found that the floodwater remains stagnant for a long period. Although it makes the land fertile with alluvial soil, it causes loss to the peasants by delaying cultivation".(These remarks were made during the International Workshop on "Overcoming Obstacles to Agricultural Microfinance", held at Heritage Hotel, Pasay City, March 1-2, 2007).

lending or drastically limit their loan exposure to smallholder agriculture.

Anecdotal evidence from the author's interviews with rural bankers in Mindanao, Philippines shows that the wary rural lenders have nonetheless practiced rational decision-making through loan diversification to minimize credit risks. This is evident, for instance, in their moves to cap their agricultural lending, shift their target clientele to teachers and other government employees who they provided with salary loans, and focus on urban micro-lending. In Latin America, diversification is one of the primary risk-mitigation strategies of rural lenders. The MFIs tend to limit agricultural lending to less than one third of their portfolios, e.g., about 25% of the portfolio for Confianza (a rural finance institution in Peru), but only 6% for Bolivia's Caja Los Andes, with a similar level for Uganda's Centenary Bank. Some Latin American MFIs, e.g., PRODEM of Bolivia and Calpia of El Salvador do not lend to rural households without non-farm income or those dependent only on one or two crops, as a strategy to contain risks in agricultural microfinance (Christen and Pearce 2005). Box 1 is an illustration of the experience of a Latin American financial institution with concentration and diversification in the loan portfolio.

Observing local rural economies, Vogel and Llanto (2005) pointed out that there seems to be a parallel diversification of risks among rural households—mirroring a risk management strategy as opposed to an ex post coping strategy such as liquidation of households assets in response to, say, a catastrophe like flooding that wipes out standing crops. Rural households have tried to diversify their risks through family members engaging in non-farm activities. Rural income still largely comes from farm production, although income from non-farm activities is becoming significant in Asian countries, as pointed out earlier. Philippine data show that in 1987, on-farm income contributed 56 percent to total rural income, while off-farm income's share was 7 percent. This means that 63 percent of the rural income came from both on-farm production and off- farm activities, e.g., livelihood projects. By 1990, farm incomes (on-farm and off-farm incomes) had declined to 57 percent while income from non-farm and other sources has increased to 43 percent (Agricultural Credit Policy Council, 1992). Incomes from non-farm activities and other sources such as remittances have become a significant source of rural incomes.

Remittances from overseas Filipino workers (OFWs) and relatives based abroad have also become an increasingly important source of income

Box 1. Peru, Caja Rural San Martin: Diversifying its loan portfolio

Between 1994 and 2000, more than half of Caja Rural San Martin's portfolio was mostly agriculture loans to small- and medium-size rice farmers. But in 1998-99, Peru's rice crop was severely damaged by the El Niño phenomenon. Heavy losses in crop yields caused a steep rise in prices that attracted many new producers, resulting in overproduction and sending rice prices to an all-time low. Then in 2000-01, a plague destroyed the rice crop for many of the bank's clients. At the same time, Alberto Fujimori's regime introduced populist policies promoting debt forgiveness and restricting banks from imposing further loan recovery measures on delinquent farmers. All these events caused a severe decline in the quality of Caja Rural San Martin's loan portfolio.

The events of 1998-2001 forced the bank to become more risk-averse and diversify its loan portfolio. After nearly halving new agricultural loans in 2001, the bank later discontinued lending for rice production altogether. Since 2002 it has provided loans only to farmers who have well-established farm enterprises, own irrigated land and can provide land and chattel guarantees. The bank now has a diversified loan portfolio, with micro-enterprise, housing and consumer loans, in addition to agriculture loans.

Portfolio quality has improved as a result, and Caja Rural San Martin is now less vulnerable to production and price risks. By November 2002, its outstanding loan portfolio was US$ 16.3 million, with more than 13,000 borrowers and a portfolio at risk at 8% (with payments more than 30 days overdue).

Source: Rubio (2002a) as cited in Christen and Pearce (2003)

for many rural households. They contributed 32 percent of the total income generated within the period 1991-2000 and helped keep the economy afloat. With the decline in incomes from agriculture and agriculture-related activities, remittances have become an alternative and significant source of income for rural families. Although a large number of OFWs are from urbanized areas, such as the National Capital Region (NCR) and Southern Tagalog, many of them also come from mainly agricultural regions with high poverty levels. Some families depend entirely on these remittances as their main source of income while others have used a portion of these funds to pursue informal lending activities that provide external financing to farmers and entrepreneurs. Thus, these remittances either directly or indirectly provide the rural areas with the necessary liquidity that formal institutions cannot supply. The significant increase of overseas remittances has contributed to the growth of business and economic activities in the rural areas.

In sum, it is important for formal rural lenders to be equipped with accurate information on the agricultural crop cycle; the pattern of risks; how rural households earn, spend, save and borrow money; what risk management and risk-coping strategies and instruments are used by those households; the variety of farm and non-farm activities; and attempts to diversify local economies, among others. In short, rural lenders must have a thorough understanding of their potential clients and the milieu or context of their daily lives and economic and business activities.

The challenge of Liquidity Management[4]

The main unrecognized challenge in rural finance is the problem of overcoming the systemic risks arising from the undiversified nature of local economies. Notwithstanding the diversification efforts of small-scale farmers and most other rural residents, especially low-income ones, rural areas themselves remain largely undiversified economies. In fact, the typically undiversified nature of rural areas presents a major challenge to most rural residents – even shopkeepers in a rural town will be adversely affected if the major product (e.g., rice) suffers a decline in price or loss of output due to adverse weather or insect pests. Thus, a rural lender does not escape this lack of diversification by lending to shopkeepers rather than to farmers. In finance, risks are dealt with by portfolio diversification, but for a local lender the opportunities for loan portfolio diversification are sharply limited, so the lender is likely to be left with the alternative of holding relatively large amounts of liquid assets and thereby curtailing local lending. Realizing the absence of effective demand, one type of lender would decide to park the excess liquidity in commercial papers, bills and securities, e.g., government bonds and securities. On the other hand, there is the lender who has lending opportunities but is pressed with temporary lack of liquidity and has to abandon the likelihood of lending.

In the Philippines, there is no institution dedicated to providing a much-needed liquidity service, i.e., providing short-term loans to rural lenders that are temporarily short of liquidity but fully solvent in the longer run if the liquidity problem can be overcome. Rural banks can potentially access liquidity from the Bangko Sentral ng Pilipinas (BSP), but conditions surrounding access are appropriately rather draconian, based on the usually correct assumption that lack of liquidity indicates potential insolvency. Government financial institutions such as the Land Bank of the Philippines or the Development Bank of the Philippines or a federation of credit cooperatives could perhaps fulfill the function of providing liquidity to local lenders with temporary liquidity problems, but in general, government entities and cooperative federations do not exhibit the appropriate degree of toughness in separating temporary liquidity shortages from pending insolvency.[5] An obvious solution to this problem of systemic risks in local areas could be to rely more

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[4] This section draws from Vogel and Llanto (2005).

[5] Officials at the government-owned Quedan Rural Credit and Guarantee Corporation (Quedancor) stated that their institution had developed a service of buying problem loans from rural banks, which could potentially be targeted toward providing this needed liquidity service. However, this is not the kind of liquidity service contemplated by this paper. The issue of temporary liquidity of the kind discussed in the paper is different from the illiquidity problem of insolvent rural banks. Some rural banks may be illiquid simply because they can not recover their loans; in this case, the "service" being developed by Quedancor may create the wrong incentives.

heavily on nationwide financial institutions (e.g., large banks) to provide most rural loans. However, recent experience in the Philippines shows that even slightly adverse financial conditions could trigger a reduction in rural lending by commercial and universal banks. Clearly, these banks view rural lending as a relatively risky undertaking – not unlike most banks worldwide that have failed to develop effective mechanisms to delegate lending decisions adequately to small branches while maintaining appropriate systems of internal audit and financial controls.[6]

Absence of Risk-reducing Institution

As pointed out earlier, risks are correlated in agriculture, and this can potentially ruin a rural lender who does not have an effective risk management strategy and who may not have access to risk-reducing instruments or institutions. Insurance markets are important institutions for overcoming systemic risks but complementary institutions, such as insurance markets and credit information bureaus, that may help to reduce those risks may be lacking or underdeveloped in developing countries in Asia.

The absence of such risk-reducing mechanisms to manage correlated risk and insulate lenders from its adverse impact constrains agricultural microfinance (Skees 2003; Ibarra 2003; Bryla 2003).

In this regard, a comment on the performance of the Philippine crop insurance is in order. Where crop insurance has been implemented, the costs have typically been extremely high, in part because of the difficulties of administering large numbers of small contracts spread over wide areas, but more often because of problems of adverse selection and moral hazard (Vogel and Llanto 2005). The experience of the Philippine Crop Insurance Corporation (PCIC) can be seen in this light.

The number of farmers covered by crop insurance exhibited a declining trend from 108,512 in 1995 down to 54,093 in 2004. At the peak of its operation in 1991, the PCIC provided some 336,000 farmers with rice and corn insurance amounting to over 3 billion pesos and covering more than half a million hectares of land. Crop insurance coverage has since declined. Crop insurance coverage for the period 1995-2004 exhibited a declining trend although it showed improvement toward the later years. Insurance coverage decreased by 18 percent during the period 1997-1998. It improved only slightly in 1999 by 1.6 percent, but this was negated by a decrease of 1.3 percent in 2000. The largest decrease happened in 2001 when insurance coverage dropped by 31.5 percent from P1,274 million in 2000 to P874 million. The government's crop insurance scheme was simply no match to covariant risks. There is insufficient diversity in the "risk pool" to deal with covariant risks. Brazil, India and Morocco also have crop insurance schemes but the overall verdict, it seems, is that crop insurance schemes failed because of moral hazard and adverse selection problems and high transaction costs.

Systemic risks brought about by insufficient diversification in local rural economies, changing weather patterns, seasonality of supply, and fluctuations in global markets have discouraged not only private investments but also the participation of private banks in agriculture finance. Both crop insurance and credit guarantee schemes have failed to expand private bank lending to agriculture. A better package of risk-reducing instruments could consist of the following: efficient infrastructure, access to technology and information, credible regulatory regimes, and recently developed market-based instruments designed to address price- and weather-related risks.

The problem of correlated risks is not insolvable. Innovations in global financial markets, which can deal with correlated risk and reduce the rural lenders' exposure to local risks, e.g., drought, have been developed.[7] These are the futures exchange markets to shift price risk; and weather-based, index-based insurance products to shift natural disaster risk. Price risk management instruments tacked in loan agreements can lower default risks arising from falling commodity prices. An example of such

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[6] Some exceptions are the Bank Rakyat Indonesia Unit Desa system, and most notably, the recently rehabilitated and privatized Agricultural Bank in Mongolia which has been able to expand simultaneously its branch network and its profitability while reducing both administrative costs and overdue loans.

[7] See Bryla (2003); Skees (2003).

price risk management instrument is a put option, a hedging instrument for price risk. A simple put option may be purchased at international exchanges. Combined with physical sales, it will guarantee a minimum price level based on an international price for a given commodity over a number of months. When price rises during the option contract period, the producer receives no payout from the contract but can still sell his physical product at the prevailing market price. In this situation, the producer benefits from rising prices. When price falls during the option contract period, the producer receives a payout equal to the difference between the price the producer chose to insure with the put option contract and the international market price on the last date of the option coverage. The problem faced by the small producer may not necessarily be the market-based premium paid for such price risk management instrument but access to the international exchanges.

On the other hand, weather risks are covariant and typically shock entire regions and entire farming communities at one and the same time. Weather-based index insurance has been developed as a risk management instrument. Under this scheme, a farmer can insulate himself from production risk by purchasing an index insurance that pays in case rainfall falls below a certain threshold. Farmers can elect coverage for a given period, taking into consideration the crop cycle. Farmers who have bought such an index insurance receive a payment if the rainfall index level falls below an agreed rainfall threshold. The farmer receives more protection the higher is the rainfall threshold but this is bought at a higher premium. A farmer wishing to minimize the cost to him of this index insurance may go for a lower rainfall threshold but at the price of lower protection. He, thus, has to evaluate the trade-off and make a decision.

Missing Opportunities in the Agriculture Supply Chain

Understanding the agriculture supply chain may create profitable opportunities in agricultural microfinance for rural-based economic agents. Research (Boehlje, Hofing and Schroeder, 1999a; 199b) on value chain in agriculture indicates that 21st century agriculture is likely to be characterized by: 1) adoption of manufacturing processes in production as well as processing, 2) a systems or food supply chain approach to production and distribution, 3) negotiated coordination replacing market coordination of the system, 4) a more important role for information, knowledge and other soft assets (in contrast to hard assets of machinery, equipment, facilities) in reducing cost and increasing responsiveness, and 5) increasing consolidation at all levels raising issues of market power and control.

As the raw produce goes through each link of the chain, it undergoes varying degrees of value adding, such as processing and packaging, before it is distributed to consumers, thus ultimately increasing the original value of the good. The supply chain can also be loosely referred to as a value chain. The added valuation to a raw product is a result of the increasing stratification in consumer tastes and the need to be more efficient, which is an offshoot of competition in global markets. The agriculture supply chain offers scope for small farmers to participate but they have to deal with the problem of aggregation of the produce from a large number of small farmers and the associated distribution and marketing of the accumulated bulk product.

According to Kaplinsky (2000), the importance of the value chain lies in the concept that the chain is a repository for economic rents, i.e., each link in the chain carries a premium from which profits can be made. Increasingly, primary economic rents in the chain of production are to be found in the areas outside of production.

Globalization has highlighted the need for an effectively functioning supply chain to meet diverse consumer needs. As world markets converge, inefficient local agricultural producers are pitted against competitive producers in the global arena. Due to insufficient capital, inadequate infrastructure, and weak institutions, small farmers and other rural producers in developing countries may find it quite a challenge to cope with the demands of global markets for competitively priced goods and commodities (Van Roekel, Willems, and Boselie 2002). Local producers sometimes find it hard to match the significantly lower production costs and lower transport and handling expenses of other countries. Consequently, the cost of domestic goods, which is already higher relative to those from other countries due to higher input costs, is

further driven up by high processing, marketing, and distribution costs.

One of the most important links in the value chain is the provision of transport and storage facilities. It links primary producers to processors and packagers and finally to marketing and distribution units for the consumption of end-users. Costales and Macapanpan (2004) stressed the need for transportation and storage systems as important factors of productivity and competitiveness in agro-industry. There is therefore a very great need for an efficient transport infrastructure, which includes road, ship and air transport, and adequate storage capacity. Rural linkage with domestic and global markets depends to a great extent on the availability, quality, and location of transport and storage systems, which will help dispersed rural communities to overcome their isolation.

Understanding the great potential of supply chains will enable rural producers/clients to position themselves strategically in the different subsystems of these chains. Subsystems in the agriculture supply chain have their respective value-added activities and banks could provide financial services for those value-adding activities.[8]

In crafting appropriate responses, policymakers should learn lessons from the prominent role played by traders in the supply chain and rural financing systems. Traders act as moneylenders at the start of the cropping season and as buyers during the harvest season. They are available to rural borrowers at the time and place where their help is needed. Their access to rural information brought about by close association to rural clients and their keen understanding of rural networks and economies have served them well in plying their loan products (based on simple, timely, accessible, and flexible loan terms) and in creating interlinked contracts. Traders may act as independent buyers of local produce or as middlemen between major integrators, wholesalers or processors and farm producers. In any of these major roles, they add value and provide timely financing that otherwise would not be provided by formal financial institutions. Government-directed credit programs have found it very difficult to compete with the interlinked contracts, timely access to financing, and storage and transport facilities that traders have effectively provided to rural-based clients for many, many years.

Regulation and Supervision Issues[9]

Microfinance has developed and expanded generally because of the permissive (within bounds) attitude of the regulators, who are aware of the vital task of finding an appropriate regulatory framework for microfinance. The pioneering efforts of the Philippine central bank to develop such framework can be cited. The Philippine Congress recently revised the General Banking Act, which recognized the peculiar nature of microfinance and tasked the central bank to develop an appropriate regulatory framework.

Regulators in many developing countries seem to recognize that microfinance promises to be a sustainable mechanism for providing financial services to poor households and micro-enterprises. However, there should be prudence in the way a regulatory framework is crafted and in the manner of supervising banks engaged in microfinance. As stressed by Valenzuela and Young (1999), regulation that comes too early can hamper innovation in financial service and institutional forms. On the other hand, an overly strict approach would suffocate innovative microfinance practices. In general, regulatory authorities are still developing an understanding of the microfinance phenomenon, making sincere attempts to flesh out an appropriate regulatory framework, and building the required capacity for effective supervision (Llanto 2006)[10]. The same observations may be said of agricultural microfinance. Regulators should bear in mind that the timing of the introduction of regulation is important (Christen and Rosenberg 2000) and that microfinance cannot be simply placed in the category of conventional credit categories, that is, consumer loan, commercial loan or mortgage credit (Jansson 2001).

The key challenge is finding the appropriate regulatory framework for agricultural microfinance which would recognize the different risks faced

[8] Discussions with Pablito Villegas, former Vice-President, Land Bank of the Philippines.
[9] This section draws on Llanto (2006b).
[10] Llanto (2006b) discusses these issues in detail.

by rural lenders (that is, the regulated lenders such as banks) and which would ensure the soundness of those rural lending institutions, including the protection of deposits. Recent literature shows that poor rural households and micro-enterprises demand different types of financial services and products, including savings deposits with (regulated) banks. Successful methods for delivering financial products and services to poor households and micro-enterprises have grown and matured outside conventional banking and conventional regulatory frameworks. The Holy Grail of regulation and supervision is developing an appropriate regulatory framework that ensures the soundness of financial institutions and protects depositors without dampening innovative impulses.

Fine-tuning existing regulatory frameworks may not be sufficient. On the contrary, it may create a false sense of complacency on the part of tradition-minded regulators that all is well with the approach when in reality the innovative financial impulses that are so important in microfinance and in this case, the more challenging phenomenon of agriculture microfinance, are either constrained or dampened.

Van Greuning et al. (1998) point out that the approaches to regulation and supervision of microfinance can range from "non-existent" to "full regulation," either through the existing prudential regulatory framework or by modifying the existing regulatory requirements to fit the organizational and operating characteristics of microfinance institutions. Such retrofitting of traditional regulatory frameworks should be taken with great caution.

In contrast to this approach is risk-based supervision, a relatively new approach to supervising regulated financial institutions, which is preferable to traditional bank supervision (Vogel et al. 2000). Under risk-based supervision, most financial products and services share a common set of risk factors but can have very different risk profiles. The difference lies in the risk profiles and not in the set of risk factors (Vogel et al. 2000). Thus, risk-based supervision concentrates on the lending institution's ability to manage risks and not on the collateral required to secure the loan, nor on the number of unsecured loans, nor compliance with tedious documentation, and other factors that are the concerns of traditional bank supervision. The innovative approach taken by the Philippine central bank in supervising microfinance banks is shown in Box 2.

In sum, the "jury is still out," so to speak, on the search for an appropriate regulatory framework or approach for microfinance. There is no one-size-fits-all approach to regulation and supervision but on balance, the rationale and arguments for risk-based supervision seem to outweigh those favoring more traditional approaches. Designing regulatory mechanisms and building effective institutional frameworks are never easy tasks, but these may be facilitated by a constant dialogue and interaction between regulators and microfinance institutions and other types of (regulated) financial institutions.

CONCLUDING REMARKS: INNOVATING FOR THE FUTURE

The strategies and solutions to overcome the barriers to agricultural microfinance go beyond the simple provision of credit, and extend outside agriculture. There is no "one size fits all" approach to agriculture microfinance. To be able to deal with the complexity and risks in agriculture, rural lenders would have to innovate on their product design, lending technologies and risk management

Box 2: Risk-based supervision of microfinance banks, Philippines

Under the traditional supervision of banks, the bank examiners look at the individual books of accounts and try to trace the transactions since the last examination up to the current examination date. Under risk-based supervision, before the examiner leaves the central bank, he pre-evaluates credit risks of the bank, and market, liquidity, operational and compliance risks. The pre-evaluation enables the examiner to pinpoint which of those risks are very high. This is the area of focus during the field examination. This approach and the awareness of the bank's portfolio at risk have reduced the number of examination days from 30 (under the traditional approach) to 15 days or less (under risk-based supervision).

Source: Bank examiner of the Bangko Sentral ng Pilipinas.

strategies; improve their information base; and strive to have access to market-based risk management products, e.g., price risk management instruments, weather-based index insurance contracts and similar products. They would have to discover the right approach that will satisfy their risk-return appetites and innovate to be able to adapt to the characteristics of the agriculture sector, particularly, smallholder agriculture.

Tasked with crafting an environment conducive to rural lending and to meeting the demand of rural-based economic agents for other finance services, policymakers have to recognize and understand the peculiarities of the rural and agriculture sector, namely: information asymmetry, geographic dispersion, heterogeneity of the population, covariant risks, insecure property rights, and the absence of insurance markets and risk-reducing institutions. While the policy and regulatory environment must be able to motivate experimentations and innovations, great care should be taken by the authorities to ensure the stability of the rural financial system. There is promise in further developing risk-based supervision in view of the discussion of risks facing agriculture microfinance. This is to say that policymakers should not only invest in the necessary information infrastructure (e.g., a credit bureau to break down information asymmetries), and allow market-based mechanisms to address risk problems, but also provide the hard infrastructure, e.g., roads, water and other basic necessities, that will set the platform for the growth of the rural economy.

AUTHOR'S NOTE

This paper was presented at the International Workshop on "Overcoming Obstacles to Agricultural Microfinance", organized by SEARCA and CARD MRI, and held at the Heritage Hotel, Pasay City, March 1-2, 2007.

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