



OVERCOMING OBSTACLES TO RURAL & AGRICULTURAL FINANCE

Lessons from the 2011 Conference



October 2011

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Dedication

In memory of

Ake Olofsson

*an FAO Agricultural Finance Officer of over twenty years
who dedicated his life to overcoming obstacles to
rural and agricultural finance*

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Acronyms

IAF	One Acre Fund
ACM	Agro Capital Management
ADP	Area Development Programs
AGRA	Alliance for a Green Revolution in Africa
ASCA	Accumulating Savings and Credit Associations
BPO	Business Process Outsourcing
CRS	Catholic Relief Services
DNE	Dairy Network Enterprise
EAGC	East Africa Grain Council
ESA	Equity for Africa
FAO	Food and Agricultural Organization
FAST	Finance Alliance for Sustainable Trade
FC	Farmer's Club
FDL	Fondo de Dessarrollo Local
FHI	Family Health International
FI	Financial Institution
GDA	Global Development Alliance
HNB	Hatton National Bank
JLG	Joint Liability Group
MCA	Millennium Challenge Account
MEDA	Mennonite Economic Development Associates
MiDA	Millennium Development Authority
MLAP	Market-Led Agriculture Program
MSME	micro, small and medium enterprises
NABARD	National Bank for Agriculture and Rural Development
NACRDB	Nigerian Agricultural Cooperative and Rural Development Bank
NUBL	Nepal Utthan Bank Ltd
OFIC	OPEC Fund for International Development
PSA	Private Sector Alliance
RIF	Rural Impulse Fund
ROSCA	Rotating Savings and Credit Associations
SHG	Self Help Groups
SILC	Savings and Internal Lending Communities
SME	Small and Medium Enterprise
SRI	Socially Responsible Investors
TOT	Training of Trainers
WV	World Vision

Forward

Dear Fellow Nutcrackers,

It is an honor to present to you the findings of the 2011 *Cracking the Nut: Overcoming Obstacles to Rural and Agricultural Finance* conference held in Washington, D.C. This publication is a synthesis of the contributions made by more than 300 participants from 40 countries. The support and momentum for this learning event was built quickly from the recognition that the world is facing a number of challenges that increase the need for rural and agricultural finance, including:

- Rapidly growing world population and urban migration, especially in developing countries;
- Increasing and unstable commodity prices linked to global markets;
- Global warming, climate changes and water scarcity;
- Increasing food insecurity, especially for poor women and children.

While these realities increase risks associated with rural and agricultural investments, if left unaddressed, the greater risk is that the world will face a global food crisis. A global food crisis could increase political insecurity and protectionist backlashes, resulting in global commodity markets to stop functioning properly, thereby exacerbating the problem. The conference participants recognized the urgency of the need to address these issues and work cooperatively to overcome the obstacles that hinder access to rural and agricultural investments. In an interview at the conference, Michael de Groot of Rabobank Foundation summarized some of the important trends discussed:

1. Recognition of the diverse financial needs, including savings and insurance (as well as credit)
2. Need for more integration of financial and non-financial activities (to think of farmers as entrepreneurs and train them to be successful at growing their business)
3. Recolonization of farming (and the need to strike the appropriate balance between land grabbing versus farming at scale)¹

The conference demonstrated how there are no easy solutions to increasing rural and agricultural finance, but multiple examples pointed to the need for a holistic approach, combining resources of the public and private sectors, from wealthy and poor countries, to create lasting and environmentally sustainable results. Now more than ever, we must see ourselves as global citizens, with our individual well-beings inherently linked and interconnected. To crack the tough nuts of rural and agricultural finance, we will need to work together to make long-term commitments of patient capital in developing rural and agricultural markets for the benefit and sustainability of our entire planet and its people. I thank all of you for joining us on this journey, as our work has just begun.



Anita Campion
President



¹ Microlinks interviews, available at: http://microlinks.kdid.org/search/apachesolr_search/Cracking%20the%20Nut%20Interviews

Executive Summary

Developing country populations are rising, commodity prices are fluctuating widely with economic globalization, food insecurity is increasing and the climate is warming. These are some of the issues that spurred the interest in the learning event, held on June 20-21, 2011 in Washington, D.C. Named after its core objective, the conference, *Cracking the Nut: Overcoming Obstacles to Rural and Agricultural Finance*, focused discussions around five themes for which the main lessons are summarized below.

Theme 1: Making Markets Work for Rural and Agricultural Finance

- It is important to clarify appropriate policy framework and avoid mistakes of the past;
- Macroeconomic policy, legislation and enforcement mechanisms can reduce real and perceived risks associated with rural and agricultural finance;
- Credit alone is not enough; a holistic approach is needed including a range of financial services and non-financial services, such as business and agricultural technical assistance and training;
- Understanding transaction dynamics and building trust across the value chain is critical. The value chain finance (VCF) approach examines a value chain in its entirety, identifies and provides for not only financing needs but also market linkage and technical assistance needs for each key player in that chain in a way that reduces risks and costs for lenders and other providers;
- Market information and pricing is important to value chains and facilitates access to finance;
- Public-private alliances in which partners share in risks, responsibilities and rewards can facilitate access to rural and agricultural investments.

Theme 2: Forging Agricultural Finance Innovations

- Financial solutions should be tailored to rural needs and context;
- Focus on partners with aligned interests to create a demonstration effect;
- Technical assistance and training can improve cash flow and reduce business risks for farmers and intermediaries;
- It is good to consider needs within the entire value chain (not just at one level);
- Multi-layered agreements and partnerships can facilitate finance.

Theme 3: Reducing Costs of Rural Outreach

- Unique distribution models can be used to serve rural clients;
- Savings groups can be an important platform to improve agricultural production and investments;
- Investment in technology can result in reduced costs to financial institutions and rural clients, resulting in increased outreach;
- A trusted partner and advance sales contracts can reduce costs and facilitate access to finance;
- The Internet can enable producers to rapidly connect with many potential sources of finance, reducing cost and facilitating transactions.

Theme 4: Managing Risks

- Technology and process modifications can be used to reduce risks associated with rural and agricultural finance;
- Credit guarantee programs can reduce risk, but must strike a delicate balance between guaranteeing loans that would have been made anyway (without a guarantee) and guaranteeing loans that should not be made at all (even with a guarantee);

- Savings (especially when combined with financial education) is an important risk mitigation tool for rural populations, as well as financial institutions;
- Professionalizing portfolio management and introducing weather-based index insurance can help reduce risks and increase interest in agricultural finance;
- Risk reduction strategies can also be aimed at the level of the agribusiness.

Theme 5: Attracting Private Sector Investors

- Improving post-harvest systems can improve quality and lower prices for local buyers and processors, and improve their ability to attract investors;
- Using value chain concepts and risk mitigation tools can reduce risk and facilitate investment in agri-SMEs and smallholders;
- Socially responsible investment funds can facilitate the transition of public sector to private sector investment in rural and agricultural finance;
- Creative financing and partnerships can facilitate investments in rural and agricultural finance;
- Socially responsible investors are particularly interested in supporting green initiatives.

Cross-Cutting Considerations

There are also findings that cut across all five themes, including:

- **Serving rural women.** Given their importance in agricultural production and family food security, it is important to improve financial access to rural women. Women tend to seek smaller amounts of finance than men, so savings and group lending are particularly important.
- **Serving rural youth.** Given the growing youth population in developing countries, special efforts are needed to help rural youth engage productively in rural and agricultural businesses. Developing young rural and agribusiness entrepreneurs requires a holistic support, including access to business training and technical assistance, coaching and networking, in addition to access to financial services (ideally starting with savings and financial education).
- **Working in conflict zones.** Developing rural and agricultural finance in conflict environments can require additional time and cost, due to limited human resource capacity and infrastructure, and higher security costs. Patience is required to build sustainable financial systems, as political pressures to quickly disburse loan funds can hinder long-term sustainability.

Remaining Obstacles

Despite many efforts and lessons related to rural and agricultural finance, there are still some tough nuts to crack, including:

- **Increasing access to medium and long-term finance.** While there have been many successes in improving access to short-term rural finance, such as from input suppliers, most financial providers lack access to medium and long-term funds, especially needed to support larger agricultural investments.
- **Reducing costs of technology to better serve rural clients.** New technologies (e.g., cell phone banking) require substantial investment to achieve the volume necessary for rural outreach.
- **Building capacity of financial institutions in agricultural finance.** Few financial institutions are willing and able to pay for the training, technical assistance and infrastructure needed to offer agricultural finance.
- **Building absorptive capacity of rural and agricultural enterprises.** Even where financial institutions offer finance in rural areas, loan officers often complain of the lack of qualified clients (i.e. those that can meet documentation and collateral requirements).

- **Addressing food insecurity while avoiding market distortions.** With increasing commodity price fluctuations and food insecurity, we need to identify risk mitigating tools that can respond in case of crisis without causing permanent distortions to rural and agricultural financial markets.
- **Facilitating the transition from donors to private investors.** While some socially responsible investors have entered the rural and agricultural finance arena, we still have a long way to go to demonstrate that risks can be adequately mitigated at acceptable rates of return.

Moving Forward

These will be among the topics of discussion at the 2012 *Cracking the Nut* event. Next year's event, which will go much further to involve the private sector and government agents, will delve into the following themes: creating lasting partnerships, leveraging investment, building entrepreneurial capacity of farmers and other agribusinesses, developing agricultural technical capacity cost-effectively, and forging positive government support. In the meantime, this publication offers a number of suggestions to government policy makers, donors, financiers, value chain actors and technical assistance providers:

Governments and policy makers can establish a favorable or “enabling” environment by:

- Adopting policies that reduce historical biases against the rural sector and provide macroeconomic stability, such as those that encourage private financial institutions to serve rural and agricultural needs rather than propping up weak financial institutions;
- Crafting a supportive legal and regulatory framework that facilitates secured transactions and contract enforcement and permits a wide range of financial services; and
- Supporting the emergence of complementary, market-support institutions, such as networking associations, credit bureaus, business development and agricultural extension service providers.

Donors and implementing partners can strengthen rural and agricultural markets, by enticing financial institutions and value chain actors to serve rural areas and building their capacity to respond to demands of rural households and agricultural enterprises. As honest brokers, donors can help ensure longer term development goals remain a priority by facilitating access to start-up, risk mitigating capital that can help private sector partners forgo demands for immediate economic returns. Donors can also provide access to critical information and contacts to help private sector partners identify opportunities in economies that may not otherwise be reached. Smart subsidies and performance-based grants can be useful when designed correctly and focused on long-term sustainable impacts. Donors can also support technical assistance and training, which is especially needed in financial education, business development services, agricultural extension and research, and environmental assessments.

Value chain financiers and financial institutions. To expand markets, lead firms can offer finance and technical assistance and embed the costs in their pricing. As financial institutions see the potential in serving rural and agricultural markets, they can invest in the infrastructure and risk management systems, as well as staff capacity to serve rural clients.

Introduction: Conference Objective & Background

Rural and Agricultural Finance have long been considered tough nuts to crack, but recently there has been renewed interest in overcoming the obstacles that hinder access to rural and agricultural finance. Finance is an important ingredient for development, as it allows rural and agricultural communities to become successful in creating livelihoods and improving food security. For this reason, AZMJ mobilized an Advisory Committee, who helped to plan and organize a conference, entitled *Cracking the Nut: Overcoming Obstacles to Rural and Agricultural Finance*, which took place on June 20-21, 2011 at IADB's Enrique V. Iglesias Conference Center in Washington, DC.

The conference provided a demand-driven, participatory learning space where participants shared information on programs, methodologies, strategies and tools; networked to build partnerships; and gained new technical capacities to continue to build the fields of rural and agricultural development and finance. Over the two days, the conference brought together more than 300 of the world's leading international development practitioners, donors, banks, investors and other private sector players, as well as policymakers from 40 countries involved in rural and agricultural finance. While the conference did not cover all relevant topics, participants had the opportunity to collaborate with each other and to discuss the following five core themes related to overcoming obstacles to rural and agricultural finance, from which the main lessons are summarized in this publication.

1. Making Markets Work for Rural and Agricultural Finance
2. Forging Agricultural Finance Innovations
3. Reducing Costs of Rural Outreach
4. Managing Risks
5. Attracting Private Investment

The conference was designed to present a range of products, projects and businesses that have been working in one or more of these core areas, for which the primary lessons learned are summarized in the chapters that follow. The importance of these core themes was introduced to conference participants in the key note speech by Mr. Chandula Abeywickrama, the Deputy General Manager of Hatton National Bank (HNB) of Sri Lanka, as summarized in Box 1. As a result of all of HNB's efforts in rural and agricultural finance, 10-15% of its smallholder clients graduate to become mid-size entrepreneurs, expanding their plots and creating jobs for additional rural workers. To date, HNB has financed more than 150,000 small farmers, with an outstanding agricultural loan portfolio of more than \$80 million. Within the next three years, HNB envisions scaling up to 300,000 smallholders with a collective loan portfolio of \$140 million.

The conference was a success in that anonymous surveys found that 100% of respondents said they would take action based on something they learned or someone they met at the conference. In addition, 95% said they would recommend this conference to others.

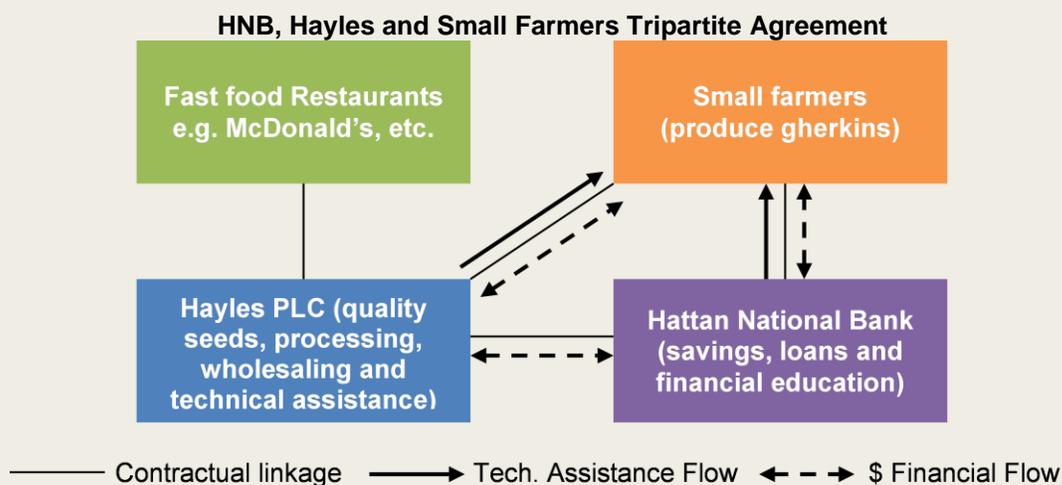
Box 1: HNB's Success in Overcoming Obstacles in Rural and Agricultural Finance

HNB is a leading example of how financial institutions are beginning to overcome the obstacles that have previously inhibited access to finance for farmers and the rural poor.

Theme 1: HNB forged public-private sector partnerships to make markets work for rural and agricultural finance. To address macro-level economic development issues, HNB management knew that it would take more than finance alone. Hence, HNB began to forge and strengthen public-private partnerships. HNB worked with the Central Bank's Regional and Rural Development Division. To facilitate the market, the Central Bank sponsored refinance and interest subsidized credit schemes, specifically focusing on agriculture to trickle down to smallholders and agricultural development. Further, HNB forged a strong partnership with Sri Lanka's State Agriculture Department to be better aligned with national Agri Development Policy and to identify opportunities to expand rural and agricultural development in the country.

Based on research findings, HNB learned that farmers' lack of access to quality seeds was limiting production, especially in rice and horticultural products. This lack of access was in part due to lack of access to finance, but also lack of technical and market knowledge needed for farmers to upgrade to higher quality seeds. So, HNB partnered with two of the largest private sector agricultural businesses providing "Seed to Shelf – Farmer to Consumer" pre-planting and post-harvest technical assistance. First, HNB partnered with CIC Agri Business Company Ltd., which manages 10,000 acres of its own land and works with more than 20,000 rural farmers. Second, HNB partnered with Hayles PLC, which is the largest fruit and vegetable exporter and agri-input supplier in Sri Lanka.

Theme 2: HNB created tripartite agreements to holistically support agricultural development and finance, including seed improvement loans. Through these partnerships, HNB created tripartite agreements in which the large private firms (i.e. lead firms) provided technical assistance and market linkages to small holders, who also benefited from access to finance to upgrade their inputs and production methods. Loan terms vary by crop, but tend to be one to two years. Hayles offers forward sales agreements to farmers to ensure fair pricing and avoid side selling. HNB also offers farmers savings accounts and provides financial education to reinforce good financial management. (See diagram below for an example of how HNB, Hayles and its farmers work together to supply gherkins pickles to international fast food restaurant chains).



(continued on next page...)

(...Box 1 continued)

Theme 3: Innovative partnerships, appropriate incentives and technologies reduce risks and transactions costs for HNB and its clients. By facilitating access to large and growing markets, these tripartite agreements reduce costs and risks for HNB and its clients. HNB achieves higher economies of scale, as it is able to identify and serve multiple clients, whose repayment capacities are supported by the market agreements they have with the lead firm. The technical assistance provided to farmers improves their product quality and return, which reduces credit risk and facilitates market growth over time.

By achieving scale, HNB has been able to offer its agricultural finance products at reasonable interest rates (only 2-3% above annual prime rate) and appropriate terms (generally 6 months to 3 years, depending on crop cycle and investment purpose).

HNB opens savings accounts for farmers, from which loan payments are directly debited. By automating loan payments, HNB reduces credit risks and transaction costs for itself and the farmers. HNB also encourages savings by offering lottery tickets to win prizes to clients who increase their savings balances in specified increments. In 2010, HNB offered more than \$1 million in prizes to incentivize its clients.

HNB also works with packaging and transportation firms, helping them to upgrade to address issues causing spoilage and lost revenues. By working toward 100% of harvest reaching grocery store shelves, HNB helps to reduce food insecurity.

Theme 4: HNB further reduces risks by hiring and training barefoot bankers. Through recruitment and on-the-job training of large batches of university graduates, HNB has more than 250 field officers who are competent in finance, as well as agricultural markets. Barefoot bankers are being trained constantly on the latest developments in the agri-industry through training at the Sri Lanka Agriculture Development & Training Institute and overseas.

Theme 5: Large market potential attracted HNB to offer finance to rural and agricultural markets. HNB management saw an opportunity to expand the benefits of economic development into rural areas as economic development began to take hold when Sri Lanka's civil war came to an end in 2009. As a national bank, HNB has long been committed to financial inclusion and saw rural and agricultural clients as a large un-served target market, as approximately 70% of Sri Lanka's population live in rural areas. Emphasizing HNB's private sector approach to serve social needs, its mission is to "combine entrepreneurial spirit with empowered people and leading edge technology to constantly exceed stakeholder expectations."

Theme 1: Making Markets Work for Rural and Agricultural Finance

This chapter highlights some lessons related to creating an enabling environment for rural and agricultural finance, which includes all types of finance for rural farm and non-farm activities, as well as urban agribusinesses.

Lesson 1.1: It is Important to Clarify Appropriate Policy Framework and Avoid Mistakes of the Past

As we identify a new paradigm for rural and agricultural finance, it is important to avoid mistakes of the past, such as:

- **Subsidized credit programs and targeted lending**, which can (i) divert funding to better-off, more politically-connected clients; (ii) lower repayment rates since subsidized agricultural credit can be seen as a gift or grant; and (iii) curtail private sector investment;²
- **Ad-hoc debt forgiveness**, which results in a de-facto grant to borrowers and can encourage further defaults in the future.
- **Creation of state-owned development banks**, which often lacked a sound governance structure, resulting in poor management and excess losses;
- **Improperly structured agricultural credit guarantee programs**, such as covering more than 50% of the loan, resulting in strong incentives to make loans, but often without the proper oversight to ensure on-time repayments.

These types of interventions exemplified the "old paradigm" of agricultural credit once state-owned banks became insolvent (in many cases, for the second or third time), agricultural production stagnated (or declined from the gains made during the 1960s and 1970s as part of the "Green Revolution") and rural poverty remained entrenched (or worsened). Major publications such as the World Bank's 1997 Rural Finance: Issues, Design and Best Practices³ and FAO/GTZ's 1999 Better Practices in Agricultural Lending⁴ summarized the program design issues that led to failures under the old paradigm and offered several lessons to guide future agricultural finance programs.

A more effective and sustainable paradigm for lending to the poor, which has become known as the "Financial Systems Approach," began to emerge in the 1990s when best practices regarding urban microfinance, with some extensions to rural microfinance, gained popularity and were increasingly applied. Based on seminal works in 1997 by Vogel and Adams,⁵ Von Pischke⁶ and the World Bank, Campion and Charitonenko summarized the old and new paradigms for USAID's rural finance conference in 2003 (see Box 1.1)

² Adams, D.W, Graham, D. and Von Pischke, J.D. (eds.) (1984), "Undermining Rural Development with Cheap Credit." Westview Press: Boulder CO.

³ Yaron, J., P.B. McDonald Jr., and G.L. Piprek. 1997. Rural Finance: Issues, Design, and Best Practices. Environmentally and Socially Sustainable Development Studies and Monographs Series 14. World Bank

⁴ Part of the FAO/GTZ Agricultural Finance Revisited Series, 1998 - 2002, available at: <http://www.gtz.de/en/themen/wirtschaft-beschaefigung/finanzsysteme/6063.htm>.

⁵ Vogel, Robert C. and Dale W. Adams. 1997. Old and New Paradigms in Development Finance: Should Directed Credit Be Resurrected? Harvard Institute for International Development, CAER Discussion Paper No. 2, Cambridge, MA.

⁶ The Financial Systems Approach to Development Finance and Reflections on Its Implementation, prepared by J.D. Von Pischke for the First Annual Seminar on New Development Finance held at Frankfurt University in September 1997.

Box 1.1: Comparing Old to New Paradigm for Rural and Agricultural Finance

Features	Old Paradigm	New Approach
1. Chief aims	Boost agricultural production Reduce poverty	Reduce market imperfections and transaction costs for income expansion and poverty reduction
2. Role of financial markets	Stimulate production Help the poor	Intermediate efficiently
3. View of users	Beneficiaries: borrowers	Clients: borrowers and depositors
4. Subsidies	Heavily subsidy dependent	Increasingly independent of subsidies
5. Sources of funds	Vertical: governments and donors	Horizontal: primarily voluntary deposits
6. Associated information systems	Dense, fragmented and vertical – assessing whether targets were met	Less dense and mainly horizontal – management information systems
7. Sustainability	Largely ignored	Major concern
8. Outreach	Short-term focus	Long-term concern
9. Evaluations	Credit impact on beneficiaries – mainly primary data	Performance of financial institutions – mostly secondary information

Over the last decade, the technical literature has gathered additional evidence to refute the old paradigm and promote a more holistic approach to rural and agricultural finance. Using this new paradigm, it is important to clarify what are appropriate policy interventions and to work with Government agencies and others to understand and implement them. In Colombia, for example, USAID encouraged the Government to move away from market-distorting interventions and start playing the role of a facilitator, i.e. to incentivize banks to expand operations in rural areas through branchless banking (see Box 1.2). The core focus of most government and donor interventions was to get financial support out to targeted groups without addressing concerns for sustainability. Financial services in rural areas were public sector guided and financed at subsidized rates. High default rates were common. Following the new approach, the program forged sustainable finance linkages between the formal financial system and under-served areas. USAID focused on key regulatory reforms to jumpstart intermediation activities. These measures included Know-Thy-Banker reforms, interest rate ceiling reforms, putting in place a regulatory framework to promote branchless banking, and streamlining administrative requirements to easily establish small accounts. By playing the role of a facilitator, the Government of Colombia was able to galvanize commercial opportunities for profitably expanding services to isolated areas by making branchless banking easy to deploy.



Branchless Banking Kiosk in Colombia

Box 1.2: Steering Colombia toward Positive Regulatory Reforms for Rural Finance

When USAID began dialogues with the Colombian Government, the focus was on creating a traditional development bank, to be named “Banco de las Oportunidades,” to increase financial access, especially to the rural poor. The Colombian Government had tried using directed credit programs, interest rate controls and other traditional mechanisms to serve the needs of the poor, but those efforts were distorting markets and causing banks to be especially wary of serving rural areas. Through discussions, USAID and its Alternative Development programs, MIDAS and ADAM, were able to guide the dialogue toward a more sustainable, commercially-oriented approach to increasing access to finance for micro, small and medium enterprises (MSMEs), especially in rural areas. They focused efforts on working with progressive forces within the government and private sector, and taking stock of lessons learned from previous regulatory approaches. Highlighting these lessons, USAID was able to convince government officials to go with a more commercial approach by building linkages with formal financial institutions and facilitating regulatory reform designed to encourage the use of branchless banking. USAID also led the dialogue with commercial banks on how to expand into these areas in a cost effective way, including an exchange with their counterparts in Brazil. In the end, Banco de las Oportunidades became the publicly supported technical assistance provider that helped support the expansion of branchless banking. By 2010, there was an average of 360 million transactions being conducted per month using branchless banking. In just 3.5 years, Colombia went from zero to more than 6,000 branchless banking points of service, including all rural areas. Most importantly, however, was the change in viewpoint that occurred within the financial sector and with the support of President Uribe, to see the population groups that were previously underserved as viable markets.

Taking the new paradigm further beyond the legal and regulatory framework, GIZ/BMZ’s Making Finance Work for Africa (MFW4A) Conference, *Ziping Finance and Farming in Africa: Harnessing the Continent’s Potential*, developed broad policy guidelines for governments to support investment in agriculture, known as **The Kampala Principles** (see Box 1.3). Acknowledging that financial inclusion is a key to achieving the G-20’s Millennium Development Goals, especially for Africa, the MFW4A Conference gathered policy makers, leading practitioners from the financial and agricultural sectors, researchers, media and development partners from all over Africa, as well as other regions. With this blend of experience and expertise, the Conference provided a platform to foster understanding between stakeholders on the challenges in financing agriculture, as well as on proven solutions to some of the challenges. The Kampala Principles are applicable to other developing countries interested in developing commercial markets for rural and agricultural finance.

Lesson 1.2: Strong Macroeconomic Policy, Legislation and Enforcement Mechanisms Can Reduce Real and Perceived Risks Associated with Rural and Agricultural Finance

A strong macroeconomic environment along with legislation and enforcement mechanisms, inspire confidence in financial institutions to lend to agriculture. For example, a warehouse receipts program allows farmers to safely store grains and use them as collateral to access a loan. This mechanism requires a legal and regulatory structure to allow receipts for commodities stored to be used as collateral. Eastern Africa Grain Council’s warehouse receipt program in Kenya, presented in Box 1.4, highlights the importance of a trusted regulator and need for a clear enabling environment and legal framework to support contract laws and enforcement.

Box 1.3: African Leaders Agree on Kampala Principles for Agricultural Finance Policy

1. Address Agricultural Finance policy strengthening through establishing a specific high-level coordination body and by recognizing a single entity as the advocate for Agricultural Finance.
2. Strengthen farmers' organizations so that the production end of agricultural value chains becomes an effective influence on agricultural finance policy making.
3. Focus public sector policy on a value chain/commodity approach, with clustering of smaller farmers to facilitate economies of scale in input purchase, value addition, marketing and advisory services.
4. Ensure legislation is in place and is implemented to foster innovation and to remove barriers to financing the business of agriculture, through measures such as, but not limited to: asset-backed products, warehouse receipts, contract farming, credit reference bureau (and better client identification), consolidation of small but viable rural financial institutions and other support to the informal financial sector.
5. In accordance with CAADP Principles, and in encouragement of private sector investment, increase public sector expenditure in areas such as, but not limited to: crop and livestock research and extension, water for irrigated crop production and livestock farming, infrastructure for crop insurance, rural energy supply, communications and roads.
6. Support transformation of the agricultural sector through encouragement of longer term productivity-enhancing, on-farm investments such as water supply/irrigation, fencing and farm buildings, through consensual approaches to land tenure issues.
7. Enable financial institutions to meet the demand for longer term financing by developing financial markets so that lenders can gain access to the term liabilities required.
8. Encourage the commercialization of agriculture and of farming as a business, whether by consolidation of small holdings or through involvement of the private sector (domestic and foreign); in both cases ensure that social, cultural and environmental concerns are met and ,in the latter case, that appropriate controls are in place to prevent undesirable exploitation.
9. Develop and implement concrete actions to improve financial literacy, consumer protection and farmer business education, with a special focus on gender and youth issues.
10. Drive research, training and dissemination of knowledge to foster private sector investment in developing and marketing added-value agricultural products and services.
11. Ensure a sustainable flow of information is available in areas such as, but not limited to: markets, output prices, costs of inputs and cost and conditions of financial products and services.

Box 1.4: Lack of Transparency Hinders Warehouse Receipts Lending In Kenya

ACDI/VOCA has helped develop grain bulking systems to improve marketing, food security and financing in Eastern Europe and Africa ranging from household storage to warehouse receipt systems. In Kenya, ACDI/VOCA worked with the Eastern Africa Grain Council (EAGC), a private sector member-based organization of farmers, traders and processors, which is trying to establish a self-regulated system of warehouse receipts within the Kenyan grain marketing system.

The concept was that EAGC would inspect and certify warehouses, which would facilitate banks' willingness to lend against grain depositors' receipts. The EAGC based its receipt program on contract law (each warehouse receipt represents a certain contract that covers all aspects related to the handling of the grain represented) and arbitration to allow disputes to be quickly resolved. The banks cited several disincentives to lend, including:

- Lack of confidence in the regulator
- Non-transparent markets
- Government interference in markets
- Uncertainty of warehouse receipt status
- Uncertainty on viability of arbitration as a mechanism to resolve disputes

To date, the EAGC warehouse receipting system has not yet achieved its potential. In the 2007/8 season, 1,000 MT was bulked in one certified warehouse and finance was provided by Equity Bank. Three warehouses were certified in 2008/9, but the system was disrupted by adverse government intervention in the market and flat prices during 18 months of imports. In 2010/11, the EAGC failed to mobilize participants effectively, as only 198 MT was deposited.

The challenges facing EAGC resulted in lessons seen in other cases, including:

- Realistic target markets are critical. While donors tend to be focused on serving smallholders, it is often more important to target medium and large traders and processors initially to achieve credibility and volume quickly, so that costs can be realistic for smallholders. In the short-run, small holders also benefit from increased cash in the system and reduced price volatility.
- System development takes time, due to the complexity of the inter-related pieces of grain warehouse receipts systems and the need for enhanced local capacity.
- Both public and private investment is needed to create a viable warehouse receipts system that serves a broad range of agricultural market needs.

Lesson 1.3: Credit Alone is Not Enough; a Holistic Approach is Needed Including a Range of Financial Services and Non-Financial Services, Such as Business and Agricultural Technical Assistance and Training.

To fully serve the needs of rural and agricultural clients, not only is it important to offer other financial services, such as savings, leasing and insurance, but also to ensure that they have access to the necessary non-financial services needed to grow their businesses and expand value chains. These services include organizing farmers, enhancing business skills by training farmers on how to run their farms as businesses, improving agricultural practices, providing access to inputs, among others.

Offering technical assistance to develop value chains while improving access to financial services is effective because it helps farmers to:⁷

- Invest more productively in their business;
- Acquire technical information to maximize investments and increase productivity; and
- Access more profitable and sustainable markets that enable farmers to earn higher incomes.

In 2011, Mercy Corps conducted a study to analyze its programs that combine value chain development with financial services. The study found that providing holistic support to develop value chains and their access to finance reaped greater results than stand-alone programs. Box 1.5 shows how the combination of technical and financial services development created results for the ginger and cardamom value chains in Nepal. MercyCorps' study compared and contrasted its projects that dealt with developing value chain, enhancing access to finance, or both, which were implemented in 12 different countries. The Nepal case and several others demonstrated that working to expand access to credit alone was not as powerful as combining technical assistance related to value chain development along with access to finance (including savings and credit services). In particular, the study found that developing value chains while improving their access to financial services is more effective because the combined approach helps small farmers to 1) productively invest in improving their businesses; 2) acquire technical information to maximize productivity and investment; and 3) identify and access more profitable and sustainable markets.

Box 1.5: MercyCorps Nepal Combined Technical and Financial Services to Develop Cardamom and Ginger Value Chains

Since 2007, MercyCorps has been developing the ginger and cardamom value chains in Nepal and more recently has worked to increase their access to financial services. Mercy Corps provided technical assistance to increase ginger and cardamom farmers' profit margins through a variety of activities, including: strengthening group organizational capacity; enhancing business skills; improving agricultural practices (specifically in areas of varietal selection, cultivation, disease management and post-harvest handling). Mercy Corps' team also forged links with traders, wholesalers and exporters by facilitating collective marketing, information sharing and contract farming. To create an enabling environment, Mercy Corps facilitated interactions between value chain stakeholders; improving negotiation and coordination between value chain actors and other stakeholders. To reinforce its value chain development efforts, Mercy Corps also helped the largest microfinance bank in Nepal, Nirdhan Utthan Bank Ltd (NUBL), to expand operations into rural areas of Eastern Nepal, promoting group savings and loan products suitable for rural households.

Through May 2010, Mercy Corps Nepal has supported impressive results, including:

- On average, 60% increase in profit margin per unit of production for cardamom and ginger farmers;
- 48% reduction in fuel wood use for cardamom drying;
- 7 new branch offices opened by NUBL;
- 6,785 loan clients served, 351 are registered in cardamom and ginger businesses;
- US\$ 1.73 million of loans disbursed, of which US\$ 106,000 went to cardamom/ginger farmers
- Total savings US\$158,000, of which US\$ 65,000 were non-compulsory (i.e. voluntary).

For more information, see www.mercycorps.org/resources/agdevstudy.

⁷ MercyCorps' Agricultural Development Learning Study, http://www.mercycorps.org/sites/default/files/ag_study_summary_may2011.pdf

Lesson 1.4: Understanding Transaction Dynamics and Building Trust Across the Value Chain is Critical. The Value Chain Finance (VCF) Approach Examines a Value Chain in its Entirety, Identifies and Provides for not only Financing Needs, but also Market Linkage and Technical Assistance Needs for Each Key Player in that Chain in a Way that Reduces Risks and Costs for Lenders and Other Providers.

Understanding transactional dynamics is critical to designing an effective approach to value chain development and finance. With a relationship based on trust, farmers as well as agro-processors win, as their relationship can facilitate access to finance and a “guaranteed” market for the farmer, while ensuring a smooth supply. Box 1.6 offers an example of how a Chemonics-led project in Nigeria used the value chain finance approach to develop the sorghum value chain. For more information, see <http://www.nigeriamarkets.org>.

Box 1.6: Chemonics’ Experience with the Sorghum Value Chain in Nigeria

Facing rising costs of barley, beverage companies shifted to sourcing locally grown sorghum in several West African countries, including Nigeria. Recognizing this commercial demand, the USAID-sponsored MARKETS program implemented by a consortium led by Chemonics International, has linked sorghum farmers to the Aba Malting Plant. Aba Malting is a US\$67 million automated plant in Abia State that processes up to 30,000 metric tons of sorghum into malt. Sorghum grown in Nigeria by small-scale farmers comes in several varieties, however, and the quality is often inadequate for the malting plant, which requires large-grain, white fara-fara sorghum.

The program improves the quality of supply for the malting plant and increases farmer income by providing linkages between commercial seed companies and large groups of farmers. The seed companies not only sell farmers the seeds they require to sell to the malting plant, but also serve as production coordinators and buy-back agents, going so far as to transport the crop to the malting plant.

The program also helps farmers in five states: Bauchi, Kaduna, Kano, Katsina and Plateau to gain access to credit at 8% annual interest rate from another local partner, the Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB), so that they can purchase on credit the more expensive fara-fara variety. The fara-fara seed requires more weeding and care, which is why the program is also working with 15,000 farmers to improve their farming techniques.

Lesson 1.5: Access to Market and Pricing Information is Important to Value Chains and Facilitates their Access to Finance.

Information that helps to highlight market opportunities, such as specific information on market demand, supply and pricing, can help encourage investments, including new entrants into a value chain or external finance to support value chain expansion. Box 1.7 highlights an example of how market information from agricultural value chain analysis helped to facilitate the design of medium term agricultural finance products in Mali.

Lesson 1.6: Public-Private Alliances in Which Partners Share Risks, Responsibilities, and Rewards can Facilitate Access to Rural and Agricultural Investments

In the past, donors have been the primary supporters of development initiatives. As development professionals work toward sustainability, having the private sector take over donor-funded activities has been a common goal. For financial services development, sustainability is achieved when a financial service provider no longer requires donor subsidies to cover operating costs. Recently, however, donors are partnering with private sector stakeholders to identify market-based solutions to development constraints (see Box 1.8 for a description of how USAID has been forging private sector alliances to stimulate investments in agricultural finance).

Box 1.7: Market Information Facilitates Access to Rural and Agricultural Finance

Anita Campion of AZMJ led a team to design a workshop on Agricultural Value Chain Finance in Mali. Prior to the training, Chemonics International had conducted analysis on four value chains: rice, tomatoes, shallots and potatoes. The workshop included actors at various levels of the value chains, as well as financial institutions that expressed some interest in rural and agricultural finance. Using a participatory approach, participants were led through the analysis for each of the value chains, indicating the factors influencing pricing and risks, as well as trends in market demand and supply on a global, regional and local level. In addition, participants had a chance to explore potential upgrading opportunities that could result higher value added. For example, by slicing, drying and storing shallots, producers could benefit from prices that were almost four times as high later in the season. Participants were then broken into groups by value chain to discuss their needs for medium term finance with a banker, who was tasked with designing a loan product that would meet those needs and address the financial institutions' concerns for risk and profitability. While the Malian co-trainers were sure this was an unreasonable request, the bankers were able to come up with mutually satisfying loan proto-types and explained that it was having access to the impartial market information was exactly what they needed to overcome their risk concerns. In addition, the financial institutions liked the idea of working with a cohesive value chain as a way to identify several clients operating in a growth industry.

Box 1.8: Private Sector Alliances Leverage Investment in Agricultural Development and Finance

Since FY2007, USAID has formed 256 new development partnerships with private sector institutions via its Private Sector Alliances (PSAs). Through these partnerships, USAID has leveraged \$312 million in private sector resources to support its development initiatives. As measured from the late 1990s, 13% of the total number of USAID alliances has facilitated agricultural development.

PSAs are market-based partnerships between the public and private sectors to address jointly defined business and development objectives. Alliances are co-designed, co-funded, and co-managed by partners so that the risks, responsibilities, and rewards of partnership are equally shared. Using this approach, USAID freely partners with many other actors that can bring networks, technology and resources to create greater development impacts. Partners can range from local or national governments, other donors, universities and think tanks, religious or non-religious foundations to multi-national companies or other investors.

A successful alliance between Walmart Inc., USAID, Mercy Corps and the Guatemalan nonprofit Fundación ÁGIL (Fundación Apoyo a la Generación de Ingresos Locales) is just one example of how PSAs can enhance value chain performance and facilitate access to finance. In this case, the alliance linked farmers to higher value retail markets for fresh fruits and vegetables, in which local supermarkets would buy their produce and in turn supply farmers with information on consumer needs and preferences, in terms of quality standards, volume and prices.

Through this alliance, partners work with producer groups to develop farm plans that diversify from subsistence crops to more market-oriented production, based on expected consumer demand. These groups are trained in good business management skills, as well as agricultural practices to increase productivity, improve post-harvest management, meet retail standards related to sanitary and phytosanitary conditions, packaging, color, size, quality, variety and pricing. The alliance facilitates producers' access to finance through the Rural Development Bank (BANRURAL), a commercial bank that has a loan guarantee via USAID's Development Credit Authority.

Theme 2: Forging Agricultural Finance Innovations

There have been a number of innovations in agricultural finance in recent years, many of which apply a value chain approach. In this chapter, we will explore successful new approaches to financing agricultural activities and how they might be applied to other environments and contexts. This chapter addresses two kinds of innovation - product oriented innovation and process oriented innovation.

Lesson 2.1: Financial Solutions Should be Tailored to Rural Needs and Context

Financial service providers often innovate by adapting financial products and processes to the unique situations of various types of borrowing entities, especially for smallholder farmers, as Land O'Lakes has done with insurance for livestock in Malawi (see Box 2.1). Innovation, however, does not necessarily mean creating something completely new. Many providers take products already in existence and modify them due to cost constraints, partner constraints and a need to keep things simple, especially for farmers. New products also present significant risk to the financial partners that offer them. To encourage product innovation, resource agencies can take on or reduce some of the risk for financial partners, e.g. financial or "moral guarantees." CNFA was able to mitigate risks for banks in Ghana for a cocoa value chain by first having the more motivated partner, the local input supplier, Chemico Ltd, guarantee the credit risk to a producer's cooperative in the first year, and then transferring the full risk to the bank in the second year. CNFA was also able to provide collateral by working with the government and local chiefs to provide "Parcel Certificates," stating the end producer's land size and ownership.

Box 2.1: Land O'Lakes' Encourages Development of Livestock Insurance in Malawi

Land O'Lakes identified a market need to protect smallholders' investment in livestock and found a local Malawi-based insurance company to evaluate the concept for new product design. Insurance company representatives met with farmers, a new market segment for them, to learn about the insurance needs of their dairy business. The company was able to address key concerns for the farmers, related to cost, method of payment, process for making a claim. With this information, they created an insurance product that was suitable to large numbers of dairy farmers. The firm worked with Milk Bulking Groups as a means for reducing risk by insuring all of the animals in that group, which also helped meet business profitability goals for the new product. Cash flow is often a problem for the smallholder farmer, and Land O'Lakes identified a banking partner to link with the insurance company that was able to provide financing for the insurance products. Land O'Lakes was instrumental in linking commercial business providers to the dairy farming community and facilitated discussions and learning to ensure suitable and viable products were developed. Farmers now have access to livestock insurance, and the insurance company has begun selling complimentary products, such as property insurance, to this new market segment.

The other more common way to reduce risks is by providing technical assistance or training (for example, for improving yields and product quality) to borrowers to help improve incomes and therefore debt capacity, as well as by reducing business risk, such as dependence on a sole product (See Lesson 2.3). Piloting new products first to a small subset of the target group can also help in reducing potential credit and business risks. Once a pilot has proven successful, the resource partner often provides a roadmap and templates/tools for the financial partner to offer the products to a much wider market.

Lesson 2.2: Focus on Partners with Aligned Incentives to Create a Demonstration Effect

Since banks are often conservative and risk averse, especially in environments where the repayment culture has been damaged, they are rarely the best initial partners for agricultural finance. Often agricultural finance demonstrations begin within value chains, before attracting in financial institutions. Once agricultural finance can

be proven to be profitable, however, exponential results can unfold as financiers expand their investments and more financial institutions are attracted to the market. By leveraging relationships of confidence, ACDI/VOCA's Access to Agricultural Credit (Aceso al Credito Agricultural, ACA) project was able to show those with incentives to offer agricultural finance how to reduce risks and increase profits over time. As in many other countries, the best partners for agricultural finance in Honduras included microfinance NGOs with a social mission, such as FUNED, and input suppliers that could increase sales and profits by lending to their clients. Box 2.2 describes how ACA used simple systems and technology to expand horticultural farmers' access to input finance in Honduras, which created a demonstration effect and exponential results over time.

Box 2.2: Offering Finance through Input Suppliers Creates Agricultural Finance Momentum

ACDI/VOCA's team approached BAYER, a large agricultural input wholesaler, at the beginning of the ACA project in Honduras, but the large input provider was not interested in intense collaboration until much later in the project, when its retailers began to benefit from collaboration from its innovative credit approaches. By demonstrating the value of leveraging trust within value chains, ACA was able to show its partners how to reduce risks involved in agricultural finance. Bob Fries explains this risk mitigation technique has limitations, as trust is "the heart and limitation of value chain finance, but it is hard to massify trust." As outreach expands, agricultural finance becomes more about risk management, which is why banks and other formal financial institutions tend to rely heavily on collateral and other forms of guarantee.

To convince retail input suppliers to increase their loan offerings and improve terms for horticultural producers, ACA provided information-technology tools and training to improve credit disbursement and administration. This approach focused exclusively on simple and low-cost technology, including "off-the-shelf" accounting software (QuickBooks) and modified tools from ACDI/VOCA's microfinance experience, such as its cash flow analysis tool (Microsoft Excel based) and loan administration tool (Microsoft Access based). Not only did these low-cost tools help lower administrative costs for its retail partners, but it also helped improve the lending process and reduced loan arrears. Having standard technology tools in place also allowed ACDI/VOCA and its partners to quickly scale the program up to more borrowers after the pilot proved successful.

By May 2010, 1,923 borrowers had accessed loans from 12 input providers for a total of more than US\$4 million, reflecting a 93% increase in less than 3 years. In addition, the average term extended from input wholesaler to retailer increased from 32 to 67 days.

Lesson 2.3: Technical Assistance and Training Can Improve Cash Flow and Reduce Business Risks for Farmers and Intermediaries

Many presenters at the Cracking the Nut Conference put forth that a service provider cannot just provide agricultural finance alone, but must also include other elements to ensure that the entire process is successful. One of these other key elements is providing technical assistance and training to farmers (and/or cooperatives and other intermediaries). This type of assistance serves several goals: improving debt capacity, reducing risk from unforeseen events and meeting social goals. Root Capital takes a unique approach by providing training directly to its producer institutional borrowers and partners through an expert technical assistance provider (See Box 2.3).

One of the main challenges with technical assistance (both pre- and post-investment) is sustainability. Root Capital plans to become self-sufficient soon from its loan portfolio, but sees the need for outside grants and subsidies for the foreseeable future to support its technical assistance. Root Capital believes the way to achieve

self-sufficiency is through a combination of having one of the lead value chain actors pay for the technical assistance, as it reduces their operational risks and by charging the end producers a nominal fee.

Box 2.3: Root Capital Provides Technical Assistance to Value Chain Intermediaries

Root Capital, a nonprofit social finance institution working in international, regional and domestic value chains, provides credit to small and growing business that are typically unable to secure financing from commercial banks. Root Capital's loan products include short and long-term working capital, as well as financing for fixed assets, such as equipment and infrastructure.

To serve the working capital needs of small and growing business with limited physical assets, Root Capital lends against purchase order contracts secured with reputable buyers. It also provides financial advisory services to improve potential borrowers' ability to manage a loan, as well as to strengthen existing clients' financial capacity. Services include accounting and reporting systems, cash flow management and governance, among others.

Root Capital's model involves a holistic approach to value chain finance. By working to understand a value chain's unique dynamics, the lender mitigates risk while structuring loan products that best meet borrower needs. The client's buyer benefits from increased supplier reliability and enhanced product quality.

In Kenya, Root Capital made a working capital loan to a fresh vegetable enterprise. Disaggregated smallholder vegetable farmers struggle to meet the stringent quality requirements of export markets, as well as to negotiate favorable prices within a nascent value chain. By selling to the socially-committed private enterprise, smallholders aggregated their production and received a higher price for their product. On the other end of the value chain, the buyer benefited from securing a large source of high-quality, traceable vegetables. The strengthened value chain created shared value for all stakeholders.

The main type of assistance provided focuses on improving the farmer's ability to repay the loans by increasing their incomes. This is generally done by helping them improve the yields (quantity – sell more units) and grade (quality - sell each unit at a higher price). The One Acre Fund (1AF), for example, has a goal to instill “permanent behavior changes...[resulting] in solid agronomic improvements and doubling farm incomes.” 1AF instills these behavior changes through training farmers on BASIC cultivation techniques, such as seed spacing and appropriate usage of fertilizer (see Box 2.4).

Box 2.4: One Acre Fund's Product and Processes Innovations

The One Acre Fund (1AF) in East Africa provides credit, inputs, training and market access to 55,000 farming families who own or have access to approximately one acre or less of farmland. One Acre Fund provides a "market bundle" of seed and fertilizer on loan, education, market access, and crop insurance to rural smallholders in East Africa. Families double their farm income per acre, on average and pay program fees for this service.

Innovative product: 1AF has designed a comprehensive set of services – a “market bundle” to meet the multiple constraints faced by rural staple-crop growing smallholder farmers.

Innovative processes: 1AF delivers this innovation to the rural poor, bringing the entire bundle of services to within walking distance of every customer they serve.

The second type of assistance focuses on reducing risks inherent in the business of farming and agriculture, e.g. pests, climate and post-harvest handling. For example, one of NABARD's main goals is to strongly encourage Indian Farmer's Clubs to conduct crop rotation and diversification to be less income dependent on one product and to reduce the risk of soil degradation. IAF's field officers also help farmers commercially grade their produce, aggregate their yields, interact with local traders, sell storage bags and acetellic dust (a preservative) to prevent post-harvest crop loss. IAF also trains farmers to return as much organic matter to the soil through organic composting. Reducing the risk of loss due to the inherent nature of farming also helps the provider achieve social goals by minimizing income losses and food insecurity for farming families.



1AF Farmer Spacing Seeds as a Result of Training

Lesson 2.4: Consider Needs within the Entire Value Chain, Rather Than at Just One Level

Any value chain, especially an agricultural one, is as strong as its weakest link in that chain. Value chain lenders have learned that they must understand a value chain completely; when lending to one actor in the chain, the performance of the loan is essentially linked to other value chain actors' performance. Therefore, an analysis of the entire value chain is needed to understand transaction flows and power dynamics. For example, if a bank lends to a farmer's cooperative, the cooperative's entire income is based on: 1) the farmers' ability to produce the agricultural products in the right quality, quantity and timing; and 2) the exporters' ability to purchase the produce from the cooperative. Sometimes, whether explicit or not, the value chain borrower may on-lend to another value chain actor further up or down the chain. For example, an input supplier may provide credit (or offer deferred payments) to producers to pay for inputs, such as seed or fertilizer. In analyzing strengths and weaknesses of financing a value chain, one should also consider indirect players, including banks, technical assistance providers and the government.

In building value chain finance capacity, one must consider which value chain actors have the motivation and the capacity to stimulate value chain upgrading. These lead firms are often large input suppliers, buyers or processors. CNFA in Ghana, for example, worked with input suppliers to help them become effective lenders to farmer's cooperatives and to farmers directly (Box 2.5).

Box 2.5: CNFA uses One Cocoa Value Chain Actor to Help Another in Ghana

The goal of CNFA's intervention in Ghana is to "link farmers to essential agricultural inputs, credit and output markets;" however, CNFA calls this model the Agrodealer Model for input retailers. The program focuses on Agrodealers due to improved information and product distribution networks (to maximize beneficiary farmers), and Agrodealers' knowledge of the local farmers and conditions. In particular, CNFA worked closely with a large input supplier and a commercial bank to provide credit to the Agrodealers for lending to farmer cooperatives, who in turn lend to individual farmers.

CNFA also trains extension workers to provide technical support directly to farmers on Good Agricultural Practices (GAP) and creates business development centers (one-stop-shops) that can support the larger associations and individual farmers through training, connecting to extension services and marketing opportunities, as well as accessing credit and inputs.

Lesson 2.5: Multi-Layered Agreements and Partnerships Can Facilitate Finance

The facilitation of agreements and partnerships, particularly in value chain finance, is often one of the most crucial (and common) roles a resource organization can play. The main challenges are that different players may not know or understand each other; or worse, they know each other, but do not trust one another because of poor outcomes in previous attempts to work together. This can make the creation of such agreements a long and complex process – requiring patience and a long-term view for success. A third-party resource organization (or a funder) can serve as an honest broker by taking a neutral role in understanding each party's needs, providing assistance to help each party become comfortable and ultimately negotiating an arrangement for a partnership, in the context of financing.

Successful interventions often begin with focusing on the value to each player directly in discussions, e.g. when talking to a bank, discuss the value to the bank, not the social benefit to the farmers. The resource organizations often find that they must base the agreement on good business fundamentals (i.e. profits) for each party in particular. When one speaks of such arrangements, we often think of needing to convince the larger, more resource rich players such as banks and exporters (or end buyers); however, many have found it is just as important to focus on convincing producers of the value of partnering through clear and demonstrable value propositions, as farmers often mistrust other value chain actors due to past mistreatment or misinformation.

When it comes to financial providers, it is important to avoid recreating the wheel. For example, rarely is it necessary to create a new financing entity to offer agricultural finance. It is more cost-effective and expedient to build on existing structures, such as MFIs, cooperatives and commercial banks. Large, well-known third-party service providers and funders, such the Bill and Melinda Gates Foundation, can use their name recognition and influence to convince typically reluctant financial players. Many service providers have found that it is more important to find one willing and interested financial partner than to approach many players at once.

Theme 3: Reducing Costs of Rural Outreach

There has been much discussion lately about the need to increase access to the missing middle, referring to small and medium enterprises (SMEs) that are important to rural and agricultural development. However, Shari Berenbach of USAID's Microenterprise Development Office states that she is also concerned about "the missing bottom," referring to the poorest households, which tend to live in remote rural areas with almost no access to formal financial services. To be able to expand outreach to those households, we must find ways to reduce transaction costs associated with serving those areas.

Lesson 3.1: Unique Distribution Models Can be Used to Serve Rural Clients

Many lenders find it difficult to lend to rural clients and farmers, because of a lack of resources to extend outreach to rural locations and a lack of knowledge of potential clients. Throughout the developing world, formal and informal financial institutions (FIs) are using mechanisms, such as joint liability groups (JLGs), to reduce risks of information asymmetry and moral hazard. Grouping of clients into joint liability groups can reduce costs of serving rural areas.⁸ Through groups, the financier reduces risk through co-guarantees, in which each member in the group agrees to cover the other members if they default on their obligations. This verbal guarantee is often supplemented with a group guarantee fund generated through mandatory savings, and each member is motivated to ensure repayment by others, so that they can continue to access loans in subsequent cycles. The financiers find this an advantageous process, as it does not require the costly and cumbersome process of assessing physical collateral to reduce repayment risk.

As mentioned in Lesson 2.3, training farmers can improve debt capacity and reduce credit risks. Providing training and technical assistance through groups makes such interventions even more cost-effective and scalable. NABARD uses JLGs and a derivation of JLGs, called Farmer's Clubs, to increase outreach and reduce credit risks (see Box 3.1).

Group lending models do present some issues, however, which were most recently experienced in India. The first common issue is that if the program solely focuses on credit growth without balancing other goals, the service can actually do more harm than good by encouraging farmer over-indebtedness. The second issue is that lending to groups can create systemic lending risk. In effect, groups have used the word "solidarity" in their names in the other direction by supporting their defaulting brethren and encouraging the entire group to default, sometimes with the entire villages defaulting on loans. NABARD, for example, attempts to mitigate these risks, by providing savings services and other technical assistance.

Instead of "saving down" (i.e., credit), alternative programs use similar group models to help farmers "save up" (traditional savings) for investments they need to make.⁹ Using groups is not the only way to improve distribution and reduce risks of lending to farmers. The other typical model is to focus on potential aggregators, i.e. the players in the market who interact with the target market *en masse*. The most typical and traditional aggregator model is the farmers' cooperative or producers' company.¹⁰ Many have found that the key is to find players who are interested and have adequate resources to provide such services.

⁸ JLGs and other group-based/solidarity models are based on the original Grameen Bank group lending model created in Bangladesh.

⁹ The terms "saving up" and "saving down" were coined by Stuart Rutherford in [The Poor and Their Money](#).

¹⁰ More or less, JLGs operate as informal, mini-cooperatives. Often these small, informal groups are the precursors to organizing into more formal institutions.

Box 3.1: NABARD Farmers' Clubs Reduce Risk and Improve Knowledge Distribution

NABARD, a quasi-governmental development bank in India, has focused on forming and supporting farmers' clubs (FCs) of 25-50 members per village through the distribution of financial services (savings and credit) and the transfer of agricultural skills. Currently with 88,000 groups, this means NABARD's FCs now serve around 3.3 million farmers. (To reach poorer and landless farmers, i.e. tenants, NABARD has also helped create 76,000 joint liability groups [JLGs - similar to Grameen Bank peer lending] of 8-10 members, or about 684,000 members. These JLGs also receive similar, but more tailored financial and technical assistance than the FCs.)

Not only do FC members receive access to credit from local bank branches, but many FCs actually take on the role of an agent for the local bank branch, helping in underwriting and processing loans, collecting loan repayments and applying peer pressure on those who are delinquent, so that they repay their loans.

For knowledge transfer, **NABARD's** Master Farmers' program is a cost-effective training of trainers (TOT) approach to reach scale quickly. Successful and trusted farmers are sent to a special location, such as an agricultural university, to learn about new and improved farming techniques, and they then must promise to train their peer farmers' club members on the new techniques. FCs can also access agricultural extension agents (NGO and government based) and agricultural university experts and research for improving their agricultural skills. The types of knowledge passed on to FCs has been as diverse as soil testing, crop diversification/rotation, mulching, drip irrigation and fertilizer usage – all determined and requested by the FCs themselves. Apart from technology transfer, the Master Farmers are also trained in banking services (how to use savings and loan products, importance of recycling funds through loan recovery) as well as value addition (e.g., processing and marketing to ensure a higher return)

NABARD is contemplating now how to help farmers' clubs evolve after many years of success and growth and considering assisting them to become full cooperatives or producers' companies to process and even market their own produce. Regardless, NABARD has learned that the key to success with the group model is to focus on a bottom-up approach, with the groups deciding on their technical assistance needs and on the agricultural products to produce.

Lesson 3.2: Savings Groups Can be an Important Platform to Improve Agricultural Production and Investments.

The poor in developing countries, especially in rural areas, have been organizing and using savings groups for years, before they were ever referred to Rotating Savings and Credit Associations (ROSCAs) and Accumulating Savings and Credit Associations (ASCAs), etc.¹¹ In the last twenty years, local NGOs and international support organizations have worked with these groups to improve their structure and capacity, reduce risks and encourage more savings and investment. As of July 2010, the largest programs were serving 2.3 million people, mostly in Africa.¹²

As these organizations have reached a significant scale of poor through these groups, the question now is can we use this pre-existing platform to deliver improvements in poor, rural households' agricultural production and investments in a low-cost manner? Many of these same organizations are experimenting with that, and there are two main aspects of this type of intervention. The first intervention is to provide technical assistance to improve agricultural production, and the second is to encourage these groups to drive savings and credit behavior to focus more on livelihood investment (and generate more of it), rather than focusing on consumption.

¹¹ There are many other derivations, such as VSLAs (Aga Khan), SHGs (Government of India), and SGs (Oxfam/CARE).

¹² Aga Khan, CARE, CRS, Oxfam, PACT, and Plan. Savings Groups: What are they?, SEEP Network, June 2010, p. 4.

For example, Catholic Relief Services (CRS) Ghana and its implementing partner, the Wa Diocese, has found that combining savings with agricultural extension services helps smallholders to facilitate growth-oriented investments (see Box 3.2). Known as Savings and Internal Lending Communities (SILCs), this approach is especially useful for working with the most vulnerable rural populations, who have little or no access to formal financial services. CRS and its local partner play an important role in organizing groups and providing financial education, which helps prepare members to benefit from formal financial and other non-financial services later.

Box 3.2: CRS Uses Savings Groups to Promote Agricultural Investment

CRS is working with the Ministry of Agriculture's extension officers to promote better agricultural practices, and with the a local development partner, the Wa diocese, to organize the farmers into groups to promote savings-led microfinance in the Upper West Region of Ghana. The extension officers provide farm level support, agricultural production training, and technical assistance through the savings groups during regularly scheduled meetings. Working with the groups enables extension officers to achieve economies of scale. It further develops social cohesion by engendering trust between participants. The cross-training approach has already resulted in positive behavioral changes among the farmers, leading to better agricultural practices by improving the farmers' ability to invest in their farms using small loans, accumulated savings, and dividends from their savings activities.

The main lessons:

- Time the start of a savings cycle so that it matches the agriculture calendar. In Ghana, the savings cycle needs to start in October to ensure that there are funds from the sale of the harvest. This allows sufficient time for the internal loan fund to reach a level that will cover much of the demand for finance in preparation for the planting season.
- Introducing savings groups to the concept of “pre-reserving” a portion of their return on their agricultural investment helps them to prepare for larger investments next season.
- It is important to connect agricultural extension officers and smallholder farmers through the SILC groups, as it creates an opportunity to bridge the flow of knowledge and skills to groups of farmers, who are empowered to save and invest in improved agricultural production practices.

There are challenges to using savings groups to deliver value chain finance and technical assistance. The first is absorptive capacity. Group members have a threshold for how much they can learn in the time that they spend at group meetings. Program staff members also have a threshold for how many topics they can cover well. The second challenge is how to link these groups to formal financial institutions, if at all. The Government of India, for example, has helped millions of Self Help Groups (SHGs – India's version of ASCAs) to access capital for agricultural purposes through India's banks. However, there is significant quantitative and qualitative evidence that the groups have dropped their original motivation for voluntary savings (based on group trust) and now only “save” the amount needed to access the loans from the bank (i.e. a shift to mandatory savings).¹³ Finally, there is of the challenge of scalability and viability of these groups if the support organizations eventually leave the groups (and their group federations) to manage affairs on their own.

¹³Indian banks generally require that around 20% of the loan be saved in a group account for the bank to lend, and statistics show that typical SHG savings balances now come out to equal roughly 24% of total SHG loan balances. *Status of Microfinance 2008-2009*, NABARD, www.nabard.org.

Lesson 3.3: Investment in Technology Can Result in Reduced Costs of Service Delivery for Financial Institutions and Rural Clients Over Time, Resulting in Increased Outreach.



into rural areas.

It is estimated that an average branch transaction costs the bank around \$1.50 (while the equivalent transaction on a mobile phone platform costs around \$0.05).¹⁴ This difference is due to the high fixed capital and labor costs involved with a branch network. Furthermore, many of the rural poor may want to make transactions of \$5 or less (in which the bank can only earn on a small percentage of that amount), and there is likely fewer potential clients in rural areas to cover the fixed costs of maintaining a branch. These factors: high cost transactions, small value transactions and fewer potential transactions are often the main reasons why financial institutions do not extend their reach

Many have found that part of the answer of providing financial services to the rural poor is through technology – and more recently through mobile phone platforms. As technology improves and becomes more stable, it becomes less expensive over time. Mobile phone networks, for example, have become more robust, covering even some of the remotest areas of the developing world, with airtime and handset costs dramatically falling. These same mobile platforms can now be used to deliver financial services, most notably urban (internal) migrants sending cash home to their family in rural areas, such as M-Pesa in Kenya in Box 3.3.

Yet, not only do the service providers benefit through lower cost delivery, the end customers benefit from lower costs as well. They do not have to travel far to make the transactions; they do not have to wait in line at a branch; and they do not have to carry around (or store at home) large amounts of cash, which is prone to be lost, stolen or spent. M-Pesa estimates that rural clients who had to travel to send money home could spend as much as KSh1,300 for a KSh2,000 transaction, consisting of lost wages, bus fare, and cash losses, versus the cost of an M-Pesa transaction of only KSh55. One of the most important cost reductions, however, is peace of mind and reduced anxiety, as clients trust M-Pesa to transfer the funds instantaneously.

Information technology can help value chain players, and particularly smallholder farmers, in many other ways as well. There are many pilots throughout the world in which farmers are sent relevant information such as pricing for their harvested crops and weather data through their mobile phones on a regular basis. Some mobile value added service providers offer interactive, direct technical assistance by connecting farmers to market information, such as global commodity prices, or experts, such as veterinarians or agricultural researchers. In India, e-Choupal has set-up a network of agriculture information and resource Internet kiosks, equipped with computers terminals, through which farmers can access information, such as prices on inputs and information on weather and agricultural best practices. As of 2009, e-Choupal had 6500 kiosks reaching 4 million farmers in ten Indian states.¹⁵

The use of technology to reduce transaction costs has its own set of issues. The main issue is that while technology can help save money in the long-run, it is very costly to set-up, due to high infrastructure, software and marketing costs. Another issue is adoption – clients may simply not be comfortable using the new technology for their financial and informational needs. It takes time and training (which increases costs) to achieve the volume of clients needed to break even. Also the application of new technologies often begins with some technical glitches, which can take a while to work through to ensure client satisfaction and trust.

¹⁴MicroSave Briefing Note 21, “Meeting the Challenge – The Impact of Changing Technology on Microfinance Institutions,”

www.microsave.org.

¹⁵www.echoupal.com. Partially excerpted from Miller, Calvin and Linda Jones, *Agricultural Value Chain Finance: Tools and Lessons*, FAO, 2010, p. 122.

Box 3.3: How Mobile Technology Reduces Rural Outreach Costs in Kenya

M-Pesa is a mobile-phone money transfer service of Safaricom in Kenya, an affiliate of Vodafone. Using SMS text technology, M-Pesa has demonstrated that its ability to store and share mobile airtime money with other users can also fulfill the demand for remittance services, short-term credit, savings and bill payments. The service was launched in early 2007 and by mid-2011 it had reached 14 million clients, representing almost 60% of the Kenyan population over age 15 (July 2011 population estimate from CIA Factbook). Sample surveys indicate that 70% of Kenyan households now have access to M-Pesa, including an increasing number of rural households. M-Pesa's success can be attributed to many factors including: (i) trustworthy pre-paid airtime and transfer service; (ii) its network of agents is 30-40 times denser than formal bank branches; (iii) it is easy to sign up and use; (iv) it is cheap, convenient and safe, and (v) more transparent than cash and less susceptible to fraud.

What has M-Pesa done for Kenyan customers?

- Financial Inclusion: M-Pesa has taken basic financial services to the unbanked in rural areas including women. From 2008 to 2009, M-Pesa increased its female clients from 14.7% to 40.2%; and its rural clients increased from 30% to 59%. In 2009, M-Pesa was serving 50% of Kenya's previously unbanked population, as well.
- Reduced transaction costs: Sending money through M-Pesa is cheaper than using Western Union or Postapay.
- Facilitates cross-selling of products, including:
 - Savings: In 2009, 57% of M-Pesa clients used the service to store savings.
 - Remittances: It provides a safe, convenient and cheap way to transfer money.
 - Supplier-financed trade credit: E.g. plans are being developed to allow retailers to buy inventory on credit and make repayments via M-Pesa over the week, instead of in cash up-front.
 - Water finance: M-Pesa has partnered with Grundfos LIFELINK, a water pump manufacturer that allows rural communities to purchase safe water via M-Pesa.

Lesson 3.4: A Trusted Partner and Advance Sales Contracts Can Reduce Costs and Facilitate Access to Finance.

Partnerships and triangulation agreements can be used to reduce risks and streamline costs, especially where there exists trust and clearly written agreements. For example, World Vision Tanzania's Market-led Agricultural Pilot Program is building on its past lessons learned to facilitate access to finance for small holders through the use of advance sales contracts to demonstrate market linkages, as well as the use of weather-based index insurance to reduce risks and costs (see Box 3.4).

Box 3.4: World Vision Tanzania’s “Market-Led Agriculture” Pilot Program

Part of World Vision’s (WV) global “Secure the Future Initiative” is its pilot Market-Led Agriculture Program (MLAP) in Tanzania. Begun in April 2011 in preparation for the October 2011 growing season. MLAP uses World Vision’s existing Area Development Programs (ADPs), which draw households together into regional groups. There are 62 ADPs in Tanzania and 2,000 worldwide. WV makes commitments to these ADP communities for 15-20 years.

MLAP was designed to incorporate learning from previous experiences, namely:

- The need to reorient farmers from a production orientation with a subsistence approach to a product orientation with a commercial approach;
- Aggregation and organization of smallholder farmers opens opportunities for improved product selection and quality, as well as pricing/contracting advantages;
- Lenders can benefit from farmer aggregation in terms of reduced transaction costs and advanced sale contracts can mitigate credit risks; and
- Use of warehouses and weather-indexed insurance can further lower costs and reduce risk.

The pilot is mobilizing farmers from 15 villages into “Commercial Villages” to increase their negotiating power and gain economies of scale through aggregation. The program will provide training to 4,500 farmers in efficient water harvesting and water resource management, forestation to protect water-sheds, adoption and use of draught tolerant seeds and integrated pasture management techniques. The objective is to connect at least 2,250 farmers to the market via advanced sale contracts and to leverage these contracts (as well as weather-indexed insurance and warehouses, where applicable) to have a minimum of 1,850 farmers accessing credit for input purchase and household expenses that enable selling at optimal time.

Lesson 3.5: The Internet Can Enable Producers to Rapidly Connect with Many Potential Sources of Finance, Reducing the Cost of Transactions.

Rural clients and producer organizations can find the borrowing process time-consuming and costly, if they can find financing at all. One of the factors influencing rural clients’ costs is the costs of funds from which the financial institutions lend. In addition to the interest costs, the cost of funds includes costs from the three main stages of financing: search, due diligence and closing – all of which consist of some level of travel and lodging, communication, printing and legal expenses. More importantly, each stage uses critical staff time. FAST estimates that typical transaction related costs can be as much as \$20,000 for lenders and has created an Internet-based platform it calls the Financial Marketplace, connecting lenders and producer borrowers remotely to reduce the aforementioned transactions costs (see Box 3.4). While the Internet can help to reduce search time and some due diligence related costs, there is still significant off-line time needed to close financial transactions. The tools used will often only be as good as the number of borrower and lender players involved (network effect), so this approach will take time to build-up and demonstrate its full potential.

Box 3.5: Finance Alliance for Sustainable Trade Connects Producers to Investors

The Finance Alliance for Sustainable Trade (FAST) is a member driven non-profit organization that represents financial institutions and sustainable producers dedicated to sustainable production and trade of sustainable products. Started in 2007, FAST has brought together a diverse group of organizations including lending institutions, SME producers, producer organizations, other supply chain actors, technical assistance providers, certification agencies and development institutions to bridge the financing gap in the sustainable Small and Medium Enterprise (SME) finance sector.

FAST operates the online Financial Marketplace platform that profiles financial services targeting sustainable agricultural producer organizations and SMEs, which can be accessed for free at <http://marketplace.fastinternational.org>. The catalogue of financial services provides details on interest rates, fees, eligibility, and application requirements. The platform is also searchable and facilitates contact between lenders and producers through a contact management system. This reduces search-related transaction costs for producers and often presents previously unknown sources of finance. In turn, with more potential financing sources, the producer organizations should be able to negotiate lower rates and fees from the lenders. The platform also helps reduce the documentation process by using common formats for applying and financial reporting. Over two years, the Financial Marketplace has been used by approximately 900 producer organizations and SMEs. However, FAST admits that it needs to find better ways of raising awareness for this tool with other value chain stakeholders and better ways of measuring the actual outcomes of the on-line initiated interactions.

FAST also organizes FAST Financial Fairs that consist of a series of one-on-one meetings between producers and financial service providers over the course of 2-3 days. The fairs save money for both financiers and producers, as they are able to meet with many of them in the same place. FAST's meetings have helped arrange meetings between 90 producer groups and 12 financial service providers, accounting for US\$9.5 million in closed transactions. FAST estimates that between September 2010 and June 2011 it has saved 90 producer groups and 12 lenders a total of US\$555,000, based mostly on reduced staff time and travel expenses.

Theme 4: Managing Risks Effectively

When discussing risk management in the context of rural and agricultural finance, there are typically two main entities that need protection from risk: the lender and the client. The two sides are often interdependent, however. Protecting the financial institution’s interests can often improve access to finance for clients. For example, financial security is important to savers as well as the financial institution. Likewise, helping a borrower reduce risk can reduce risk of loan default for the financial institution.

Risk management is a vast and complicated topic, and this chapter only covers a small portion. Rural and agricultural finance faces all the typical risks found in financial markets, as well as others more specific to rural areas and agriculture, as highlighted in Box 4.1. Agricultural lending is particularly risky, because it is:

- Seasonal and co-variant in communities, which causes liquidity management challenges
- Subject to market interventions, such as interest rate controls, subsidized credit and ad-hoc debt forgiveness, which distort markets and discourage formal financial institutions from offering agricultural finance
- Vulnerable to global price fluctuations and politically-motivated market interventions
- Resource intensive for financial institutions to have the capacity to assess and mitigate a broad array of challenges and risks.

Box 4.1: Risks and Challenges in Developing Rural and Agricultural Finance

In Financial Markets	In Rural Financial Markets	
	To Non-Farm Clients	To Farmers and Agribusinesses
<ul style="list-style-type: none"> • Unsound macroeconomic management (e.g., inflation) • Interest rate controls • Subsidized, directed credit • Ad-hoc debt forgiveness • Undeveloped legal systems for land rights, collateral claims, and contract enforcement • Low capacity of financial institutions, especially MFIs 	Increased transaction costs due to: <ul style="list-style-type: none"> • Low population density • Small transaction sizes • Limited non-farm economic activities • Inadequate infrastructure and social services 	Increased risks due to: <ul style="list-style-type: none"> • State-sponsored price controls, subsidies, and directed credit programs for agriculture • Seasonality, which causes high demand for credit and inability to repay until after harvest • Returns susceptible to affects from weather and pests • Variability in global agricultural export prices • Low agricultural productivity in many countries • Attempts to try new seeds, inputs, or technologies

Source: Adapted from A. Campion and S. Charitonenko, 2003, p.5.

There are risks that can be controlled, including operational risks (e.g. associated with new products), financial risks (e.g. credit and portfolio risks) and strategic risks (e.g. where and to what extent should we offer agricultural finance?). For farmers, the main controllable risks have to do with their incomes derived from the quality and quantity of agricultural produce yielded and their ability to sell it at good prices. The quality and quantity of yields are affected, at least partially, by the knowledge of farming techniques and access to certain technologies (e.g. drought resistant seeds). The quality and quantity of yields can also be affected by other risks, outside of their control, such as drought or excessive rain. While these risks cannot be avoided, there are ways in which the

financial institution and the client can minimize their negative impact. This chapter provides intervention examples for the controllable risks mentioned above, and risk management and mitigation techniques for the uncontrollable risks.

The typical risk management process entails first identifying the most important risks and ranking them by two main parameters: probability of occurrence (e.g. once a year versus once in 50 years) and impact of occurrence (e.g. \$100 loss vs. \$10,000 loss). The person or institution often then decides which of the risks to address, typically those with the highest probability and impact, and chooses the type of risk management intervention, commonly based on costs involved and internal capacity. The most typical interventions are: 1) assume the risk (i.e. do nothing); 2) avoid the risk (e.g. stop agricultural lending activities); 3) mitigate the risk (e.g. limit lending to dairy farmers to 20% of the portfolio); or 4) transfer the risk to someone else (e.g. insurance or credit guarantee). Typically most of these interventions also include some level of risk monitoring as well. The lessons below primarily provide examples of how the latter two options, risk mitigation and risk transfer, can be used to reduce the impact and probability of the risk types mentioned above, and ultimately how these interventions can help increase access to finance.

Lesson 4.1: Learn from the past to ensure effective rural and agricultural risk management in the future.

Since the 1960s and 1970s, governments have tried many schemes to improve financial access to rural citizens, primarily farmers. However, most of these interventions failed due to a sole focus on credit, heavy subsidies, poor administration and monitoring, and few consequences for non-repayment. These failed interventions also likely set back the development of the private sector to provide agricultural finance of their own accord by crowding them out due to subsidized rates and by scaring them away due to the significant defaults, effectively branding agricultural finance as too risky for decades.

In the last 10-20 years, however, many private sector financial institutions (FIs), including credit unions, banks and MFIs, have begun to refocus on agricultural finance – not only as a way to serve a higher mission but also as a business opportunity to increase returns and market share. FIs can address many of the inherent risks related to finance through adjusting (and adhering to) operational policies, ensuring staff are well trained, and being responsive and transparent to customers. Rudolfo Quiróz of the LocFund explained that during the recent global financial crisis, many financial institutions found they needed to “go back to basics” and learn from the past mistakes of failed agricultural lending programs. Box 4.1 discusses some of the actions FDL in Nicaragua took to survive the crisis. While not ideal for profitability, many FIs also create larger cushions for losses or set aside untapped capital for a liquidity tightening in the markets. These same FIs have taken note that they also need robust management information systems for monitoring portfolio quality and risk concentrations. FIs can also help reduce the impact of risks by looking outside their institution and partnering with other FIs to form credit bureaus or share credit exposures through participations or securitizations.

Lesson 4.2: Technology and process modifications can be used to reduce operational risks associated with rural and agricultural finance.

Often FIs can identify inherent problems in their business processes that increase risk or impede risk mitigation through financial, operational and social performance audits. When these issues are discovered, the FIs should take a holistic view to ensure that the main bottlenecks and risks are identified properly. Potential solutions can include using technology to streamline and reduce risk or changing processes. Often uncontrolled risks (and potential solutions) are best identified by those on the ground, such as field employees and customers. For example, IFMR Trust in India took a holistic view of the livestock insurance industry and asked all stakeholders, farmers, insurers, veterinarian experts, “Why was there not adequate access to small dairy farmers?” From their responses, IFMR found a multitude of bottlenecks, but focused on the ones creating the greatest obstacles. Box

4.2 describes how IFMR went about identifying these bottlenecks and was able to reduce risks, using Radio Frequency Identification (RFID) tags on cattle, to open a new insurance market to small dairy farmers.

Box 4.2: Reducing Risks of Cattle Financing in India

In India, 70 million farm households have cattle for dairy farming, but less than 10% are insured, despite a large number of general insurers offering cattle insurance products. It is observed that while almost half of microloan clients use loans to buy cattle, there is a credit constraint for purchasing higher value cattle. Such credit constraints could be eased if cattle insurance products were more readily available. Unfortunately, the insurance companies lack rural outreach to deliver cattle insurance and do not trust other field agencies, such as MFIs, NGOs or dairy companies, due to historical incidences of fraud. Moreover, there is no data on cattle mortality rates and cattle health. All these constraints make cattle insurance premiums unaffordable. Research revealed that there lacked one institution that could offer the proper combination of relevant financial products, rural outreach and technical knowledge to finance cattle (see table below).

Constraints to Cattle Finance

Institution/Attributes	Relevant Products	Rural Outreach	Cattle Health Knowledge
Financial Institutions		X	
Insurance Companies	X		
NGOs		X	X
Para-Veterinarians		X	X (lack accreditation)

IFMR Trust created a company, the Dairy Network Enterprise or DNE, to resolve these constraints, which integrates all actors and uses innovative technology to reduce risks that were impeding cattle finance, such as the ability to uniquely identify insured cows and the ability to reduce complications (and hence turnaround times) in the process of issuing cattle insurance. DNE developed a model that includes electronic ear tags for identifying cattle and direct reading of the tags into an electronic system also used for recording data on cow health and certified by para-veterinarians, medical treatments and breeding information. The insurance certificates are created immediately when the insurance is purchased. Insurance claims are settled within 7-14 days. A set of other modifications, including only 85% coverage for claims, reduce chances of fraud in the system. The claims to premium ratio over the first year of operations was just 0.37, which indicates the profitability potential for the insurer is high and could result in lower premiums in the future.

DNE offers the technology to the rural finance institution on a “pay per use” model, and hence DNE charges a per-animal fee instead of a one-time large size capital investment. This payment model enables the technology and processes to be adopted by even the smallest of NGOs, MFIs, and dairy companies.

Technology can reduce costs by improving existing processes and eliminating unnecessary steps, or by making the remaining steps more efficient. Technology can also serve a risk monitoring purpose, identifying where the program is functioning well and where it is not, such as for tracking past due loans. Finally, technology can significantly help a program grow cost-effectively, allowing it to serve more beneficiaries without necessarily requiring additional human resources.

Lesson 4.3: Credit Guarantee Programs Can Reduce Risk but Must Strike a Delicate Balance between Guaranteeing Loans that Would have been Made Anyway (without a Guarantee) and Guaranteeing Loans that Should Not be Made at All (Even with a Guarantee).

Joe Dougherty of Cardno Emerging Markets presented on World Bank research conducted on the use of credit guarantees in East Africa. He explained, “The frequent objective of credit guarantees is to act as a catalyst to encourage banks to lend to new types of customers, ideally even after the guarantee expires.” He cautions, however, that credit guarantees cannot improve a borrowers’ capacity to repay a loan or automatically make banks better at assessing and managing credit risk in order to lend more on their own without guarantees. Therefore, **guarantees are not a perfect replacement for collateral**, and while they can reduce losses, they do not reduce the probability of default. Box 4.3 is a summary clarifying what guarantees can and cannot do.

Credit guarantee fees and terms must be set at a level that makes the scheme attractive to lenders, while ensuring the program’s financial sustainability. To design a credit guarantee, one must consider a number of features, which are summarized with common parameters in Box 4.4.

Box 4.3: What Guarantee Funds Can and Cannot Do

What Guarantees Can Do	What Guarantees Cannot Do
<ul style="list-style-type: none"> • Provide additional collateral to otherwise-creditworthy borrowers who have insufficient collateral. • Give banks an opportunity to practice lending to a new type of customer – farmers, SMEs, exporters, etc. • Act as a catalyst – encouraging after the guarantee expires. • Leverage scarce public resources (program capital) by “unlocking” private capital. 	<ul style="list-style-type: none"> • Improve a borrowers’ capacity to repay a loan, i.e. make a fundamentally un-creditworthy borrower creditworthy. • Provide an excuse for banks to do sloppy credit analysis or to avoid aggressive pursuit of repayment. • Automatically make banks better at assessing and managing credit risk. • Make up for a lack of liquidity or a maturity mismatch (funding long-term loans with short-term funds).

Box 4.4: Common Features of Credit Guarantees

Feature	Range and Mode (from World Bank Survey)
Funding Ratio	<ul style="list-style-type: none"> • Range from 1:1 to 26:1, some have 0 capital • Most programs between 2:1 and 10:1.
Coverage Ratio	<ul style="list-style-type: none"> • Range from 25% to 100% of outstanding loan guaranteed • Most programs between 50% and 80% guaranteed
Fees and Fee Structure	<ul style="list-style-type: none"> • Range from 0% to more than 4% of original guarantee • Payable upfront, quarterly, annually (on outstanding balance)
Parameters and Approvals	<ul style="list-style-type: none"> • 95% of programs target by size, type, location of borrower • 70% of programs approve loan-by-loan
Marketing, Measurement, Other Services	<ul style="list-style-type: none"> • No clear trend on whether borrowers know of guarantee • Few programs define or measure impact • Some offer training to lenders or business development training to borrowers

Credit guarantees tend to be attractive to donors because they are relatively low cost (i.e. they can be designed to use a small amount of funds to achieve a big impact). While the objectives of credit guarantees are usually sustainability, additionality (i.e. added value) and impact, in practice, there is little measurement of additionality, little or sporadic measurement of economic impact, and no measurement of demonstration effect.

Lesson 4.4: Introducing Weather-Based Index Insurance Can Reduce Risks and Increase Interest in Agricultural Finance

Insurance can be an excellent way of transferring high impact, high probability risks that are typically out of the control of financial institutions and their clients. This is particularly acute with agricultural finance in developing countries where many external risks exist at the same time: political, weather, social and market-based. However, as mentioned before, an FI usually cannot rid itself of exposure to all external risks and therefore must decide on the most critical risks to protect itself (and its borrowers) against.

In recent years, there have been several pilots to test the use of weather-based indexed insurance to mitigate losses related to extremes in weather, which often plague agriculture. The index is based on indicators such as rainfall level, temperature, regional yield, etc. In most cases, the index insurance contract is designed to be quite simple, with a defined threshold at which payments are made.

The main advantage of index-based insurance is that a measurable event (the index) is a proxy for losses, which reduces transaction costs of verifying individual losses, as required of traditional crop insurance. It limits the opportunities for moral hazard and adverse selection since an individual cannot influence the likelihood of receiving a payment. Claims are also settled faster as individual loss assessment is not required. It also has lower administrative costs compared to traditional crop insurance (for more information on traditional crop insurance vs. weather-based index insurance see Box 4.5)

Box 4.5: Comparison of Traditional Crop Insurance to Weather-Based Index Insurance

Parameters	Traditional Crop Insurance	Weather-Based Index Insurance
Simplicity	Complicated as it covers multiple perils	Simple to understand as it is a single peril insurance
Transparency	Farmer is unsure about quantum of payout	Payout is scientifically pre-determined and conveyed to farmer
Claim Settlement	Can take 6+ months before claims are settled	Claims are settled within a one-month period
Ease of Administration	Takes up significant administrative resources and is susceptible to morale hazard risks	Requires far fewer resources and is completely objective

Development International Desjardins (DID) partnered with an insurance company in Sri Lanka to insure against weather risk (too much and too little rain), based on input primarily from the end borrowers and supplementary advice from experts in the country (See Box 4.6). DID decided to focus on weather risk (rather than typical crop insurance, which covers many risks at once) to reduce the premiums required from the end borrowers and to reduce the complexity in administration of the product and in explaining it to borrowers. Insurance is an intriguing option for reducing risks in agricultural finance in that the interests of both parties (lender and borrower) are aligned, but benefit in different ways. FIs can benefit through additional revenue sharing with insurance companies and can reduce the required loss reserve capital. Borrowers benefit from knowing they will have cushion to fall on if an unexpected event occurs and can continue to meet their most basic needs.

Insurance at the micro-level, however, has not expanded as much as proponents would want in the past decade due to both a demand and a supply issue. Most successful microinsurance products are built into the loan costs, as it covers the balance of the loan in case of the client's death, which is more of a benefit to the financial institution than to the client, and therefore hard to sell on an individual basis. Even when microinsurance providers have been able to sell to individual clients, convincing them to renew their policy every year is difficult, especially when customers live in hard to reach, rural areas. From the supply side, insurers have shown interest in offering products; however, they are only interested in offering small premium policies if they can be sold in large volumes. Resource organizations can assist insurers in overcoming these perceptions by collecting data and educating the insurer about the overall risk and typical customer profile by demonstrating the potential for success of a new insurance product, such as DID demonstrated through its pilots in Sri Lanka.

Box 4.6: Reducing Institutional Risk through Weather-based Index Insurance

DID works to expand agricultural finance through a six-step model, which is currently being implemented within financial institutions in several countries. The six steps are 1) understand agricultural production value chains and assess the financial needs of value chain actors, 2) specialize staff and organize the agricultural credit department, 3) develop and adapt savings and credit products, 4) establish partnerships with organizations that support producers, 5) introduce internal risk management strategies for loan portfolios, and 6) introduce external mechanisms for managing and sharing agricultural credit risks.

In terms of risk reduction, DID and its partners are currently piloting a weather-based index insurance in Sri Lanka, offered by Sanasa Insurance Company Ltd (SICL) to its members. The work began by assessing the risks faced by farmers and their potential demand for crop insurance. According to the feasibility study, 55% considered insufficient rain (drought) or excessive rain (flood) an important risk factor. In addition, 80% of respondents expressed interest in purchasing rain-based index insurance, the majority of whom (85%) wanted it for their rice paddy crop. So, DID began designing an insurance product that would be affordable to farmers and effective in reducing risk of loss associated with bad weather conditions. DID conducted several interviews to collect expert opinions from scientists, actuaries and geographers, specialists from the University of Peradeniya, as well as State meteorology and agronomy departments. The first locations selected for the pilot test were Kalutara and Kurunegala. These two locations have weather stations collecting rainfall data, which was later used to design the product and triggers for payouts. The product was offered to farmers located within a 15km radius of the weather stations. Following this pilot test, the experience was expanded to other districts. The product was sold to about 2000 farmers so far.

There are many advantages to this weather-based insurance product as compared to traditional crop insurance (see Box 4.5 for comparison). The simplicity of the products underlies the principal advantages. However, weather-based index insurance does not protect against all losses (improper management practices, faulty inputs, attacks from pests, etc.). Despite its advantages, some challenges remain, especially regarding the proper design of the indices so as to take into account all situations. For instance, in the Kalutara district, after the first season, the rain level was under the trigger point, but excess rain led to crop losses for most farmers. As a result, no payout from the insurance left the farmers dissatisfied. Following this pilot, the product has been adjusted for the triggers, and some improvements have been made for deficit, excess and flash rain.

In response to farmers' low level of education, the project team offered what it calls "Insurance Plus," which provides farmer education to increase their productivity and incomes.

Box 4.7: Savings and Financial Education Reduce Risks for Poor Rural Women in Peru

Despite the plethora of formal FIs in Peru to support microfinance activities around the country, their reach is still limited in rural areas, especially in terms of providing access to savings for women. Trivelli et al. (2007) found that 25% to 30% of agricultural small holders face at least one idiosyncratic shock per year and yet fewer than 20% of them went to the financial market for help. A cash transfer program, JUNTOS with the support of Proyecto Capital, has worked to mitigate risks rural women face by facilitating their access to formal financial services and empowering them through financial education and literacy training. In particular, the poor rural women targeted in the pilot program expressed how they value these savings accounts because they help to:

- Act as safety nets to provide them a buffer for unexpected events
- Manage their liquidity and smooth consumption and expenditures due to seasonal variations
- Mitigate risks associated with emergencies and other shocks they and their families face
- Build experience with formal financial institutions in a low risk setting
- Provide a safe place to store short-term savings for specific assets, etc.

Two previous pilots targeted 16,000 indigenous rural women through a government program that aimed to help them to begin using financial services. A recent study of the pilots found several positive results, including:

- On average, women savers deposited a total of US\$525 over 48 months, during which the government deposited on average US\$110 in each account (monetary incentives) and the financial entities involved paid US\$30 in interest accrued for each participant.
- 72 out of 297 (24.2%) interviewed savers had never had access to formal credit, nor ever carried out a transaction in a formal financial entity.
- 75% of the women opened their accounts, transforming informal savings into formal savings.
- After 8 years, 42% of the women kept using their savings account.

Based on these two pilots, the national program – JUNTOS- began a pilot with the objective of facilitating the cash transfer recipient access to savings, reaching over 25,000 extremely poor rural women. This program aimed to leverage the cash already received by women who successfully completed the conditional health or education activities. The program required them to set up a savings account at the local branch of the national bank, Banco de la Nación, which is the most prominent in rural areas, through which they received the funds through that savings account. The program was advantageous to the banks in terms of increased clients and capital, as well as to the rural women, who could make withdrawals as needed.

As a result of these successes, the program has been scaling up, expanding into new areas and being evaluated closely to determine motivators and facilitators of success. Nonetheless, the remaining challenge is how to scale up to create financial inclusion for all. For that, there is a lot to do, including:

- Show the benefits of using savings account in several spheres: for income generating activities, vulnerability reduction and improvements in investment strategies, reduction in shocks' impact, development of financial capabilities, etc.
- Prove how offering a savings account to the poor is a good business for financial intermediaries (how long it takes, what is the minimum scale, cross selling products, etc.)
- Determine required financial education, who should provide it and pay for it?
- Explore various delivery channels
- Identify new financial products and services to better meet the specific needs of the poor.

Lesson 4.5: Savings (Especially When Combined with Financial Education) Can be an Important Risk Mitigation Tool for Rural Populations, as well as Financial Institutions.

Institutions wanting to reduce risks for the rural poor often forget that simple answers can help resolve large gaps. Savings mobilization, in particular, can be one of those simple solutions to reducing risks for rural clients. An important part of financial inclusion, savings products are often overlooked due to perceptions that the poor cannot save. However, many studies across the world show that the poor do save in a variety of ways and can be encouraged to save more when offered access to a convenient savings account. In Box 4.7, Proyecto describes how access to a simple savings product, combined with financial education helped poor rural Peruvian women to increase assets and better manage risks.

Studies have found that most poor want and need a simple savings account that provides security, anonymity, access and flexibility to deposit and withdraw small amounts. Financial education can also supplement the introduction of a new savings product by raising awareness and teaching the poor how and when to use other financial products. In particular, Proyecto found that many rural poor women in Peru want to save for their children's education, emergencies and for livestock (i.e. their livelihood). The second most popular reason, saving for unexpected emergencies, can be an excellent way for mitigating risk by effectively self-insuring. While the saved amount might not be enough to cover the full loss resulting from the emergency, savings can provide enough of a buffer so that the client does not have to stop her income generating activity due to asset liquidation or sell her agricultural produce at a below optimum price. This type of risk mitigation can also benefit FIs, as this protects their primary source of repayment on loans: cash flow from the borrowers' income generating activities.

Lesson 4.6: Risk Reduction Strategies Can also be Aimed at the Level of the Agribusiness.

While financial institutions and value chain financiers can mitigate a broad range of risks through portfolio management and diversification, the majority of the risk has to be managed by the rural client or agribusiness. Therefore, technical service providers can help to reduce risks associated with rural and agricultural finance by working directly with smallholder farmers in three basic ways: 1) study the local context, including the weather, the best crops, what capacities farmers have, and what the main risks are; 2) help plan for crop rotations, create an annual crop production plan, and produce simple business plans and budgets; 3) help farmers improve their agricultural techniques, such as water usage, crop diversification and improvements in planting, production and post-harvest handling. While most interventions focus on one of these three areas, Fintrac typically uses all these strategies to reduce risk in the communities it serves (see Box 4.8 for an example of its work in Honduras). Resource organizations can deliver this type of assistance directly or they can support other local institutions, such as NGOs and governmental agencies, to carry on the knowledge transfer and risk mitigation strategies at the field level. Working with local organizations can be a good way to transfer knowledge so that the results can continue beyond the life of a project.

Box 4.8: Fintrac Reduces Farmer Risks to Increase Yields and Income in Honduras

Risks associated with agricultural finance can be reduced by working with farmers and other agribusinesses to:

- Study and understand the market, make crop selections depending on demand and price statistics;
- Select crops in light of market access, growing conditions, farmer capacity;
- Improve water supply, utilization and irrigation;
- Diversify and rotate crops;
- Calendarize agricultural production to spread expenditures, receipts, and risk over the year;
- Improve basic production, harvest and post-harvest handling;
- Prepare production budgets, cash flow estimates, basic business plans;
- Make annual, rather than seasonal production plans;
- Develop grower/buyer linkages and contract farming, and diversify buyer networks;
- Create linkages with others in value chain (input and equipment suppliers, transporters, etc.);
- Work in groups to ensure that product can be delivered in sufficient volumes, consistency, etc.

Fintrac worked with Rafael Rodriguez, a typical small farmer in Honduras, to improve his production system (for growing maize, beans and onions) and increase his earnings. His family owns about one hectare of land (see photo of before and after the technical assistance), uses non-mechanized and non-modern agricultural practices, inputs and seeds. The land was rain-fed, using simple furrows to support irrigation. His farm was reliant on local buyers (coyotes), which typically resulted in Sr. Rodriguez accepting low prices during traditional harvest season. Fintrac worked with him to:

- Expand investment in irrigation and land;
- Adopt new technologies, including raised beds, contour plowing, integrated pest management, drip irrigation and fertigation, calendarized production, and recordkeeping;
- Develop market linkages with both formal and informal markets.

As a result, the Rodriguez family tripled employment, raised net income from \$376 to \$16,329 annually, and increased onion yields from 3.2 MT/ha to 78.8 MT/ha in just three years! By reducing risks, Rafael's income increased and became more stable, making him more attractive to financiers. See before and after pictures below.



Theme 5: Attracting Private Investment

The focus on agricultural and rural finance has certainly improved in the last decade, especially with multi-lateral donor and investment agencies, such as IADB, World Bank and USAID. However, there is still much to do to encourage international socially responsible investors (SRIs) and local, private investors to invest in rural and agricultural finance. Among SRIs, the main issue has been around convincing them that rural and agricultural finance can be a viable investment, just as microfinance, low-income housing and healthcare have been. Many are coming around, and some dedicate themselves exclusively to rural finance, such as Incofin's Rural Impulse Funds and Root Capital. Many have tried to attract local investors by strengthening existing players and by creating new entities altogether (i.e. green fielding). This fostering of emerging FIs often takes a combination of new capital injections, technical assistance, mentoring, and risk reduction strategies, such as guarantees or insurance. Most agree, including international SRIs, that the ultimate goal should be on building the capacity of local, private investors rather than relying on government interventions.

It became clear throughout the presentations for Theme 5 that one of the key roles that private investment, especially equity, can play is to provide "patient capital." This patient capital has allowed several positive trends, as described in the examples in this chapter: For example, financing can be extended to serve long-term needs, such as to acquire assets, loan sizes can be larger and repayment schedules can be tied to actual cash flows.

Lesson 5.1: Small Rural and Agri-Businesses Are Often Unsophisticated, Have Low Collateral Levels, and Sometimes Operate in Unpredictable Environments, Which Can Make Them Expensive and Risky Investments.

One of the main issues arising from the conference was how to rebalance rural and agricultural finance from an almost exclusive focus on short-term financing to providing more long-term finance. This is especially true for small, rural agri-businesses that are often coined the "missing middle," as they are too big to be served by MFIs and too small to be served by banks. Even though larger and often more established than microenterprises, these businesses are still not seen as good investment opportunities due to the common issues mentioned above.

Rural and agricultural SMEs need much larger financial capital inflows for a different set of assets than microenterprises. For example, many agribusinesses provide services, such as storage, transport and processing, all of which require fixed assets. Some ways to overcome these limitations and encourage investment in their activities include the following points:

- A focus on providing one product at scale to one market, so investment management processes can be standardized, which lowers costs and improves scalability.
- Focus on equipment, which provides an effective collateral substitute.
- A relationship-based approach, with more intensive due diligence, encourages investment officers to become familiar with the unique aspects of the business, allowing them to build in flexibility and enhance repayment.

Box 5.1 also describes how Equity for Africa's (EFA) approach to small scale leasing has helped to overcome some of these barriers.

There are some issues with this focus on larger, individual loans using equipment as collateral. The first issue is that SME loans of this type have higher default rates than typical commercial banking customers. It is a simple fact of doing business in this segment, yet these higher losses are usually overcome by higher returns (fees and interest) and larger loans (economies of scale). This, however, does not mean sound underwriting can be forgotten, and in actuality, due diligence and risk analysis are typically time and cost intense for this type of finance. The other issue is the limitations of physical collateral. While certainly better than nothing, agricultural

assets are generally purchased for a very specific reason and cannot be easily sold to recover the loan amount. Moreover, if the investor/lender focuses on only one type of equipment in particular, mass defaults could result in a rusting stockpile of equipment that cannot be sold to other interested parties, resulting in losses for the lender.

Box 5.1: EFA's Approach to Small-Scale Leasing Overcomes Collateral Constraints

Equity for Africa (EFA) is a British charitable trust that aims to alleviate poverty in a sustainable way by bridging the SME financing gap between \$2,000 and \$50,000. EFA set up their first office in 2004 in North Tanzania. A long-term loan from the Dutch development charity, Cordaid, helped EFA test the concept of providing standardized equipment leases to small businesses (2-50 employees) with a maximum of 50% allocated to agricultural production and other agri-businesses.

Key attributes of EFA's standardized approach include:

- Standardized equipment finance product, not tailored to individual customers, reduces costs by reducing time for negotiation and management oversight.
- Application form functions as a business plan template. Prospective customers are invited to a half-day seminar on how to complete the form, but the onus is on the applicant.
- Local managers conduct basic due diligence taking less than three days. This includes checking personal references, stress testing economics and interviewing customers.
- Ongoing monitoring through a triage management system to prioritize resources.

Through 31 December 2010, the developmental and financial results have been promising:

- EFA's Tanzania office has financed 73 leases for a combined value of US\$434,924.
- An estimated 20,000 smallholder suppliers have benefitted indirectly.
- Size of leases average \$6,000, which has been restricted by portfolio size, not demand, and is expected to increase to \$25,000 in the next stage of growth.
- Portfolio quality has been high, with net write-offs amounting to only \$23,958.
- 13% estimated gross internal rate of return achieved in first stage, but is projected to increase to around 20% in the next stage.

Lesson 5.2: Improving Post-Harvest Systems can Improve Quality and Lower Prices for Local Buyers and Processors and Improve their Ability to Attract Investors.

During the conference, there were many examples cited of inefficiencies and disadvantageous pricing from monopolistic and expensive middlemen or intermediary organizations needing improved processes, human capital and technology. Reducing such inefficiencies and costs when aggregated further up the chain can present an opportunity for higher returns to investors. By improving the chain's operations, it can also yield a much higher quality product and increase revenues. CARANA has also found that the drivers of these efficiency improvements do not have to be only from donors and governments that build infrastructure (e.g. improved roads), but can be addressed by private sector players who have a self interest in reducing costs and inefficiencies in the chain (and ideally making the solutions sustainable).

Due to these significant cost savings and higher quality outputs higher up in the chain, lenders and investors are increasingly finding they do not have to focus only on raw materials suppliers, producers and producer's organizations to improve a value chain. They have found that some of the institutions further up the chain, such as processors, storage facilities and transportation firms, can provide a promising investment opportunity through some minor changes that can realize significant gains. CARANA, for example, has devised a diagnostic tool to identify costs that can be eliminated and point out potential returns for investors (See Box 5.2).

Box 5.2: Quantifying Post-Harvest Losses as a First Step to Reducing Them – CARANA’s Approach to Minimize Value Chain Inefficiencies to Attract Investment

From working with and researching many different types of agricultural value chains in developing countries around the world, CARANA Corporation finds that on average 20-40% of agricultural output can be lost by the time it reaches the end buyer. Logistical costs can make up to 55% of the final market price of an agricultural good, but up to half of these costs are avoidable through improved post-harvest systems.

Given the opportunities in reducing post-harvest system inefficiencies, CARANA has created a “Transport and Logistics Diagnostic” tool to break down costs by commodity, marketing channel and transport corridor. The tool analyzes different logistics costs and what generates them at various points in the chain, including on farm (fees for de-shelling machines and village level storage losses), market (re-bagging costs to remove impurities, handling costs and storage losses), transport (service prices), administrative (axel load fines due to overloading) and informal costs (bribes). By using this tool, CARANA has found that with assistance (with start-up and organizational costs), anchor firms *will* invest in post-harvest systems to the mutual benefit of actors along the chain.

To attract value chain investments by anchor firms:

- Donors can provide co-finance (i.e. partial grants) up to 50% of start-up costs and extension services to build capacity, such as training in post-harvest handling and crop conditioning, and improving grading and pricing systems to reward quality.
- Technical assistance providers or support institutions can organize value chain stakeholders in new, more direct relationships (for example, by linking large buyers with smallholders through village aggregation centers).
- Leverage more finance from financial institutions for small-scale producers to free up their own direct investment funds.

Lesson 5.3 Using Holistic Value Chain Concepts and Risks Mitigation Tools Can Reduce Risk and Facilitate Investment in Agri-SMEs and Smallholders.

In developing value chains, we need to make sure we are thinking systemically, not linearly. As we make an impact in one of the following areas, we affect the others: production, transport, finance, storage, markets, processing, support services, etc. As we think systemically, we also need to thoughtfully consider natural resource management impacts (i.e. soil fertility, water use, climate resilience, etc.), **the broader ecological landscape**, and the likely impacts of various activities on incentives and risks. We must consider economic, as well as social impediments, to behavior change, which can sometimes go back to an event 20 years ago. For example, families that are used to growing staple crops are often resistant to changing to a cash crop out of fear for their families’ own food security needs. Donors should recognize that they are often engaging in experimental and sometimes conflicting activities.

Commercial banks, in particular, can take a holistic view due to their scope and scale, effectively creating their own parallel financing of value chains to complement the value chain’s internal finance. Often, large banks have the following departments: Commercial Lending (large companies), typically specializing in one industry, Middle Market (medium size companies), Small Business Lending and an arm for financial inclusion, often called Community Banking, e.g. in Standard Bank’s case called “Inclusive Banking.” In addition, they also usually have risk management divisions that can hedge risks using derivatives for foreign exchange, interest rates, commodity prices and other market risks, insurance affiliates that can issue policies to mitigate other risks, and often, a philanthropic foundation that can make donations and other sponsorships. Most banks, however, have yet to coordinate these various resources and levels of expertise to approach an entire value chain at once to improve the

overall value and delivery of the end product. Such coordination could improve the overall creditworthiness of each stakeholder (by ensuring the stakeholder's clients and suppliers succeed) and by improving revenue prospects through fees and interest from credit and fees from selling ancillary services, such as derivatives and insurance policies. Using a value chain approach, Standard Bank in Africa has developed methods for addressing some of the aforementioned constraints and is one of the few banks that play an active role in all levels of a value chain, from input supplier to exporter (see Box 5.3).

There are, of course, constraints to this holistic banking approach. First, it is difficult to convince conservative bankers that a value chain approach to banking could be beneficial. Each department would need to work and communicate closely with each of its counterpart departments, raising the question of who is in charge and responsible for the overall effort and who earns credit for each of the steps taken. The other main issue is a case of systemic risk in the value chain. If one stakeholder, e.g. the processor, fails in the chain or if the market price crashes for the end product, the entire chain of stakeholders could fall into default at the same time. The bank's loan portfolio at risk would not just be to one player in the value chain, as is more typical, but to multiple stakeholders at the same time, resulting in higher risk concentrations. Industry analysis (pre-investment) and portfolio monitoring and diversification would likely play a large part in reducing this risk.

Box 5.3: Standard Bank's Agricultural Value Chain Financing Makes Good Business Sense

Established in 1862, Standard Bank is the largest bank in Africa by assets, earnings and market capitalization. In keeping with the bank's commitment to agricultural growth across Africa, Standard Bank announced in March 2010 that it would allocate up to \$100 million over three years to finance value chains.

A lack of suitable collateral makes it difficult to employ traditional lending products to small holder farmers. Standard Bank recognizes that the provision of finance is important, but is only one of many constraints facing smallholders. Equally important is the provision of a system through which small farmers can improve efficiencies in all areas; from accessing inputs, improving yields, developing skills and infrastructure.

The partnership between Standard Bank, the Alliance for a Green Revolution in Africa (AGRA), OPEC Fund for International Development (OFID), Kilimo Trust, Millennium Challenge Account (MCA) and Millennium Development Authority (MiDA) in Ghana, Uganda, Tanzania and Mozambique is an example of how such collaboration can reduce risk and facilitate investment. The lending structure uses a co-operative mechanism, which includes: linkages to formal markets that provide minimum price guarantees (thus mitigating price risk); weather index insurance, training and mentorship. The co-operative structure allows farmers to consolidate their bargaining power to reduce input costs and achieve economies of scale in terms of output and market access.

Lesson 5.4 Socially Responsible Investment Funds Can Facilitate the Transition of Public Sector to Private Sector Investment in Rural and Agricultural Finance

In many developing countries, debt financing can be difficult to access for rural and agricultural finance and access to equity financing even more so. There are often constraints, such as government subsidies or government directed lending that may crowd out private players, difficult (or non-existent) laws that impede or do not adequately protect investors and a nascent (if any) equity investing community that does not necessarily think of rural and agricultural opportunities as their first choice for investment.

Socially responsible investment fund managers can play an increasingly important role in building up locally-based, private debt and equity options for rural and agricultural finance in developing countries. First, they have the expertise in working in developing countries and understand the risks involved and how to mitigate them

through proper products, investment structures and investment policies. Through this expertise, they can serve as examples to other local investors, including pure private investors, on how to make such investments profitably and securely; international SRIs often “participate” in the same transactions with these nascent local investors to lend credibility, encourage investment and share risk. SRIs can also work with local governments to create or modify laws and regulations to encourage private investment.

Many socially responsible investment funds also serve as financing conduits for multi-lateral organizations, such as IFC and IADB. Additionally, many developing countries have significant diasporas that are generally better off in their adopted countries and want to give back to their home country. SRI funds can therefore serve as conduits for these wealthier expatriates to effectively direct funding back home. SRI funds thus can bring in additional capital that would not be available without a familiar and trustworthy entity available to distribute the funds. Some SRI fund managers actually create separate local affiliates or work with a nascent local equity player, with the idea of this local entity continuing on in the long-term. Some SRI funds act as a “fund of funds,” directing investments to local equity and debt fund managers. Many are also tied into other resources and experts, through technical assistance funds and guarantee funds, which can catalyze the local, private investment industry. Incofin essentially serves as a “fund of funds” in this way in many countries in Africa, Asia and Latin America by “on-lending” to rural MFIs who in turn lend to microentrepreneurs and small farmers and by providing access to technical assistance resources for the MFIs to improve their systems (See Box 5.4).

MFIs, however, are not the only possible local entities to spur private, local investment in rural and agricultural finance. India, for example, has a robust venture capital industry that not only focuses on rural microfinance, but also on rural social enterprises, such as agri-businesses, hospitals, schools and even business process outsourcing firms.

Box 5.4: Facilitating the Entry of Private Risk Capital in Rural Microfinance Institutions to Expand Access to Agricultural Finance – Incofin’s Rural Impulse Funds

Incofin is a social investment company based out of Antwerp, Belgium that specializes in microfinance investment in developing countries. Its two core activities are: direct investments in microfinance through loans, stock participations and guarantees; and fund management.

Incofin’s US\$38 million Rural Impulse Fund (RIF) I, which began in 2007, aims to increase the supply of rural microfinance by extending commercial funding (via senior loans) and strengthening the financial structure (through equity investments) of MFIs that have successfully provided financial services to rural poor and achieved financial self-sufficiency. Incofin’s Euro 120 million (US\$173.4 million) RIF II, which began in 2010, has similar objectives, but also can invest in early stage and green-field MFIs. Investing in rural MFIs is done for both social and financial impact. Facing less competition, rural MFIs have high growth potential to serve large under-served populations.

To date, Incofin has invested in 97 MFIs with at least 30% of their points of sale in rural areas (with preference given to MFIs with more than 50% of clients in rural areas). RIF I & II MFIs dedicate more than 22% of their gross loan portfolio to agriculture, lending US\$ 805 million to 1.1 million farmers. RIF I’s internal rate of return to date is 13.7% and RIF II’s returns are following a similar upward trend, indicating that prudent investments in rural MFIs make good business sense from a social as well as a financial perspective.

Lesson 5.5 Creative Financing and Partnerships Can Facilitate Investments in Rural and Agricultural Finance

When dealing with slightly larger investment needs such as for agri-businesses, financial institutions will rarely be able to use a “cookie cutter” approach, as microfinance often does. These types of businesses often require individualized, tailored products that fit their need for long-term assets, e.g. equipment, and hence longer term and larger loans and repayment schedules that match the cash flows of the particular business. FIs may need to create holistic financing and technical assistance packages with new partnerships to ensure the financing is appropriate and will drive the desired impact. As seen in Box 5.5, Sarona Asset Management in Ukraine has created innovative lending products called “agri-business in a box” for two sectors, which entails equipment lending, input (working capital) lending and technical assistance. Sarona coordinates with the input providers, equipment distributors and technical assistance providers so that the end borrower experiences a well synchronized financing experience.

Box 5.5: Packaging Can Make All the Difference – Sarona Asset Management’s Agricultural Small Asset Financing in Ukraine

Sarona Asset Management Inc. is a Mennonite Economic Development Associates (MEDA) investment company based in Waterloo, Ontario. The organization is the founder and manager of a number of impact investment funds, including the Sarona and MicroVest groups of funds. Through Sarona Asset Management, MEDA launched Agro Capital Management (ACM) as an LLC in May 2009 in Ukraine.

Since 2009, ACM sells agricultural technology packages on deferred payment terms to small farmers. The packages can be described as an “agri-business in a box,” designed specifically for table grape or strawberry production, including all relevant inputs, technical assistance and training, greenhouses, cold storage units and other equipment, as needed.

In 2010, ACM posted a modest profit (about \$102,000) on its operations. In less than two years (as of April 2011), ACM had made cumulative sales valued in excess of US\$1,000,000 to over 600 small farmers, the vast majority of these also participate in the CIDA-funded Ukraine Horticulture Development Project being implemented by MEDA in Ukraine.

Lesson 5.6 Socially Responsible Investors are Particularly Interested in Green Initiatives

To attract more socially responsible investors, efforts are needed to better highlight the positive environmental implications of rural and agricultural investments and financial institutions. Lisa Hall, President and CEO of Calvert Foundation, explains that “while Calvert Foundation is a non-profit organization, their investors are primarily average Americans looking to make a reasonable return in socially responsible investments and increasingly, they are looking to invest in environmentally friendly and sustainable initiatives.” Hence, Calvert Foundation is actively seeking investments in sustainable rural and agriculture and fair trade in developing countries. According to Willy Foote, “Root Capital starts with the conviction that small and growing businesses can be the impetus for the rural economy, as small businesses create attractive markets for rural farmers in addition to reducing the vulnerability of this population.” See Box 5.6 for an example of how Root Capital has made positive environmental impacts by working with a Nicaraguan coffee cooperative.

Fernando Campero of IADB’s Multilateral Investment Fund, however, warns that, “to attract impact investors, we need to be able to show illustrative data on intended impact” (including environmental impacts). Loic de Canniere of Incofin, which manages the Rural Impulse Funds I & II, explains that there is a need for sustainable equity (especially for inflation hedging) and debt investments rural and agricultural finance (ranging from short-

term working capital to longer-term investment capital). He notes that microfinance institutions can serve as an effective distribution platform for rural and agricultural finance, if products and processes are properly designed, but for larger impact on value chains, we need to also support SME finance. Rabobank uses value chain analysis to identify and strengthen the SMEs that operate as lead firms within the value chain, as they can have the largest impact on value chain sustainability, in terms of profits and environmental impacts.

Box 5.6 Root Capital's Environmental Impact in Nicaragua

Root Capital provides capital, delivers financial training, and strengthens market connections for small and growing businesses that build sustainable livelihoods and transform rural communities in poor, environmentally vulnerable places.

In Nicaragua, Root Capital worked with a coffee cooperative that had inadequate financial management systems to keep pace with its growth, and by 2008, poor management of the internal credit fund threatened the organization's balance sheet. Root Capital's Financial Advisory Service team worked with the cooperative to improve accounting, control mechanisms and governance.

By May of 2010, these improvements allowed Root Capital to extend a three-year loan to the cooperative's internal credit fund for on-lending to members for the purchase of solar panels. Before purchasing the solar panels, families used firewood or kerosene for cooking and lighting purposes, which resulted in deforestation, soil degradation, and respiratory illnesses. Now, families are able to study later, listen to the radio to stay informed, and enjoy healthier homes.

IADB President, Luis Alberto Moreno warns that, "agriculture can be a victim and a cause of climate change, and a wider range of financial products will be needed to manage increased climate risk, to adapt and mitigate the negative impacts." Water resources will be scarce in the future, so new technologies are needed to reduce its consumption by agriculture. Moreno argues that "we need new means to finance risk management to protect the assets of and livelihoods of farmers exposed to higher levels of climatic risk will become ever more important. Otherwise, the rate of farm failures will increase. At the same time, current agricultural land use patterns, agricultural byproducts, and high rates of deforestation are contributing to climate warming and financing the adaptation and mitigation of these effects will be important." In a session on the "Impacts of Climate Change on Agriculture," World Bank presenters tied food insecurity to land degradation and climate change and suggested a range of investments in tools and technology to support Climate Smart Agriculture (see Box 5.7). Climate Smart Agriculture addresses issues related to food insecurity and climate change together, rather than in isolation.

Box 5.7: Investments Needed to Support Climate Smart Agriculture

- **Landscape based approaches:** agroforestry, watershed management and forest restoration;
- **Water conservation and harvesting** to lower greenhouse gas (GHG) emissions, improve water harvesting, retention and efficient use;
- **Pest and disease control** reducing risks from pathogen adaptation to climate change;
- **Soil and nutrient management** that increase organic nutrient inputs;
- **Crops & production systems** adapted for new cropping patterns, planting dates;
- **Livestock**, improved grazing, breeding & fodder management, and improved management & re-use of animal waste for lower GHG emissions;
- **Genetic resources** to handles shocks, improve efficient use of resources, shorten production cycles & generate higher yields;
- **Harvesting, processing and supply chains** Promote efficient harvesting, processing, packaging, storage and transport to maximize value and minimize waste;
- **Input and waste management** address energy conservation and waste minimization in farm systems more comprehensively;
- **Risk management**, improve and disseminate promote weather and climate information, weather based insurance and social protection measures; and
- **Research**, develop crop varieties resistant to drought, flood and pests, and use cost-effective approaches to assess soil carbon and carbon footprints of agricultural operations.
- **Knowledge sharing and improved access to information** between producers' organizations, non-government organizations, private sector and research institutes.

Special Considerations

In addition to the five core themes discussed in this publication, there are cross-cutting considerations related to serving rural women and youth, as well as working in conflict-affected environments.

A. Serving Rural Women

It is important to improve financial access to rural women, given their importance in agricultural production and family food security. Today women represent approximately 43% of the agricultural labor force in developing countries, and yet they have less access than men to productive resources and opportunities. If women had the same access as men, yields on their farms would increase by 20 to 30 percent, raising agricultural output by 2.5 to 4 percent. According to the Food and Agricultural Organization (FAO), “Closing the (gender) gap in agricultural inputs alone could lift 100-150 million people out of hunger.”¹⁶ Cultural constraints and ambiguous property rights are some of the reasons that women have limited access to agricultural finance. Women are especially important to improving food security, as they have significant influence over household nutrition, which is an important element of food security (see Box 6.1). In addition, studies have found that it is most important to ensure food security for pregnant women and young children (especially under age 2) in order to avoid stunted growth and brain development. Therefore, combining nutritional education with access to financial services can be especially effective in improving food security in developing countries.

Box 6.1: Food Security Framework

Food security exists when “when all people, at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life.” Food security can be improved at three levels:

- **Food availability** – improve supply in terms of quantity, quality and diversity of food;
- **Food access** – improve purchasing power to acquire sufficient food for a nutritious diet; and
- **Food utilization** – improve people’s ability to consume proper diets and absorb sufficient nutrients.

Source: USAID’s FS Series #8, Rural and Agricultural Finance for Food Security, April 2010, available at: <http://www.fsshare.org/content/rural-and-agriculture-finance>

Women tend to seek smaller amounts of finance than men, so savings and group lending can be important financing mechanisms to reach them cost-effectively. As Margaret Enis of USAID’s Food Security Bureau explains, “Savings are sometimes more important than credit, allowing the poor to enter the formal financial sector and give them the cushion to pay for other financial services, such as insurance and loans.” The Hunger Project applies a holistic approach to overcoming rural women’s resource constraints, and John Coonrod argues that “Obstacles that block marginalized women from access to credit are the same obstacles that block them from health and human services, literacy, etc.” Box 6.2 highlights how Oxfam America found savings groups an appropriate vehicle for serving rural low-income women, including illiterate populations in Mali.

¹⁶ FAO, 2010, “The State of Food and Agriculture: 2010-11,” <http://www.fao.org/publications/sofa/en/>

Box 6.2: Oxfam Supports Malian Female Farmers through Savings Services and Training

Oxfam America has worked with ten Malian NGOs and trained savings groups with 388,800 members in more than 5,600 villages. These groups are now being used to introduce sustainable, agricultural interventions that are simple, and easily replicable. Oxfam demonstrates that savings groups provide a rapidly scalable approach to provide financial services to the remote rural poor who depend on rainfall agriculture. Some of the savings groups have constructed concrete irrigation channels with a tank at the end to ensure crops' consistent access to sufficient water.

Key Elements of Success for Promoting Saving for Change Groups:

- As the women farmers are illiterate, Oxfam has introduced an **oral record keeping system**. Oxfam has found that oral record keeping has proved to be quicker and more accurate than records filled out by barely literate secretaries.
- **Selection of NGO partners** is key element of the implementation. A team of animators and a coordinator facilitate the training of groups. The animators train one group in each village to introduce the program. The rest of the groups are trained by a volunteer recruited from the first group. A pictographic manual is used as a guide to reinforce comprehension.
- NGOs introduce **financial services to the previously excluded**, without the need for large capital requirements and regulatory challenges of the formal financial sector. It costs \$400 to train and support a group with 22 members over three years. The groups are trained in the first months and are monitored thereafter.
- Women are drawn to participate in the savings groups as it provides a space for conversation and solidarity. Along with the social cohesion, women display **increased confidence and life aspirations**. For example, some groups have negotiated with local NGOs to invest in a grinding mill for shea butter.
- As healthy workers are more likely to be productive, the groups are also trained in **malaria prevention and treatment**.

B. Reaching Rural Youth

Special efforts are needed to help rural youth engage productively in rural and agricultural businesses.

Population growth and urbanization are having an impact on rural and agricultural markets, in general, which has special implications for youth. World population growth is expected to rise by 2.6 billion people, from 6.5 billion in 2010 to 9.1 billion by 2050, almost all of which will take place in developing countries.¹⁷ The world is currently experiencing what the UN refers to as the “youth bulge,” a peak in youth ages 15 to 24, who are now actively trying to enter the workforce. Unfortunately, formal sector employment will not be able to keep up; implying that many youth will need to create their own employment through entrepreneurship. At the same time, many rural youth have seen their families remain impoverished by the instability of agricultural activities and prices. Given the risks, it is hard to convince youth to focus on agribusiness as a primary livelihood.

Rural youth can benefit from holistic support services, including agricultural and entrepreneurial skills training linked to formal education, coaching, mentoring and networking opportunities, as well as financial education linked to financial services. AZMJ applied a holistic approach to encourage young entrepreneurs to increase incomes, save and build business assets in the eastern part of the Democratic Republic of Congo (DRC), as explained in Box 6.3.

¹⁷ <http://www.un.org/News/Press/docs/2005/pop918.doc.htm>

Box 6.3 A Holistic Approach to Building Young Entrepreneurs

Funded by USAID/Washington's Cross-Sectoral Youth (CSY) program, the Educational Development Center's project was a one-year pilot with 100 youth (ages 13 to 29) in the DRC. Implemented through a partnership with Family Health International (FHI) and technical assistance from AZMJ, the project trained youth on enterprise development to increase their financial self-sufficiency and test whether an increase in income would correlate with a decrease in risky behavior and incidence of HIV and AIDS contraction.

The program's approach included entrepreneurial and financial literacy training, which was reinforced by emphasizing the importance of savings mobilization to build business assets. In addition, the youth participated in business clubs through which they received coaching and technical assistance from other young entrepreneurs. Based on a competitive process and a review of business plans submitted, the top 20 young entrepreneurs were paired with business professionals, who provided them with one-on-one mentoring and networking, and received asset-building grants of \$300 each. The program encouraged youth to consider higher-value productive activities, such as raising poultry and horticulture, rather than more common, simple trade-based activities. In less than one year, the pilot demonstrated the following results:

An increase in youth's income. The program helped increase the participants' mean monthly revenues by 40 percent, from \$114.60 to \$161.40. Youth with the least education benefitted the most: Their monthly revenue more than doubled, from \$53 in the initial survey to \$111 in the final survey.

An increase in food expenses for the poorest and least educated youth. Youth with only primary school education, who had the lowest incomes on average, increased spending on food by 83 percent, from \$21 in the first survey to \$39 in the final survey.

An increase in financial self-sufficiency. The average savings per month for each household increased 72 percent, from \$10.80 to \$18.60, from the first to the second survey. In the first survey, only 20 percent (18 of 90 respondents) agreed that their family had enough money to get by. In the second survey, 61 percent (51 of 84 respondents) said their family had enough money to get by.

A positive impact on youth's health choices. The percentage of youth who said that they would risk their health to expand their business declined from 11 percent in the first survey to just 1 percent in the final survey. In addition, youth's average monthly household spending on health increased by 21 percent, from \$3.20 in the initial survey to \$3.90 in the final survey.

C. Working in Conflict-Affected Environments

When working to expand rural and agricultural finance in conflict-affected environments, there are some extra considerations. While many of these lessons are based on experiences in Afghanistan, many also apply to environments impacted by natural disasters, such as Haiti. Agriculture tends to be especially negatively impacted in these environments as the focus shifts from long-term sustainability to short-term rapid assistance.

Insecurity. Donors and implementing partners need to understand that addressing security issues in a development program may not only substantively increase expenses, but also may add to the time it takes to complete activities and achieve performance benchmarks, such as attaining operational sustainability of financial partners. To reach high conflict areas, such as Kandahar in Afghanistan, security costs often doubled program expenses as compared to similar initiatives implemented in secure environments due to costs of protecting project personnel and assets. Insecurity also forces program staff to be creative in addressing security-related issues of programs with a finance component, such as cash management and transfers. In such cases, cooperation with national or international military or police forces may be helpful.

Limited physical infrastructure. In the absence of widespread computerization, reliable electricity or good roads and transportation networks, some operations of programs with a finance component may be hampered, such as cash management and transfers. For example, limited physical infrastructure can complicate transfer of funds to and from partners' local headquarters and branch officer, loan disbursement and collection. In such cases, alternative cash management techniques, such as mobile banking may need to be implemented to reduce the risks of cash handling by staff and clients while making loan disbursement and repayment easy and safe.

Low human capacity. Human resource capacity may be extremely limited (by post-traumatic stress disorder and the effects of ongoing insecurity) and personnel with technical skills, such as in banking or finance, may be in short supply. In such cases, significant time and resources need to be devoted to building human resources through intensive, recurrent training and job mentoring. Investment in professional or technical training institutions may also be required. In addition, donors and government ministries must cooperate to reduce the tendency to "poach" limited trained personnel between development programs.

Disbursement pressure. Effectively handling the transition from short-term relief to long-term development efforts requires donors and implementing partners to resist the pressure to disburse multiple loans quickly to ensure portfolio quality and sustainable growth of the financial partners. For example, high loan portfolio growth rates can mask worsening loan portfolio quality and institutional weaknesses may delay even further recognition of a delinquency crisis. To balance high loan growth with institutional sustainability (and to protect voluntary deposits), it is imperative that sufficient institutional risk controls are in place, such as a credit policy manual based on good practices, trained credit officers that are properly incentivized to balance loan growth with repayment, internal audit and management information systems. If too much emphasis is placed on expanding outreach, portfolio quality will suffer, hurting not only the financial partner, but also the entire financial sector if word spreads that repayment is not expected.

Remaining Obstacles: Toughest Nuts to Crack

While we made some progress at the Cracking the Nut Conference in terms of highlighting some of the most important obstacles to increasing access to rural and agricultural finance and presenting some of the latest approaches in overcoming them, there remain several “tough nuts” that we have only begun to crack.

A. Increasing Access to Medium and Long-term Finance

To date, the majority of sustainable approaches have been related to increasing access to short-term rural and agricultural finance, especially for inputs and working capital. It is arguable, however, that medium and long-term finance is even more important to developing rural and agricultural firms and value chains, because longer-term finance facilitates opportunities to upgrade and serve larger and more profitable markets. The two greatest constraints to longer-term finance are: 1) collateral limitations, as banks often require up to 200% of the loan value; and 2) lack of financial institutions’ access to longer-term funds for appropriate asset-liability matching.

From the 1970s and 1980s, we have many examples of what does not work to increase access to medium and long-term finance, such as subsidized and targeted lending, which we must not forget as we move forward. There have been some short-term finance innovations in allowing for substitutes or reduced collateral requirements, such as Root Capital, which secures its loans with contracts purchasers of its clients’ products, such as coffee and cocoa. Regarding facilitating access to longer term wholesale finance, there have been some innovations in appropriately designed guarantee funds, such as USAID’s Development Credit Authority, as well as linking socially responsible investment capital, such as through Incofin’s Rural Impulse Funds. Nonetheless, in most developing countries, access to rural and agricultural finance for terms longer than 24 months remains rare; and over 36 months even rarer. We need to explore creative ways to forge public-private sector partnerships that support increased access to medium and long-term rural and agricultural finance, in a way that is cost-effective and yet does not distort markets.

B. Reducing Costs of Technology to Better Serve Rural Clients

New technologies are generally expensive to develop and implement. There have been many investments in technologies to reduce financial transaction costs, few of which have reached the scale necessary to cover all costs and significantly impact rural and agricultural populations. Even Safaricom’s M-Pesa in Kenya, which is considered one of the most successful examples of electronic banking, required a huge up-front investment in time and money before it was able to cover the costs of developing the related infrastructure. Started in 2007, M-Pesa is just beginning to show its potential for impact on rural households, as it was important to focus on urban clients first to achieve the scale needed to break even. Some technologies, such as e-choupal of India, are limited to areas that have regular access to electricity, which is absent in many remote villages. Hence, it is unrealistic to expect that cell phone banking and technologies for increasing access to finance will result in rural financial inclusion in the short-run. In the future, however, these technologies will become more cost-effective and available to rural and agricultural populations, but to hasten rural outreach, there needs to be serious commitment to maximizing the technology’s reach, including public support and incentives to create the legal and regulatory infrastructure to support it.

C. Building Capacity of Financial Institutions re: Agricultural Finance

A frequently cited requirement to expand agricultural finance is to 1) convince financial institutions that agricultural finance can be a viable business; and 2) develop human and institutional capacity to assess, monitor and mitigate risks associated with agricultural finance.

Many donor funded programs make the mistake of focusing on convincing the formal banks to enter agricultural finance, yet they tend to be the slowest to move into this market as they are extremely risk averse and focus mostly on high-end wealthy clients for lending. Often times it is easier to create a demonstration model by first working with financial institutions that have a social mission associated with financial inclusion or serving rural clients. For example, MFIs are often open to exploring new markets, and can be effective providers of short-term finance, which is either adapted to agricultural cycles or based on cash flows that include rural farm and non-farm activities. It is important to understand, however, that agricultural finance generally requires more complex analysis and cannot be designed to be as systematic as microfinance has been traditionally (see Box 7.1 for a description of some complexities of agricultural finance). Once one financial institution begins to demonstrate success in terms of portfolio outreach and profitability then others, including banks, can become interested in serving agricultural markets.

Box 7.1: Complexities of Agricultural Finance

AZMJ's recent work on irrigation finance for GIZ in Mali revealed some of the complexities that make agricultural credit more difficult to assess than microcredit:

- Loan officers need to understand agricultural markets and have access to up-to-date market pricing and production practices. At the same time, instead of using simple data on one crop's typical yield, total household cash flows should be considered in selecting loan amount and payment terms.
- Loan officers cannot assume that information provided is accurate. For example, one farmer said he had 2 hectares of land for planting, but upon visiting the farm, his planting area was only about 1.2 hectares.
- When financing staple crops, total household size and consumption needs have to be factored in when calculating household debt capacity.
- Loan sizes should not increase simply on successful repayment, but should require new assessments to factor in changes in family size, consumption and spending patterns.

Regardless of the institutional type, to convince a financial institution to offer agricultural finance in a developing country often requires capacity building assistance to:

- Conduct market research and segmentation;
- Design new products, linking terms to crop cycles and repayments to cash flows;
- Select appropriate human resources (many times with agricultural development backgrounds and experience).
- Train field officers on how to identify and vet potential clients;
- Develop systems to assess, monitor and control risks within a portfolio, sector or value chain;
- Source funds that match the terms and needs of agricultural clients.

In the short-term, this type of work is being provided by international technical specialists with donor assistance. To be sustainable, however, we need to focus on developing local capacity to provide this type of ongoing training and capacity building technical assistance.

D. Building Absorptive Capacity of Rural and Agricultural Enterprises

While it is important to build the capacity of financial institutions (i.e. supply of finance), many argue that the greater constraint comes from the lack of qualified clients (i.e. appropriate demand) for rural and agricultural finance. In working with representatives of financial institutions in Afghanistan, Mali and Peru, AZMJ has

commonly heard that the greatest constraint to increasing access to rural and agricultural finance comes from the lack of clients who can supply the necessary information on their business and investment opportunity. Small rural firms and farmers often lack the business skills to adequately demonstrate management and financial capabilities to potential lenders and investors. In addition, subsistence farmers often lack the agricultural knowledge and capital to invest in ways that would increase their returns, such as how to use improved seeds and fertilizer. Therefore, to ensure that there are an adequate number of investment-worthy clients, there is need for more public and private sector technical assistance and training related to enterprise and agricultural development. In Ghana, CRS reinforced the Ministry of Food and Agriculture extension services by linking its Savings and Internal Lending Committees (SILCs), which operate as “nano-credit unions,” to build smallholder skills in the areas of maximizing water usage through row planting and the use of improved seeds and fertilizer. According to Kris Ozar, CRS’ support “made extension service providers’ jobs easier” since the SILCs provided access to the capital needed to apply the improved agricultural practices. What remains unclear is who should pay for such business and agricultural technical assistance and how can we make them sustainable over the long-term?

E. Addressing Food Insecurity while Avoiding Market Distortions

As Alberto Moreno, President of IADB explained, “At present, an estimated 1 billion persons are chronically hungry. Without breakthroughs in agricultural productivity, less waste in post-harvesting handling processes, and more efficient distribution systems, the number of chronically hungry and food insecure will rise. Hunger and malnutrition not only robs people of their dignity, but also limits the possibility for a productive, healthy and fully actualized life. They also breed social discontent and political instability.” As globalization has resulted in markets becoming more inter-linked, commodity prices are more susceptible to fluctuation. As Mark Cackler of World Bank argued, “Without more and better investment in agriculture, we will not meet the food needs of the growing global population.” Rather than waiting until food insecurity reaches a chronic stage, we need to proactively develop solutions that will ideally reinforce markets and at a minimum, minimize market distortions. This is easier said than done, as governments are often politically compelled to put up barriers to protect people from starvation. During commodity price spikes of 2008, there was a time when the World Food Program could not even place a tender to purchase staple consumables, as countries hoarded their supplies. Such protectionist reactions, however, lead to greater price increases. As a global community, we need to work together to find the appropriate balance of protecting the poor from food insecurity and developing sustainable markets for rural and agricultural finance.

As highlighted in Box 6.1, there are multiple dimensions to food insecurity, including food availability, access and utilization. Research has found that the chronically food insecure often need access to consumption support (e.g. food aid or conditional cash transfers), savings and skills training, before they are ready to manage credit. Rural savings mobilization is especially important to food security, because households use savings to manage emergencies, prepare for investment and smooth consumption.

According to Margaret Ennis of USAID’s Food Security Bureau, “Correlated index insurance products can also play a critical role,” as they can be used to reduce risk associated with agricultural credit without the usual problems of moral hazard associated with crop insurance. The lack of global reinsurance markets, however, limits the extent to which such insurance can be used to mitigate risk for smaller countries. More work is needed to understand how financial tools can be used to reduce price volatility and other risks associated with rural and agricultural development.

While developing rural and agricultural finance can address issues related to lack of food availability and access, integrating nutritional education is the best way to ensure proper food utilization. Mark Cackler of World Bank explains, however, that “nutrition is highly correlated with income.” So ideal food security initiatives include efforts to increase rural incomes, improve agricultural productivity and raise awareness for how low income populations can eat an adequate, nutritious and well-balanced diet.

F. Facilitating the Transition from Donors to Private Financial Institutions and Investors

There is a general consensus among most players that there should be a transition of financial support from governmental, multilateral or charitable agencies to more private, for-profit financial institutions and investors to reach simultaneous goals of sustainability, efficiency and scale. While there are several commercial financial institutions now offering rural finance, few are offering it on a significant scale. Even fewer commercial institutions offer agricultural finance. In fact, many formal financial institutions intentionally limit their rural and agricultural finance portfolios to limit risk.

Nonetheless, the public sector and donors have an important role to play as discussed in the next chapter, *Moving Forward*, such as developing human resource capacity and systems. Given the recognition that rural and agricultural finance should be reinforced by other non-financial services, including business and agricultural extension services, more public-private partnership will be needed to increase access to certain markets. In addition, it will take more patient investors who can provide the longer-term capital, especially needed to support agriculture and agribusiness investments, as well as investments in technologies that reduce rural transaction costs.

We have work to do to understand what it will take to attract more commercial investors to rural and agricultural investment opportunities, as well as to understand the limits of public sector support to facilitate access to rural and agricultural finance. The search for high potential financial institutions should not rest solely on existing MFIs, commercial banks and other rural financial institutions but rather open the possibilities to many different entities with willingness and capacity for scale. This widens the possibilities for financing sources, such as actual players higher or lower in an agricultural value chain, specialty lenders, such as leasing companies, and local or international private equity investors. Once the true market potential is revealed by these pioneer investors, then others will likely “crowd-in,” improving overall access to commercial finance.

Moving Forward

There are many ways in which governments and donors can support rural and agricultural development and finance, including strengthening financial institutions, value chain actors and technical assistance providers to better serve rural and agricultural clients.

A. Role of Governments and Policy Makers

Government has a role to play in establishing a favorable or “enabling” policy environment, infrastructure and information systems, and supervisory structures to facilitate the smooth functioning of rural and agricultural financial markets, but a more limited role in direct interventions. Key elements of creating and maintaining an enabling environment for rural and agricultural finance include:

- Adopting policies that reduce historical biases against the rural sector and provide macroeconomic stability (see Box 8.1 for specific, relevant examples);
- Crafting a supportive legal and regulatory framework that facilitates secured transactions and contract enforcement and permits a variety of both licensed and informal institutions to provide a wide range of financial services;
- Supporting the emergence of complementary, predominantly private-sector led, market-support institutions, such as networking associations, credit bureaus, business development and agricultural extension service providers, as well as those that support industry standards and monitoring mechanisms.

Box 8.1: Some Appropriate Policies to Support Rural and Agricultural Finance

1. Encourage foreign investment in production, yet avoid land acquisition agreements designed with minimal or no value addition to the country.
2. Move from usufruct to more permanent forms of land tenure with systems for recording land rights, ensuring even handed procedures for protecting male and female clients
3. Ensure safety of depositors' savings in informal financial institutions, as well as in supervised banks.
4. Put in place specific leasing legislation to support asset-backed lending for financing machinery and equipment.
5. Support use of agents, mobile branches, branchless banking through electronic mechanisms, cell phones, smart cards, biometric ID systems and out-sourcing.
6. Policies should focus on building efficient financial institutions working with agricultural sectors. Governments should avoid propping up weak, poorly structured or governed financial institutions.

Create an Enabling Policy Environment. To sustainably expand access to rural and agricultural finance, experience has shown that a stable economy (e.g. low inflation) and a liberalized financial environment are more likely to result in expanding access to financial services. Fiscal and monetary policy should aim to prevent overvalued exchange rates to avoid: 1) creating a bias against domestic agricultural production, 2) pushing interest rates on government securities higher, and thereby 3) discouraging commercial financial institutions from entering relatively risky rural markets.

Particularly useful financial sector policy reforms that have been implemented in many countries include liberalizing interest rates, relaxing controls on financial institutions, and privatizing banking services to enhance bank competition. Other financial sector reforms include removing lending targets and administrative directives, promoting consistent central bank rediscount rates across subsectors, and facilitating entry into and exit from the

rural and agricultural financial system. Rather than just cutting back on old policies, government can also help create (or improve) new payment and transfer systems, such as electronic or mobile banking, to reduce financial transaction costs of serving rural areas.

The important role of value chain participants as financiers must also be acknowledged and fostered by governments as part of a strategy for developing rural and agricultural finance. Traders, wholesalers, input suppliers, savings and credit associations, and savings collectors and other informal transactions are especially important in the absence of efficient formal intermediaries. Experience shows that these mechanisms may serve as a basis for scaling up and commercializing services.

Governments could also improve agricultural and rural development policies by removing agricultural price controls, reducing high taxation of agricultural exports, minimizing budgetary biases toward urban infrastructure and social services, and eliminating protection of dominant domestic industry players. For example, the government can ensure that a reliable and competitive input supply market exists by removing subsidies and encouraging competition, so that the cost of seeds, fertilizers and other agro-chemicals are affordable, yet realistic.

Improve the Legal and Regulatory Framework. Establishing an appropriate legal, regulatory and supervisory framework for financial institutions involves striking a balance between: (i) encouraging relatively unfettered development of innovative methodologies for servicing a wide range of agricultural value chain actors and reaching subsistence farmers through finance and insurance products; (ii) providing a legal niche for financial institutions that want to mobilize and intermediate savings from the public; (iii) creating a regulatory structure for insurance products, including property & liability, life and weather-based index insurance; and (iv) protecting depositors and the financial system from unsound practices and institutions.

Improving land titling is especially important to give rural landholders greater access to financing. Creation of recognized security interest in land, together with a system for registering claims, can have significant impact by enabling the rural poor to leverage their biggest asset, land rights, as collateral for financing.

Similarly, the absence of a strong framework for secured, asset-based transactions is a clear constraint on rural entrepreneurs' access to finance, including to wholesalers and retailers in the value chain.¹⁸ Establishing a comprehensive legal framework and modern registries can facilitate supplier credit, bank lending for moveable assets, and linked transactions secured by inventory and accounts receivables. Key measures include: (i) establishing laws for loan recovery and contract enforcement (e.g. permitting foreclosure of collateral, offering legal protection against defaults, and allowing the establishment of licensed debt collection agencies), and (ii) broadening the range of acceptable collateral to include non-traditional assets and substitutes that the poor can offer, such as livestock, accounts receivable, personal or group guarantees.

Collateralizing commodities can especially be an effective means of overcoming the lack of acceptable collateral, such as land. Wider use and acceptance of warehouse receipts, inventories and accounts receivables can greatly enhance the ability to secure commercial finance on the part not only of farmers and their associations, but also input suppliers, feedlot operators, grain silo operators, processing plants, and other value chain actors. Many Latin American countries now license warehouses, including some run by producer (farmer) organizations, which issue endorsable receipts to obtain financing.

Develop Market Support Institutions. Improving access to information can facilitate market development by reducing risks and transaction costs for financial institutions, rural businesses and agribusinesses. The expansion, modernization, and unification of public registries, particularly for land and the promotion of credit bureaus and

¹⁸ The primary legal aspects to address are creation (legal definition), perfection (registration), and repossession.

credit scoring services can support measures to provide accurate and timely information regarding collateral and creditworthiness.

Locally based commodity exchanges and markets can also provide much needed pricing information and remove dominance by a few players. Governments can play a role in fostering and regulating the development of such information depositories to be utilized by the private sector for establishing credit history, insurance and other risk management mechanisms.

Governments can also help in creating, strengthening and coordinating with industry associations and networks that play an important role in setting standards and improving the availability of information by establishing systems for collecting, benchmarking, and reporting data on performance of financial institutions. They also are critical in representing the financial service industry in effective policy dialogue with governments and donors and in developing and implementing national microfinance strategies. To maintain independence, most revenue support should come from private initiatives and cost recovery from members.

B. Role of Donors and their Implementing Partners

Donors, along with their implementing partners, play a supportive role in creating and maintaining an enabling environment for rural and agricultural finance. Donors can assist in developing or strengthening agricultural value chains, such as enhancing access to finance using start-up capital or guarantees to link to commercial sources and building the capacity of financial institutions to respond to demands of rural households and agricultural enterprises. Capacity building can include new product development and core institutional strengthening, such as management information systems and staff training. In either case, providing performance-based grants or start-up capital can be useful when designed correctly (see Box 8.2) and allowed to focus on long-term sustainable impacts.

Box 8.2: Examples of “Smart” Subsidies for Rural and Agricultural Finance

Smart subsidies can foster a market-oriented environment that enhances availability and access to rural and agricultural financial services. Subsidies may be warranted if they are transparent, capped, explicitly budgeted, fiscally sustainable and economically justified. Further, they should not subsidize the end clients directly in the value chain but rather be aimed at developing agricultural value chains as a whole and building the capacity of value chain support organizations, such as financial intermediaries or market support institutions. Non-market distorting subsidies can include:

- Support initial branch expansion through provision of capital grants for buildings;
- Cover some costs of designing and regulating mobile money applications and catalyze relationships between banks and mobile phone networks;
- Meet some costs involved in drafting new legislation designed to assist financial value chains; and
- Support the development and dissemination of knowledge products to train staff of financial institutions, and provide specialized training to staff of financial institutions charged with working with clients in agricultural value chains.

Development of deposit mobilization may be useful to serve the poor who may not desire credit or be creditworthy and to enable commercial financial institutions to reduce dependence on donor funds. This may include support for savings and credit cooperatives and credit unions. While donors tend to focus on developing

the banking sector, they should also look at ways to develop insurance markets, as their lack of development limits the growth of the financial sector and the economy as a whole.¹⁹

In addition to supporting government policy initiatives, donors can also support rural and agricultural markets and their access to finance by:

- Facilitating access to market information services to support investment in agricultural production. For example, cost and margin information generated by “mapping” value chains can identify lending and investment opportunities along value chains.
- Improving access to information to farmers/investors on how they can make profitable use of purchased technology and inputs, such as through extension staff.
- Supporting technical and management training to agri-business staff and owners.
- Improving access to long-term finance for effective agricultural transformation, such as through creative partnerships and risk mitigation tools.
- Strengthening and facilitating agricultural value chain linkages and relationships, including ensuring access to appropriate financial services to all value chain participants.
- Facilitating the collection and dissemination of best practices and information sharing between various players from different countries.

As we develop the supply of rural and agricultural finance, there will be an increasing need for technical assistance providers who can work to prepare rural and agricultural clients for accessing finance. For instance, technical assistance and training is especially needed in the following areas:

- Financial education and literacy;
- Business management and development services;
- Agricultural extension services and research programs; and
- Environmental assessments.

To serve the poor in developing countries, however, most of these services will need to be designed with donor assistance. However, international technical assistance specialists should train local specialists to deliver these services on a cost-recovery basis over time.

C. Role of Value Chain Actors and Financial Institutions

Given the dearth of rural and agricultural finance available from formal financial institutions, value chain actors often step in to fill the gap. Larger lead firms (those that are instrumental to expanding markets) sometimes offer finance and technical assistance and embed the costs in the price of the product. For example, artichoke processors in Peru offered rural farmers seedlings and trained farmers on plant maintenance to satisfy the demand from multinational firms for bottled artichoke. Such firms can improve transparency by calculating costs and offer options to other value chain actors. In addition, value chain actors generally prefer to transfer the role of providing finance to others, where feasible. By offering written contracts, value chain firms can improve smaller value chain actors’ access to finance from formal financial institutions. This can free up funds for other investments, such as expanding to other markets or building long-term infrastructure for expansion.

Once financial institutions (including microfinance NGOs, NBFIs, banks and insurance companies) see the potential in serving rural and agricultural markets, they can invest in the development of appropriate portfolio monitoring and risk management systems, staff capacity and infrastructure to serve rural clients. Some of the common initial activities for financial institutions entering rural and agricultural finance markets include:

¹⁹ Webb, 2006, p. 24

- Conduct market research (possibly including value chain research) to identify the best market opportunities and to determine clients' specific product needs and interests.
- Design and pilot test products, often requiring adaptations to match seasonal cash flows.
- Build loan officer capacity to assess rural and agricultural related risks, generally using a household cash flow assessment tool. Financial institutions serving rural areas generally prefer hiring rural agronomists who understand agricultural markets and train them on financial assessment, rather than trying to train finance specialists on agriculture.
- Determine what portfolio concentration the financial institution is comfortable with for investing in rural and agricultural finance. For example, some national banks limit their agricultural portfolio to no more than 20% of the total portfolio to limit correlated risks.
- Identify creative distribution methods to keep transaction costs low for serving rural clients, such as mobile banking.
- Develop risk mitigation mechanisms, such as use of guarantee funds or weather-based index insurance to cover the agricultural portfolio as a whole.

At the same time, credit may not always be the most cost-effective way of addressing needs of the very poor, such as subsistence farmers and other marginalized rural clients, such as women and youth. Effective rural and agricultural financial programs can often benefit the unbanked by offering savings product to build their assets and by providing complementary technical assistance, directly or indirectly, to build social capital, improve technical and management skills, and offer business development services.

In addition to mobilizing savings, financial institutions should seek out and access more "patient capital" in the capital markets to allow for a long-term vision of developing expertise in and profits from agricultural and rural finance. Patient capital can in particular come from international socially responsible investment funds, especially when links can be made between rural and agricultural investments and environmental protection and sustainability.

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