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AGRICULTURAL LENDING:

A How-To Guide

Foreign Affairs, Trade and Development Canada

Affaires étrangères, Commerce et Desveloppement Canada

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List of Abbreviations

CC	Credit committee
FI	Financial institution
GDP	Gross domestic product
GPS	Global positioning system
HA	Hectares
HR	Human resources
IFC	International Finance Corporation
IT	Information technology
MFI	Microfinance institution
MIS	Management information systems
NGO	Non-governmental organization
PAR	Portfolio at risk
SME	Small and medium enterprises
USAID	United States Agency for International Development
WB	World Bank

Overview

Overview

INTRODUCTION

Agriculture is the main source of income and employment for the 70 percent of the world's poor, who live in rural areas. Yet, only 10 percent of gross domestic produce *(GDP)* in low and middle-income countries is generated by the agricultural sector[1]. This results in the severe mismatch between the proportion of people employed by the agriculture sector and the proportion of GDP attributable to agricultural production. In developing countries, most actors in the agricultural sector are small-scale agricultural producers and small, non-farm entrepreneurs involved in a variety of microenterprises with diversified, yet limited income sources. A majority of these households have little or no access to formal financial institutions or adequate financial services. Due to this lack of access, most rural poor and low-income households rely on costly informal sources of finance *(for example, input supplier credit, trader credit, or self-financing)*. None of these allow them to take full advantage of economic opportunities. Financial institutions (FIs), such as commercial banks and microfinance institutions, can fill an important financing gap by expanding operations into rural areas to serve the needs of this large sector.

Research conducted by IFC shows that FIs in emerging markets resist lending to agricultural enterprises for two main reasons: lack of expertise and familiarity with the needs of the agricultural sector and lack of tailored products and processes to respond to its needs[2]. Additionally, a major challenge in servicing rural clients is that they are often physically dispersed across large geographical regions, posing additional costs and logistical issues. Thus, distribution channels must be cost-effective and convenient for both institutions and clients. The development of flexible and easily replicable structures for marketing, delivering, and monitoring financial products is critical to the sustainability of an institution's agricultural finance expansion.

SUMMARY OF CONTENT

This toolkit introduces and explains step by step the key elements of success for FIs to expand financial services to farmers. The content was developed around IFC's global experience in assisting FIs with the development and implementation of agricultural finance products. The benefits of this work are synthesized in this guide, along with knowledge and expertise of best practices among both IFC clients and others. The guide includes advice on each step involved and tips on how to address the complex challenges that might arise during product development process.

The guide has seven chief components:

1. **Introduction to Agricultural Finance:** This section introduces agricultural finance and identifies the common risks in agricultural production that may impact client repayment capacity.

2. **The Product Development Process:** This section introduces the product development process and how an institution could best position itself for sustainable success in rural markets.

3. **Product Development Phase 1 - Preparation:** The first step in the product development process involves identifying gaps in an FI's

[1] *World Development Indicators, 2014 by World Bank.*

[2] *Scaling Up Access to Finance for Agricultural SMEs Policy Review and Recommendations, IFC 2011.*

processes, lending policies, loan appraisal forms, and determining optimal delivery mechanisms for launching new products in rural areas.

4. **Product Development Phase 2 - Market Research:** The second step in the product development process involves understanding new clientele characteristics, market dynamics, estimated crop volumes produced, seasonality of incomes, crop diversification strategies and financing needs by sector and size of farmer.

5. **Product Development Phase 3 - Pilot Design:** The third step involves drafting initial features and characteristics of new products, developing a business plan for the pilot phase, defining and setting success metrics, and extensive training *(theoretical and field-based training)* for loan officers.

6. **Product Development Phase 4 - Pilot Testing and Monitoring:** The fourth step involves monitoring the pilot's operational performance, quality of the risk analysis, productivity of loan officers, and effectiveness of marketing strategies. Also, assessment of how it is received and used by target clientele. The third and fourth phases are iterative. Depending on how the pilot rates on the pre-determined success metrics from phase 3, the product may need to return to phase 3 to be adjusted and rolled out again.

7. **Product Development Phase 5 - Product Launch and Rollout:** How to design and plan the rollout of the product, ensuring that the FI has all the resources *(human and financial)* for a gradual release, making the new product available to the whole market.

This guide highlights case studies and success stories from around the globe to illustrate how other institutions already work within the agricultural sector. Look for these case studies in blue text boxes.

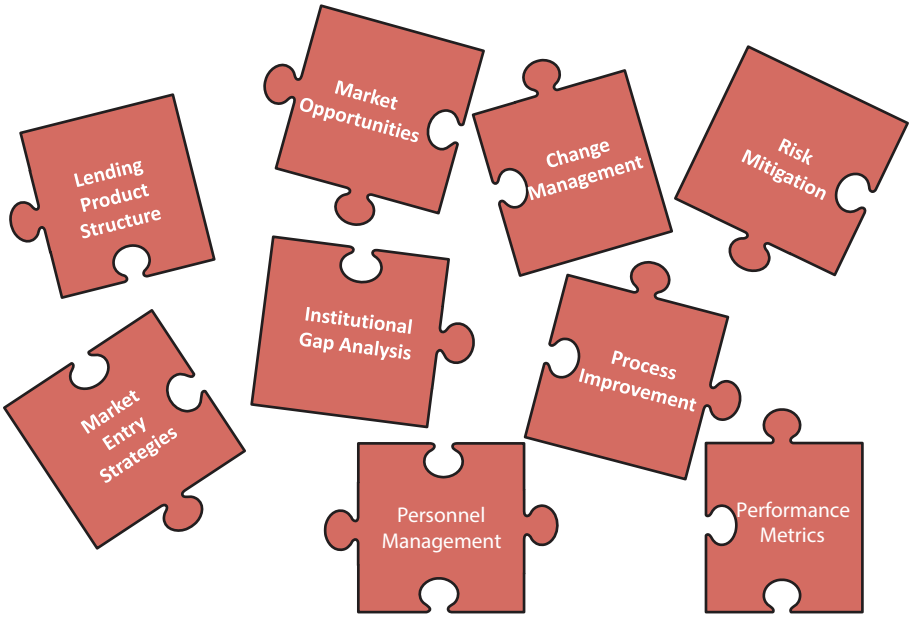
Using IFC's international experience, this guide focuses in great detail on the development of new products targeted at farmers and the adjustments FIs must make to better engage with them and directly finance commercial farmers. It discusses other financing strategies such as value chain finance, which could be employed to reach the agricultural sector. This guide briefly discusses these models and mentions resources for further information.

TARGET AUDIENCE

This guide seeks to inform change agents working with or within financial institutions interested in introducing new agricultural lending products for farmers. This audience includes innovation officers at financial institutions, financial inclusion specialists at multilateral banks, or technical assistance providers. The guide's goal is to provide a resource for development professionals and financial practitioners alike to understand opportunities, risks, and processes for developing new products for agricultural lending. Senior managers in financial institutions will find the first two introductory sections most useful to understand the agricultural lending landscape. Technical assistance providers working with financial institutions to introduce new products will find descriptions of each of the five phases more applicable in their work.

Providing financial services to the agricultural sector is a complex and challenging endeavor. Financial institutions need to understand the agricultural sector and the characteristics and financing needs of target clients. They also must adjust their systems, human resources, and institutional culture to be successful. This guide provides an integrated approach to understanding and managing the pieces and processes of institutional change to engage with this new sector. It is important to emphasize, that this guide requires the support of technical assistance providers to work with financial institutions in building up the processes and capacity to sustainably introduce agricultural lending.

Figure 1 - Components of Introducing Agricultural Lending



This guide will not focus on some of the more complicated aspects of setting up sustainable financing models in rural areas, such as how to cross-sell financial services to the rural sector, how to build strategic alliances with value chain players to increase outreach, or how to use new technology to improve distribution channels and increase cost efficiencies of financial transactions in rural areas. While these areas will be mentioned periodically throughout the document, the focus will remain on setting up the processes necessary to lend directly to farmers in rural areas.

ADDITIONAL INFORMATION

For additional information, please visit IFC's website *(www.ifc.org)*, or contact the IFC Agrifinance team. IFC is willing to discuss possible advice and support for customization and application of this Agricultural Lending: A How-to-Guide with interested financial institutions to adapt to their respective requirements and operational context. Please contact:

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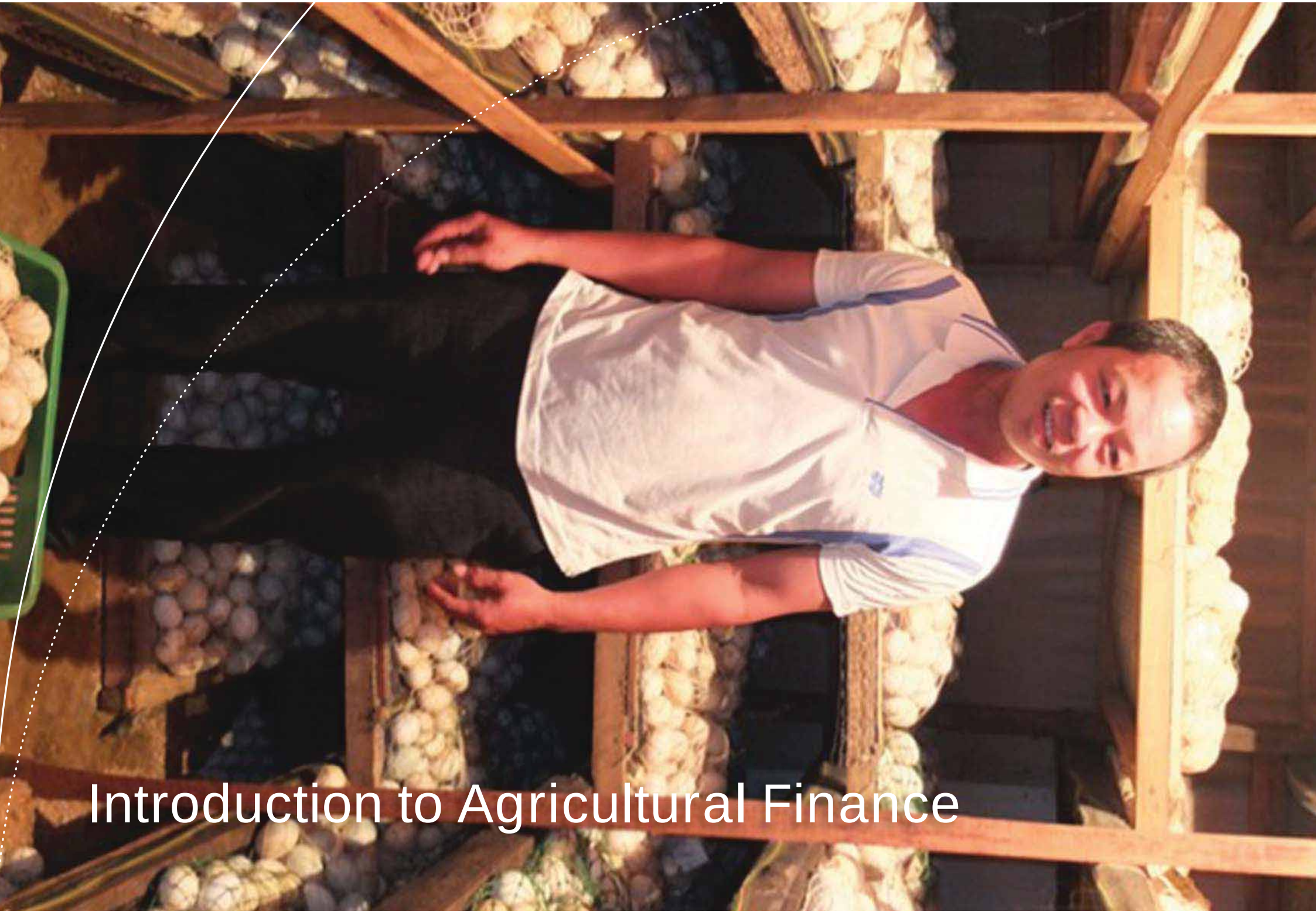


Introduction to Agricultural Finance

Introduction to Agricultural Finance

There are some unique industry risks associated with lending to the agricultural sector. However, there are important market opportunities waiting for FIs that make the initial investment to adapt products to meet the needs of new clients in this industry. Some key issues FIs should consider as they investigate this space are:

- The main challenges when expanding financial services into rural areas?
- The biggest risks in agricultural finance in the target country or region?
- The type of farmers and activities to be financed?
- The value chain players and how to collaborate with or support them?
- The skills and human resource competencies required to lend in rural areas?
- Best practices to assess credit risks of farmers and agribusinesses?
- Delivery channels that are more effective in rural areas?
- The best strategy to offer profitable services in rural areas?

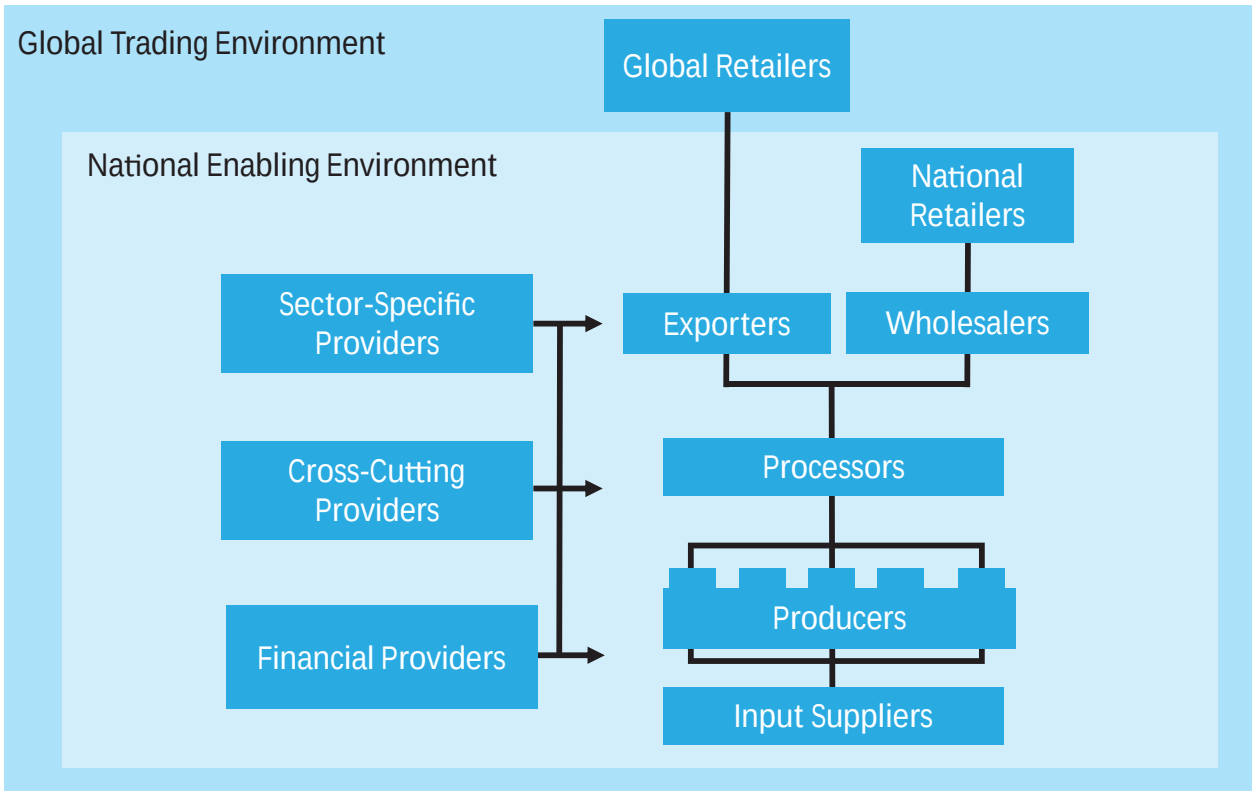
This guide looks at these issues in a structured and systematic manner.

WHAT IS AGRICULTURAL FINANCE?

Agricultural finance is a sectorial concept that comprises financial services for agricultural production, processing, and marketing. It includes short, medium, and long-term loans, leasing, savings, payment services, and crop and livestock insurance. This guide focuses on financing agricultural businesses, primarily small and medium farmers, who tend to be located in rural areas. Providing services to these types of clients spread out in rural areas can increase transaction costs. This guide talks about how to strategically address these specific issues. The concept of agricultural value chain finance emphasizes the vertical dimension of agricultural finance between different segments of agricultural value chains[3]. FIs must look at agricultural finance holistically; as the full range of activities involved in getting a product or service through different phases of production and delivery to the final consumer. This can help FIs keep a market-oriented view to target productive investments in areas that need them most. Further, approaching agricultural finance from a value chain perspective allows FIs to provide a wider range of products to a wider range of actors beyond farmers and producers who may be more geographically dispersed and harder to reach.

[3] *Scaling Up Access to Finance for Agricultural SMEs Policy Review and Recommendations. IFC 2011..*

Figure 2 – Basic Value Chain Map



To visualize what a basic value chain might look like, see Figure 2. It shows a simple value chain of producers using inputs from suppliers, and then selling raw goods to processors, who in turn sell the final product to wholesalers or exporters, depending on whether the product is for domestic or international markets. On the left, financial providers *(banks, microfinance institutions, etc.)*, cross-cutting service providers *(transporters, warehouse operators, etc.)* and sector-specific providers *(trade associations, extension services, etc.)* offer critical technical support and financing to the value chain. The success and strength of the value chain and of the financing itself depend on the enabling environment *(local and international government policies, legal environment, etc.)*. For example, high export taxes for a specific product or cumbersome export formalities could seriously cripple the potential of the entire value chain.

By constructing a map for potential value chain investments, such as the one in figure 2, FIs can more easily identify gaps in financing and evaluate potential opportunities with greater ease. These maps help investors understand and visualize where there might be a weak link in the chain and why that weakness exists. This ensures that the right type of funding flows to the areas that need it most.

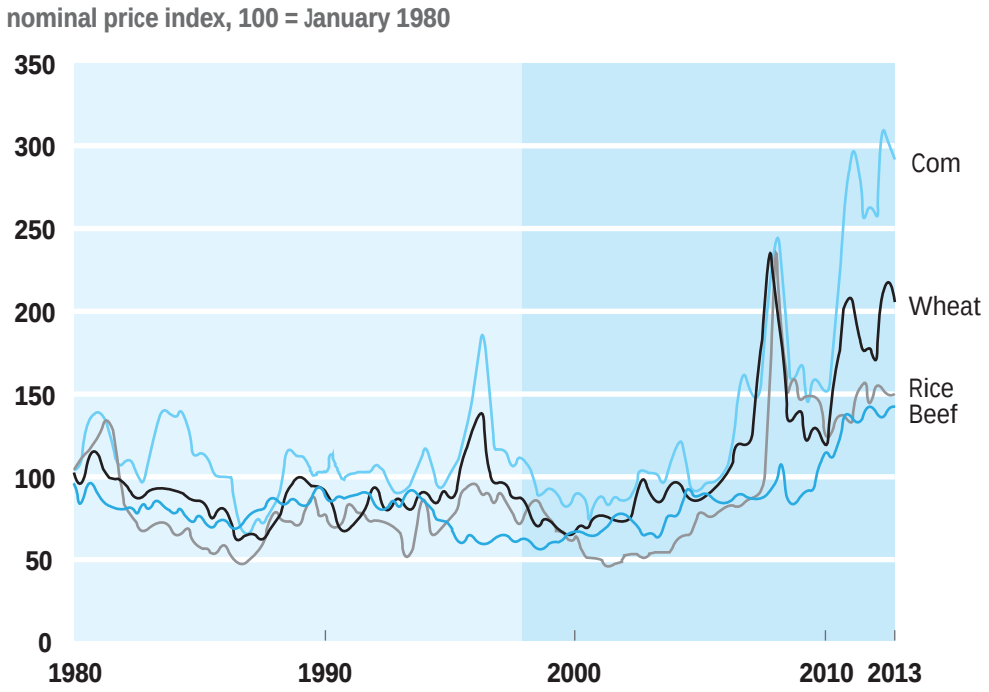
AGRICULTURAL FINANCE MARKET OPPORTUNITY

Total GDP of low and middle-income countries is estimated at $24.6 trillion, with the agricultural sector representing nearly $2.5 trillion.[4] Further, by 2050, the world will need to feed more than nine billion people, requiring nearly 70 percent more food than we consume today.[5]

[4] *World Development Indicators 2014 by WB.*

[5] *Global Agriculture Towards 2050, UN Food and Agriculture Organization, 2009, fao.org.*

Figure 3 – Corn, Wheat, Rice and Beef, Commodities Indexes 1980-2013



Source: Internationnal Monetary Fund; UN Comtrade, UN Conference on Trade and Development; World Bank; McKinsey Global Institute analysis

A study by McKinsey & Company says prices of staple crops, such as corn, wheat and rice, in addition to meats, such as beef, have been increasing over the past ten years.[6] Prices are likely to continue to increase because of higher global demand for food and increased demand for higher quality food by growing middle classes in developing countries *(see Figure 3)*.

This means larger quantities of food will need to be produced more efficiently with smaller quantities of inputs. The global trend of rising crop prices is having a positive impact on rural economies, generating higher incomes and more opportunities to invest. Also, the increase of extreme weather events in the world's important agricultural regions is forcing farmers to adapt, which can lead to disruptions in previously stable agricultural value chains. The demand and price increases, as well as changes in consumer demographics, will increase the need to produce more food. Farmers will need to invest in new technologies and rural infrastructure to produce more sustainably. Financial institutions should introduce interesting financing products to support this more dynamic rural context.

The relatively low penetration of financial institutions into rural areas indicates a large business opportunity. According to Findex data, only 8 percent of adults in rural areas in developing countries have borrowed from formal financial institutions and only 48 percent have bank accounts.7 Further, according to World Bank surveys, 28.7 percent of firms in all countries listed *"lack of access to finance"* as the biggest obstacle to their businesses. This number rises in low and middle-income countries, where agriculture is a larger part of the economy. For instance, in sub-Saharan Africa, 40.8 percent of firms listed *"lack of*

6 *N. Denis, D. Fiocco, J. Oppenheim. From liability to opportunity: How to build food security and nourish growth," March 2015.*

7 *World Bank Global Financial Inclusion Database. 2014.*

access to finance" as their biggest obstacle[8]. Given the large proportion of businesses in the agricultural sector in these developing markets, these numbers present an enticing market opportunity for FIs exploring entry into the agricultural sector. Access to financial services is critical for providing funds for farm investments in productivity, improving post-harvest practices, smoothing household cash flow, enabling better access to markets, and promoting better risk management. However, access to a comprehensive range of financial services remains a significant challenge for farmers in developing countries. Some countries have started addressing this issue by to coordinating efforts between public and private sectors to improve the supply of financial services, technologies, and access to markets for small farmers. The box below summarizes some of the work led by government and private sector in Vietnam.

Public-Private Partnerships Focus on Sustainable Agriculture in Vietnam[9]

The Public-Private Task Force on Sustainable Agriculture in Vietnam was formed in May 2010 at the World Economic Forum on East Asia in Ho Chi Minh City. Co-chaired by the Minister of Agriculture and Rural Development, the task force comprises 17 global and four local companies, two provincial governments, a national research institute, two international organizations, and five NGOs. The multi-stakeholder partnership focuses on five crops *(coffee, corn, soybean, tea, and fruits and vegetables)* defined as strategic priorities in Vietnam's national plan, and has mobilized working groups and pilots for each. In November 2011, the Government of Vietnam ratified adoption of the World Economic Forum's New Vision for Agriculture *(NVA)* framework into the country's 10-year national agriculture strategy, integrating a new dimension of environmental sustainability into Vietnam's long-term aspirations.

"Government and business share the same goal: we both want to see strong and sustainable growth in Vietnam's agriculture sector," said Cao Duc Phat, Minister of Agriculture and Rural Development. *"We have identified a number of ways in which we can work together more effectively towards that goal."*

"Growing Asian demand for food means we must increase both production and quality to meet that growth while operating within the constraints of climate change. If companies combine efforts with the government and each other, we can operate more effectively along the full value chain," said Frans Muller, Member of the Management Board, METRO Group and Co-Chair, World Economic Forum on East Asia.[10]

The government has placed a high priority on industrialization and modernization of rural agriculture, setting a target of 3.5 percent annual growth in the sector until 2020. Private sector investment is seen as critical to achieving that target. Participating companies include Archer Daniels Midland *(ADM)*, Bunge, Cargill, Dupont, METRO Group, Monsanto, Nestlé, PepsiCo, Swiss Re, Syngenta, Unilever, and Yara International.

8 *World Bank Enterprise Surveys. 2014.*

9 *Grow Asia. World Economic Forum. October 2014.*

10 *"Agriculture in Vietnam gets a boost with new public-private sector project." World Economic Forum. 2010.*

RISKS OF AGRICULTURAL FINANCE AND MITIGATION STRATEGIES

The relative size of the agriculture industry in the developing world, combined with projected growth estimates, makes this market an attractive opportunity for FIs looking to finance growth-oriented agricultural enterprises. So why are FIs not flooding the market with products and services? Perhaps the biggest barrier for FIs to overcome is the perceived high level of risk that the institution would need to take on as a result of building a new portfolio in the agricultural sector. As can be seen in figure 4 below, the risks are not just concentrated at the producer level of the value chain as one might expect but are prevalent at all levels. Agriculture is an inherently risky industry, and risks faced by actors in the value chain ultimately translate into risks that FIs must take into account when evaluating profitability of an investment opportunity. However, just as with any new target industry, building an understanding of key national players, value chains, and regulations can go a long way in helping FIs counteract and mitigate risks. In fact, many of the risks enumerated in Figure 4 are encountered in other industries, so this guide will help interpret how some specific risks can be better understood and mitigated in the agricultural industry.

Of all the actors in the value chain, it is most frequently farmers and rural small and medium enterprises *(SMEs)* that lack access to appropriate financial products. FIs that target agricultural SMEs face a variety of challenges, such as understanding cash flows of rural households and business cycles of small farms and estimating repayment capacities of small farmers *(who in many cases lack formal accounting systems).* FIs must assemble detailed business profiles of potential farmer clients and also have a good understanding of risks that farmers face. Figure 5 illustrates primary categories of risks faced by rural farmers including business risks related to production, climate, investments, inputs, and the market. While these are some chief risks, this list is not exhaustive. Some additional risks are listed in Appendix A – Additional Risks. FIs must consider all of these risks when developing an agricultural lending strategy and determining which segments will build the strongest portfolios.

Figure 4 – Risks along the Value Chain

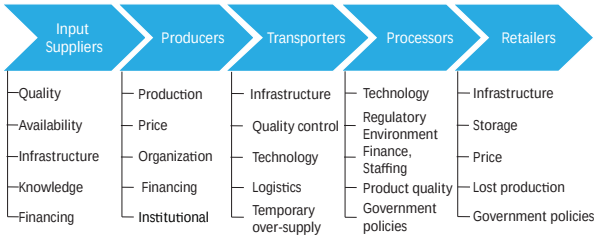
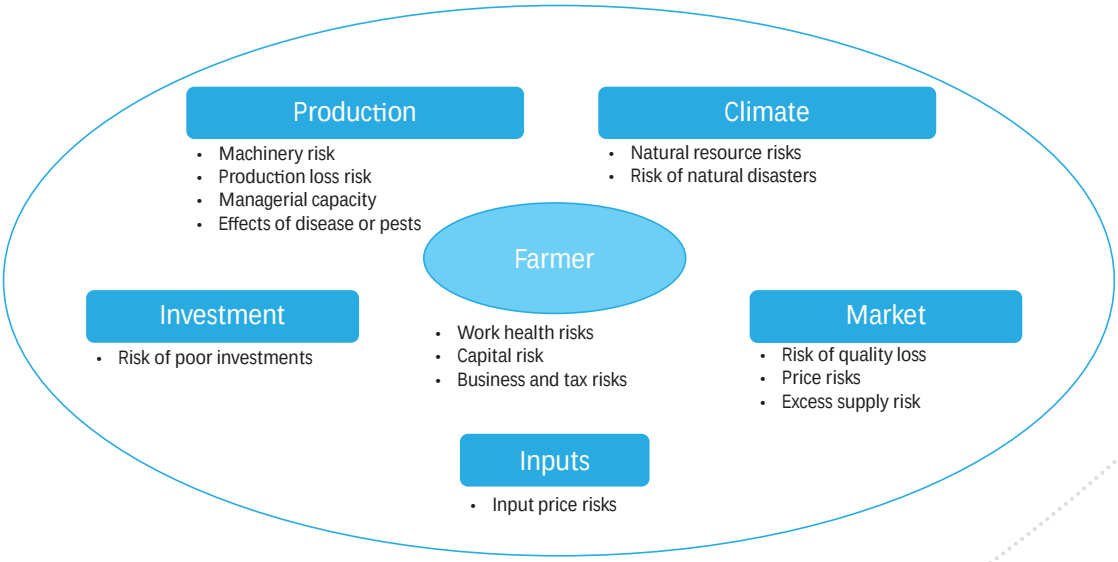


Figure 5 – Integrated Risk Structure: The Farmer's Perspective



FIs with extensive loan portfolios will notice that many risks in figure 5 also exist in other industries. However, there are subtle nuances that help FIs better understand how these risks appear in the agricultural sector and how better to mitigate them.

Managing Agricultural Risks

Working in rural areas is never an easy proposition. Vast geographic areas and low population densities, often scattered across hard-to-reach locations, result in higher operational costs for financial institutions. Organizations need to develop and implement a comprehensive and integrated strategy to offer sustainable financial services in rural areas. This strategy should include design of effective risk assessment methodologies, development of strategic collaborations with value chain players, and creation of cost-effective distribution channels. The following section shows how risk management processes can be incorporated into the basic financing model. The remainder of the guide will walk readers through the step-by-step process of creating a financial product for agricultural borrowers and how specific actions can address these risks before the product is officially launched.

Table 1 – Key Agricultural Risks and Mitigation Strategies

Risk	Mitigation Strategies
Climate Risk: Crops are highly susceptible to fluctuations in climate and rainfall. Lack of access to water sources or irrigation systems and temperature variations considerably affect size and quality of harvests. Natural disasters or climate events, such as drought or flooding, seriously impact the farmer's ability to meet production demands.	Mitigating risks of natural disasters is difficult, but progress has been made in the area of microinsurance, especially in weather-index insurance. When insurance payouts follow a benchmark index, benefits payments can be targeted to beneficiaries who suffer the worst losses (see MicroEnsure case study below). Another way to mitigate climate risks is to select regions with high agricultural potential and large crop diversity. The bank can diversify its agricultural portfolio across different crops in the region, reducing overall risks. Targeting farmers with access to irrigation also reduces risks of rainfall volatility, ensuring more stable yields.
Production Risk: Production risks result from pests and diseases that attack crops during the growth cycle, as well as from losses caused by substandard farming practices or inadequate conditions during harvest, transformation (processing), or transportation of the produce. Inadequate handling before and after harvest can lead to significant losses. Production risks are directly related to technical and managerial capacities of farmers, and to technical constraints such as quality of agricultural inputs (seeds, fertilizers, etc.), harvesting processes, and storage systems. The managerial capacity of a farmer significantly influences her/his ability to successfully produce and market crops.	FIs need to assess each farmer's technical and managerial skills by reviewing her/his production techniques in detail, crop diversification strategies, and access to markets. FIs should have strong risk assessment processes in place, enabling them to select low-risk farmers. Also, FIs can collaborate with technology transfer agencies, financing farmer groups that receive technical and marketing support. This holistic financing approach increases potential business for FIs and helps stabilize the entire value chain, thereby reinforcing the producers at the base.

Risk	Mitigation Strategies
Investment Risk: Investment risks relate to non-repayment of credit provided to farmers, other producers, or other value chain actors. This risk may be borne by the FI, or the value chain actor acting as retail finance provider for other actors, which is referred to as "internal" value chain finance.	Credit officers should analyze intended use of the loan during the due diligence process to determine if the investment is wise. As mentioned above, FIs must develop adequate risk assessment processes that will help them evaluate managerial capacities of potential clients and the rationale behind the proposed investments. Non-repayment of credit can be greatly reduced by linking repayment through lead actors, such as trustworthy aggregators or exporters. Such actors help instill and ensure accountability. Arrangements of this type are strengthened when lead actors (co-signatories) can absorb risks (for example, , through equity capital or other collateral) and when contingency arrangements are in place, to deal with unavoidable risks (such as crop failure). Providing financing for small farmers indirectly through arrangement with larger value chain actors improves efficiency of credit delivery and decreases risk of non-performing loans. These types of direct and indirect financing arrangements are discussed in more detail later in this section.
Input Risk: Input risks may arise when prices of agricultural inputs increase to a point that makes production unprofitable, generating losses to farmers and preventing them from repaying their loans. Farmers also face the issue of low-quality fertilizers or counterfeit products in the market, which could have limited or even negative impacts on yields.	Verifying a history of strong yields and comparing production costs of farmers to regional benchmarks can help FIs assess the production effectiveness of potential farmer clients. Further, technology transfer institutes and reputable input providers are necessary players to ensure quality of agricultural inputs. Farmers focused on improving quality of their products are incentivized to spend slightly more money on certified seeds or fertilizers, when assured of higher yields. FIs need to assess each farmer's agricultural practices and the quality of the inputs they usually purchase before extending credit.
Market Risk: Agricultural products most susceptible to substitution carry the greatest market risk, because purchasers are indifferent to the source of products that are homogenous and easily interchangeable. It is common for farmers to have good yields and strong management of crop cycles (production, harvest, storage) only to face drops in prices at the time of sale due to excess supply. In saturated markets, farmers are forced to sell at low prices, sometimes even below cost of production.	Fixed contracts throughout the value chain help mitigate market risks, especially when dependence on one market can be avoided. FIs should look for contract farming or export agreements, especially when evaluating financing for other agribusinesses within the value chain. In niche markets, such as fair-trade channels, buyer relationships can significantly reduce marketing risks, even for small producer groups. Product standards and certification can also reduce market risks.

A more detailed discussion of risk and arrears monitoring for farmers can be found in phase 5 of this guide.

The following case study is an example of a collaboration between two private sector companies seeking a market-led solution to mitigating one of the biggest risks in the agricultural sector: climate risk.

MicroEnsure's Entrance into Zambia's Rural Microinsurance Market[11]

In 2014, MicroEnsure – a large global microinsurance company – began serving the Zambian market with its FarmerShield life and weather insurance product in partnership with NWK Agriservices. NWK is an agribusiness that operates a cotton out-grower program that engages 100,000 smallholder farmers and has diversified into input distribution and commodity storage and trading. Faced with famer loyalty and side-selling problems, NWK partnered with MicroEnsure to offer weather index and life insurance to its farmers. The companies planned to build weather stations across Zambia to record weather events, but faced with high construction and operation costs, decided to use satellite imaging to monitor regional weather. Prior to its first season of operation in 2013-2014, 6,610 farmers signed up for weather index insurance, covering 7,600 hectares.

This particular weather index product was designed so that benefits payouts were modeled on the impact of various climatic events, such as drought or floods, on cotton yields. Data was collected at a local level and benefits were automatically paid out if the weather event crossed the predetermined level of severity.

In 2014, weather events triggered $42,000 of payouts, thus demonstrating the value of the product in its first season. Further, the FarmerShield life insurance product covered 25,165 farmers' lives who paid a total of $5,536 for coverage. The net loss ratio for this product was 48 percent, which is a positive outcome for a life microinsurance product. It attracted even further demand from farmers to cover additional lives in their households. As a result of this coverage, farmers valued both the weather index and life insurance products and appreciated both direct *(for example, claim payouts)* and indirect *(for example, integration into the value chain)* benefits of the insurance products. NWK noticed a positive impact on its business with increased deliveries and reduced side-selling *(pending final conclusions of this pilot study*) and the products are expected to be sustainable and profitable for the insurers and reinsurers. From the initial product with NWK Agriservices, MicroEnsure is diversifying its product offerings to rural Zambians, which is vital for the development of rural Zambian financial markets.

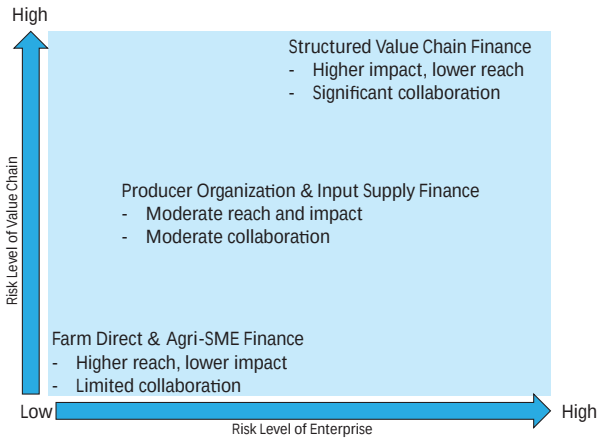
MODELS OF AGRICULTURAL FINANCE[12]

There are plenty of potential financing opportunities within the agricultural sector and value chains. However, there is no *"one size fits all"* approach to financing the producers and associated value chains. While strategically placed financing can reduce risk across the value chain, each segment of the chain should be considered according to its own merits and an appropriate approach be developed. Figure 6 provides an illustration of various models that

11 *Cracking the Nut Publication, 2015.*

12 *This section borrows heavily from IFC's "Guide for Financing 12Agriculture Value Chains." P. Varangis, H.A. Miller, D. Chalila, H. Dellien and D. Shepherd.*

Figure 6 – Appropriate Financing Models by Value Chain and Enterprise Risk Levels



FIs might employ based on risk levels of target investments. The lower the risk involved in an investment, the more attractive it is for direct financing. Since risk levels are more elevated in the agricultural sector, there are other financing models that can indirectly finance producers at the base of the value chain, without taking on the full risk of direct investing.

This illustration shows that lower-risk farmers in relatively low-risk value chains at the bottom left corner of the graph can be financed with more direct approaches. While the financing reaches the farmer directly, this approach is limited in its impact on the single farmer directly financed. In contrast, farmers that fall into the higher risk categories, concentrate on commodities that are more risky, or live in areas that have higher risk profiles, are more successfully financed through structured value chain finance approaches. This type of financing can potentially impact many farmers indirectly. The financing itself will be concentrated on larger organizations that work with farmers.

FIs using a structured model of financing outsource more functions and responsibilities to value chain players. For example, one value chain player may not only help preselect potential farmers, but will also occasionally process loan applications and collect repayments. This model requires more coordination between FIs and value chain players, and is more frequently used in value chains where the processor or trader is in an oligopolistic position *(that is, farmers are locked into selling their products to one or few buyers; or strong and enforceable contract farming is in place)*.

There also exist a variety of hybrid financing models that can be explored between the two ends of the spectrum. These allow for tradeoffs between the degrees of coordination or collaboration between parties, depending on where they fall in the risk spectrum. These hybrid models often involve more open and light collaborations between FIs and value chain companies, where FIs use and leverage local knowledge of value chain players to gain access to their suppliers and to pre-select those farmers with characteristics that are attractive to the FIs. Later FIs will have a more direct role in marketing and farmer selections, as well as in the loan approval and recovery processes. As an illustration, in Kenya, local FIs work with a large drip irrigation manufacturer to provide affordable financing to purchase drip irrigation equipment along with technical assistance for its proper use. FIs here work with the value chain to provide customized services to help accelerate production.

Extending finance to enterprises at different levels of risk involves certain tradeoffs between levels of impact and outreach. This is partly due to the reality that finance alone is often insufficient to make significant improvements in yields and income, especially for smaller farmers. Varying levels of complexity accompany the financing mechanisms for riskier clients. Typically, the more complex financing mechanisms for riskier agricultural clients address financial needs and also their needs for technology and inputs, technical assistance, and market access. Direct models typically address financial needs. Hybrid models may address needs for inputs, technical assistance, and/or market access; depending on the partners and the nature of the collaboration. Structured models typically provide a full suite of services in conjunction with finance. The market research process that this toolkit recommends, will help FIs select the most appopriate lending models, according to their vision, target clientele, and risk appetites.

However, structured value chain finance models can be difficult to implement, requiring significant coordination among partners with complementary roles and mutually beneficial incentives. Additionally, the outreach of structured value chain finance is often limited to the relatively small number of farmers linked to highly organized value chains. Nevertheless, once in place, these hybrid and structured approaches can create a systemic way to expand access to finance for producers, reduce financing risks, and grow the value chain as a whole.

In addition to the external aspects of the financing models discussed in this section, FIs will need to adjust key internal areas – credit policies, risk management, human resources, and distribution channels – to successfully lend to the agriculture sector. During credit assessments of farmers, loan officers need to gather and utilize information to assess technical level, managerial skills, character, reputation, and willingness to repay. Additionally, FIs need specialized lending processes and tools to evaluate both household and farm-level cash flow to assess ability to repay, as well as to structure loan products to meet borrower needs and cash flow patterns. Portfolio monitoring and risk management should account for seasonality and adjust to weather and other production risk factors via close monitoring and active management *(a more detailed description of arrears monitoring for small farmers is discussed in the rollout section in phase 5)*. Regarding human resources, rural loan officers should have a background in agronomy and their performance incentives should be calibrated to balance portfolio growth with risk mitigation appropriate to the agriculture sector. Distribution channels may need to be adapted to reduce costs of reaching clients in remote areas.

This guide focuses on adjustments banks need to make to finance the agricultural sector and on the process to design and implement loan products for direct lending to farmers and agricultural SMEs *(agri-SMEs)*. For more information on value chain finance models and their advantages and risks, see Appendix B – Hybrid and Structured Financing Models.

Direct Farmer Financing

Depending on risk profiles, certain farmers may be attractive clients for financing on a standalone basis. These farmers typically have relatively diversified sources of income *(across commodities and/or activities)*; limited seasonality and ability to smooth cash flow throughout the year; irrigation or limited exposure to weather risks; use of good agricultural practices; and strong access to markets and favorable prices. From a geographic perspective, these farmers also need to be relatively easy to reach through branch banking or other marketing channels on an individual basis. Further, loan sizes ought to be sufficient to justify individual credit assessments and other overhead costs associated with direct lending.

Identifying Farmers for Direct Financing: Farmers for whom finance is the dominant constraint usually have established wholesale or retail channels and strong relationships with a substantial number of suppliers. From the perspective of FIs evaluating repayment risks, these small farmers should produce the bulk of their output for commercial sales *(not subsistence)*. The best target commodity groups are those competitive farmers with good yields and growing demand for their products.

Agri-SME Financing

A number of agri-SMEs fulfill key functions in many value chains as traders or aggregators to consolidate goods and provide transport or access to other markets. Although they generally do not support farmers with inputs, technical assistance, or quality control, they often do provide financing to farmers through trade credit or pre-financing of inputs. Increasing working capital finance for these agri-SMEs may be a good entry point for indirectly financing farmers.

The potential financing opportunities for certain farmers may be too small and/or short-term to justify the costs and administration of direct financing. In those cases financing farmers via agri-SMEs in commodity value chains does not consider the credit qualifications of the farmers who ultimately receive short-term finance, but instead relies on the creditworthiness of agri-SMEs and their ability to manage their own portfolios of outstanding loans.

It is not uncommon for successful agri-SME traders to be medium-sized farmers themselves, who procure from other small farmers in their vicinities to help cover operating costs of transport to markets. These types of agri-SMEs are normally good borrowers, and can be used as conduits for credit to small farmers in their procurement network. A primary caution is to assess not only their creditworthiness and management skills but also their characters to ensure business practices are acceptable. This assessment should be wary of traders that pay low prices, charge high effective rates for advances, or take large margins relative to their value addition.

Identifying Agri-SMEs for Financing: High-performing agricultural entrepreneurs can be effective partners in increasing probability of small farmer success and loan repayment. FIs should look for:

- A strong documented record of profitable commercial agricultural operations in the targeted commodity group, preferably as a producer
- A solid track record of procuring from small producers *(and in some cases, organizing the needed mix of technical and input supply services)*
- Strong management and organizational skills, to be able to put the pieces together for a growing number of small farmers
- Commitment to adding value to small farmers in ways that increase their productivity, quality, and earnings
- Ability to work with a significant number of small farmers *(30+ small farmers)*.

FACTORS INFLUENCING THE INTRODUCTION OF AGRICULTURAL FINANCE[13]

Institutional buy-in from every level of the FI is important when introducing a new agricultural product. Top management should serve as strong *"champions"* supporting the work of credit managers and loan officers. To gain buy-in of senior managers, the team will need to describe business opportunities in financing the agricultural sector, and potential upside for the FI. During the market research phase, the team will gather critical information about the agricultural sector to bolster the business case for financing it. The presence of these champions will ultimately dictate whether the introduction of agricultural finance is a success. The chances of successfully launching and sustainably running the program is much higher with strong leaders explaining what the opportunity is and how the new processes will be integrated into the organization. Conversely, if management is not united on developing a pilot product, divisions within the organization will form as the workforce tries to understand the mixed messages coming from the leadership. Launching a successful agricultural lending program requires a strong, unified organization and commitment. This guide helps champions within FIs to better assess the agricultural market potential of a particular region, and prepare a business plan and strategy for the rural sector, and get buy-in of senior management.

Just as a strong and motivated culture inside the FI is key to the success of an agricultural lending program, a supportive enabling environment outside the organization is also necessary. Private sector engagement is a good bellwether to help determine the strength of

[13] *This section borrows heavily from IFC's "Guide for Financing Agriculture Value Chains." P. Varangis, H.A. Miller, D. Chalila, H. Dellien and D. Shepherd.*

the agricultural sector within a country. It is much more beneficial for FIs to operate in markets alongside private investors making equity investments because the risks are diminished further and active partners can enhance capacity and productivity. Without private sector investment, FIs will need to be more selective when evaluating investments in the agricultural sector.

Agriculture is an area that receives political attention, so there may be certain governmental policies that impact its financing. Factors that support agricultural finance include: policies that allow FIs to charge adequate interest rates to cover the costs of reaching dispersed populations; government interventions and subsidies; and appropriate use of loan guarantees. FIs need to identify in advance any policies that could undermine agricultural finance, be aware of potential pitfalls, and prepare to address those challenges early on. For a more detailed description of some financial policies and how each could either enhance or undermine agricultural lending, see appendix C.

Policies governing the agriculture sector are subject to changes in the political climate. These changes can both positively and negatively impact overall profitability of lending to the sector. There is a variety of policies that have a strong influence on the business-enabling environment for agriculture in general and financing *(and investment)* for agriculture in particular. For example, agriculture sector policies may include price interference, especially in staple crops, which can undermine market forces and create challenges for the financing of certain farmers. Trade policies for agricultural commodities and inputs *(both exports and imports)* may include restrictions, taxes, quotas, or price controls. Lastly, government activities in infrastructure, irrigation, procurement, and insurance also impact private sector investments and financing of agriculture. It is helpful to gather relevant regional and/or commodity-specific information for each of these policy areas when possible. FIs can adapt products and target specific value chains that present the most enticing opportunities by continuously monitoring these financial and governmental policies. For an additional discussion of some governmental policies and how each one could either enhance or undermine agricultural lending, see appendix C.

INSTITUTIONAL CAPABILITIES

After establishing that there is strong demand for agricultural loans among current and potential clients, you must ensure that your institution has the necessary capabilities and infrastructure to introduce agricultural lending effectively. Introducing agricultural loans will have an impact at many levels of the organization.

- Senior Management should be open to restructuring the organization and aligning staff to implement agricultural lending effectively.
- The Credit Department should be capable of adjusting and implementing adequate processes for agricultural lending across branches. The FI should be open to adjusting roles and responsibilities of field staff to assess and manage agricultural loan applications and train branch managers on approval and monitoring of agricultural loans using the new processes.
- The Risk Department should adjust the policies to address the additional risks involved with the agricultural sector, and implement new processes and tools to manage and monitor agricultural portfolio risks.
- The Management and Information Systems Department should be capable of making the necessary adjustments to the information system to enable flexible loan schedules and the use of grace periods when required to better match farmer cash flows. The system should be able to monitor an agricultural lending portfolio and

generate all necessary reports *(monthly, seasonal, etc.)* promptly.

- The Human Resources *(HR)* Department should be open to adjusting the position requirements for loan officers to facilitate the selection of staff with agricultural backgrounds, and to introducing a training curriculum on risk assessments for agricultural loans. HR should be able to manage a staff specialization process by type of lending product with supporting performance-based incentive systems.

To guarantee success, the introduction of agricultural lending must be consistent with and contribute to the organization's mission, vision, and strategic objectives.[14]

CHECKLIST

By now, your organization's management team and board should have talked through the challenges and opportunities of introducing agricultural lending. Using your top-line knowledge of the market and your institution, you will have decided whether or not you are ready to begin to look more closely at introducing agricultural lending. Now is the appropriate time to think about how ready your institution is, what are your particular challenges, who should lead the process, and how to set up a pilot. The following checklist will help to highlight whether you are ready to proceed with planning for the introduction of agricultural lending:

- Do you understand what agricultural finance is and how it might fit in your institution?
- Can you explain why introducing agricultural lending could present an important opportunity for your institution?
- Do you understand the predominant risks of the rural sector, and, in particular, the agricultural lending risks that you institution will need to tackle?
- Do you have a long-term vision and commitment to engage with the agricultural sector and make additional provisions to manage the cyclical nature of the sector even when it is negatively affected by events outside your control *(such as weather events)?*
- Have you assessed the different agricultural finance models that would best suit your institution, and whether you can incorporate those into your current institutional processes?
- Have you investigated the financial policies that could impact the agricultural sector in your target country or region?
- Can you articulate which government policies will impact your entrance into agricultural lending and how?

If you can answer all these questions, you are ready to start planning for your expansion into agricultural lending.

[14] *Introducing Individual Lending. Women's World Banking. H. Dellien, O. Leland. 2006.*

The Product Development Process

The Product Development Process

There are some unique risks and challenges in lending to the agricultural sector. But sometimes, a little innovation is all that is required to take advantage of the tremendous market opportunity in agricultural lending. FIs new to lending to the agricultural sector will need to adapt existing lending processes and create financial products to respond to the characteristics, needs, and aspirations of this unique sector. An in-depth understanding of the agricultural sector and its players will enable FIs to innovate, thereby allowing early movers to stay ahead of the competition. Institutions that continue to offer the same products, which do not address the particular needs of a sector or value chain, will miss out on market opportunities.

However, adaptation and innovation cannot be one-time occurrences. Farmers are diverse and require many different products. A lack of understanding of the agricultural sector and its players would considerably reduce the chances of an FI successfully introducing financial services in rural areas. Any gaps that exist in product offerings, such as those that exist in the agricultural sector, represent opportunities to grow the client base and bottom-line profits.

INTRODUCTION TO THE FIVE-PHASE MODEL

The process for innovating and developing financial products for the agricultural sector can be broken down into a basic five-step model. The FI should keep in mind risks associated with agricultural lending and the financial strategies to mitigate and manage those risks.

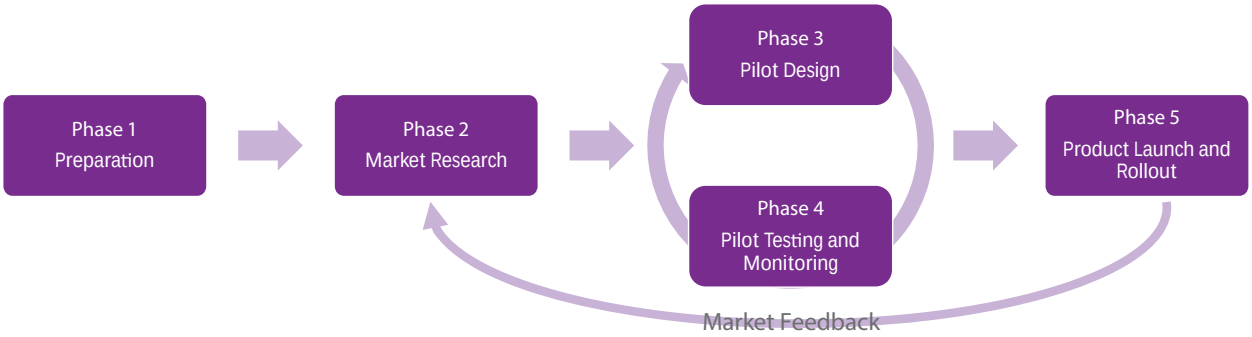
As illustrated in figure 7, the process begins with the preparation phase. Here, an institution identifies gaps in its lending processes, credit risk policies, human resource skills, management systems and distribution channels, and identifies the adjustments required to engage with the agricultural sector and manage the particular risks posed by it.

In the second phase, institutions research which geographical regions have large potential for successful agricultural finance. Once the regions are selected, FIs conduct more detailed studies of the potential value chains and associated farmer segments. During this phase, FIs identify the most attractive and least risky value chains for financing and which lending models would be most effective in reaching those clients. At this point the team should prepare a business plan for the pilot, with targets and an implementation budget, which should reach breakeven point within a reasonable period of time.

The third and fourth phases of the process are iterative. In the third phase, an institution will design financial products and a lending and delivery model *(the strategy)* for testing. In the fourth phase, the institution implements the pilot strategy and monitors the operational performance of the pilot, the learning of the staff, and whether the product has been well received by target clients. If there are problems with the lending processes, the products, or the outreach strategy, the pilot is redesigned and re-piloted. This process is repeated until a successful pilot *(as defined by predetermined metrics)* is conducted.

In the fifth and final phase of the process, the institution officially launches the new product. Based on market feedback, FIs may decide to revise products and make slight changes by conducting some additional research and going through an abbreviated version of the piloting and launch processes again.

Figure 7 – Product Development Process



TIMELINE FOR INTRODUCING AGRICULTURAL LENDING PRODUCTS

The design and implementation of financial products for the agricultural sector are continuous, given the particular characteristics of value chain players and farmers. Completing the process will take a significant investment from the entire institution throughout the planning, pilot, and rollout process. It is possible the institution will see some return on its investment before the end of the process. Especially if farmers and agricultural businesses perceive that the FI is interested in understanding their challenges and that the FI is willing to adjust its products and delivery systems to engage more effectively with them. This can serve as a marketing point to attract more clients in rural areas.

This timeline can also be much compressed depending on the current state of agricultural lending within the institution. For instance, an FI may already have products similar to what farmers would find most useful, in which case, refining these existing products will be less costly and less cumbersome. On the other hand, if the needs and preferences of farmers are drastically different from those of current clients, a new offering might be the most appropriate response. The entire new product development process should take, on average, between 12 to 18 months from the earliest stages of preparation to the launch of the new product. This timeline can be compressed or expanded depending on how much time an institution spends on piloting and testing the new product before it is officially launched. Depending on the FI's experience with testing new products, it is the iterative phases of pilot preparation and testing that usually take the most time.

There is no set time during the year that is best for FIs to introduce new agricultural finance products, so an institution can begin the process at any point. The pilot launch and final launch of a new product may best be timed when the target segment is in need of cash. For farmers, this is typically just before the planting season when they are seeking money for quality inputs.

STRUCTURE OF TEAM AND LEADERSHIP

During the early planning stages, the senior management team and other key stakeholders must be involved in the decision of whether or not agricultural lending is feasible or desirable. Once the decision is made, a cross-functional

agricultural lending leadership team should be created to design the strategic plan, manage the research process, design and pilot test the product and processes and manage the pilot evaluation and roll out the product across the organization. A senior staff member can serve as the agricultural lending project manager, with the responsibility of driving the process and being accountable for the implementation of the project through each of the phases.

The agricultural lending project manager should be identified early in the process since this person should have an in-depth understanding of how and why all key decisions are made. Since agricultural lending is, by its very nature, a cross-institutional endeavor, this person will need to coordinate with a large number of individuals in many different areas of the institution. Lending process need to be updated, new credit review guidelines created, new policies addressing the rural and agricultural risks drafted and approved, adjustments to the marketing plans implemented, changes to the selection and training of agricultural loan officers reviewed, new loan repayment plans and grace periods introduced, and performance metrics analyzed. The agricultural lending project leader will need to coordinate these various activities throughout the institution and guide the process to completion. Guidelines on constructing the agricultural lending team are included in Phase 1 of this guide.

RESOURCES AND TIMING

FIs cannot simply jump into the first phase of the product development process. Before beginning Phase 1, each FI should hold a workshop with its board and senior managers to discuss the rationale for agricultural lending. During this workshop, management should discuss the levels of market demand for the new product, the government policies related to the sector, the institutional environment, and institutional skills and capabilities. This preliminary step should take no more than a few days provided sufficient background information is available.

CHECKLIST

Before officially beginning Phase 1, consider the questions below:

- Can you explain why introducing agricultural lending is important for your institution at this point?
- Do you understand the 5-step product development process and generally what is accomplished in each step?
- Have you met with a team of senior management to preliminarily discuss the agricultural lending market and how it fits into the structure of your institution?
- Does your team understand the timeline involved in creating a new product and the levels of effort required to make the introduction a success?
- Do you understand what is required of the agricultural lending project leader and the type of person that might be successful in this role?

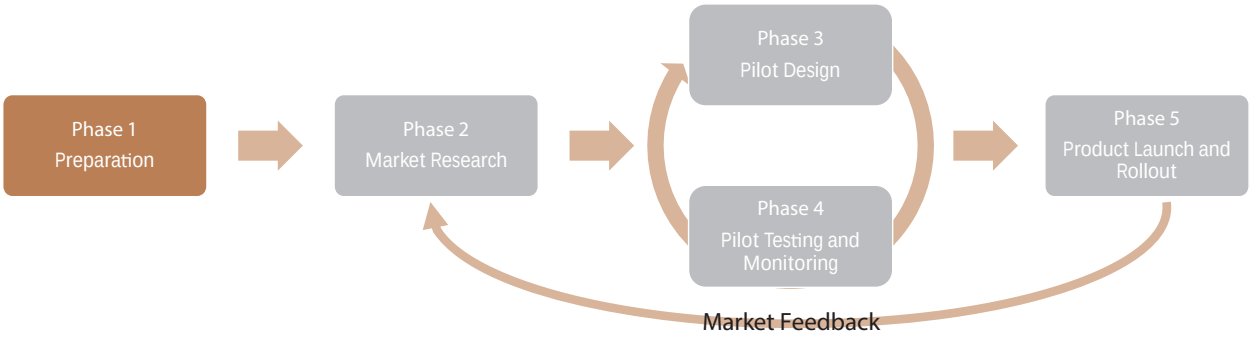
If you can answer each of these questions, then you are ready to begin Phase 1 of the product development process.

Product Development Phase 1 – Preparation

Product Development Phase 1 – Preparation

The first phase of a new product development cycle begins when an institution decides to formally investigate its development. At this point, the FI has usually conducted initial meetings to discuss the goals of the product and has identified a project leader or team to guide the process through to completion. In the preparation phase, FIs conduct an internal analysis of the lending and risk processes, operations, and personnel to identify any potential gaps that would need to be filled. During this phase, FIs will ensure that the updated processes address the new risks they will face. FIs will also put together their leadership teams.

Figure 8 – Phase 1 – Preparation



IDENTIFY INSTITUTIONAL GAPS

Many different areas must be investigated to identify gaps in an institution. Everything from finances to operations and lending methodologies to branch structure must be evaluated to determine if the current processes adequately address additional agricultural risks and whether the institution is ready to introduce a new product. This section will go through some high-level questions that should be answered when conducting this analysis. For a more complete diagnostic tool, see. Appendix D – Institutional Diagnostic.

Senior management should be able to articulate clearly the vision of the product, how it fits into current product offerings, and who the designated leaders will be.

Vision: What is the vision for the new product in three years? Why is it important for the institution?

Strategy: How does the new product fit into your institution's overall strategy? What are the target markets for the new product? What institutional upgrades are required? Are there sufficient funds to upgrade and support a new product?

Leadership: Are your leaders supportive of the change? Is there clear ownership? Are leaders willing and able to allocate the necessary amount of time? Are the leaders aware of the particular risks that the agricultural sector pose to the bank? Do incentive structures need to be adjusted?

The FI will mobilize staff and other resources to work on the development effort and create a work plan. This plan will help the FI to identify gaps and make adjustments to the necessary lending processes and tools to enable it to better engage with the agricultural sector.

Structures and Processes: Are the current risk assessment processes adequate to analyze cash and financing needs as well as repayment capacities of rural clients? Can the new product be effectively provided in rural areas through your existing delivery structure? What changes must be made in delivery processes, appraisal tools, infrastructure, and internal controls to target the agricultural sector in an effective and cautious manner?

Competencies: What technical and organizational competencies are required for the introduction of agricultural loans? Do you have the necessary competencies in-house? What additional skills and knowledge need to be built for the staff to effectively support this initiative? If external support is necessary, is this an option that is possible for the FI?

Culture: How would the introduction of agricultural loans affect existing behavior at the branch level? At the head office level? How would the FI address resistance or fear of change in the transition from being an FI focused in urban areas to a lender financing the agricultural sector? Can this be done effectively? Can institution manage different product cultures simultaneously?

The box below highlights an example of how a bank in Indonesia systematically compared its products and processes to the best practices in the region. This high-level gap analysis can help an institution determine the level of change necessary when implementing agricultural lending.

Phase 1 Featured Practical Example: Gap Analysis at an Indonesian FI.

Gap Analysis for an Indonesian Bank

In 2015, IFC worked with a large Indonesian financial institution to analyze the institution's current products and processes and to conduct a general gap analysis as the bank prepared to introduce agricultural products. The bank analyzed its current operations in the following areas and compared them against industry best practices:

Table 2 – Sample Gap Analysis

Analysis Area	Best Practice	Indonesian Bank
Identification of Agricultural Regions with Potential	Conduct market research in each region to identify its agricultural potential	No market research
Target Commodities	Investigate all commodities and focus on those that have the strongest market potential and profitability	Focused only on palm, rubber, cocoa, orange, fish, and poultry

Analysis Area	Best Practice	Indonesian Bank
Target Clients	Target low-risk farmers and value chain players based on benchmarks to be developed	Lending only to farmers in preselected crops, and traders who could use the FI's current products (monthly payments)
HR Preparation	Train lending officers in agricultural lending and agribusinesses	No specialized training curriculum for agricultural lending
Product Design	Multiple loan products with grace periods and flexible repayment schedules	Loans with only monthly payback periods
Underwriting Process: Data Gathering	Detailed analysis of both farm and non-farm income	Loans based on total area of crop production
Underwriting Process: Income Calculation	Based on cash-flow data collected during an interview and cross-verified against regional benchmarks	Based on technical card assumptions of income and expenses
Underwriting Process: Verification	Thorough data verification of farm and non-farm activities, including technical skills, yields, and collateral	Focused on verification of value and location of collateral (usually commercial real estate)
Underwriting Process: Credit Analysis	Evaluate crops, technical level, cash-flow patterns, financing needs, and repayment capacity	Capacity to repay a loan is assessed using crops' data from technical cards data and collateral valuation
Monitoring of Crop Trends	Regular monitoring of crop prices, production volumes, and growth	Only monitor prices
Coverage Area	Pilot in a strategic region and later roll out the product to other regions based on market potential	Rolled out anywhere based on demand

Based on what they found after conducting this gap analysis, the bank was able to adjust its resources and personnel to build a strong agricultural lending unit.

This preliminary gap analysis, along with the information provided in the institutional analysis in appendix D, will give the FI a clearer picture of how ready the institution is to introduce a new product, and what adjustments are required to enter a new market. Once the gap analysis is completed, a detailed action plan should be prepared with adjustments required, due dates, and the staff responsible for its delivery. In many cases, external support might be necessary to help the bank design and implement the adjustments identified.

MANAGEMENT INFORMATION SYSTEMS (MIS) REQUIREMENTS

Managing agricultural loans requires FIs to design or adapt software applications that will enable the institution to manage clients more efficiently. MIS should, therefore, allow loan officers to process loan applications swiftly, while providing objective information on the risks and repayment capacities of clients so that the credit team can make objective decisions. MIS should enable the design of adequate loan payment plans that match farmers' seasonal cash flows. It should provide timely information on portfolio quality. This will enable FIs to closely monitor payment schedules and to react promptly when problems arise due to weather or price shocks.

MIS should help banks organize the lending process into three modules: Client, Loan, and Cash.

Client Modules

The client module should have at least three applications:

1) Client Maintenance: FI staff can register new clients and update current clients, co-signers, and guarantor information.

2) Financial Information Maintenance: Loan officers can capture and register financial information from the client and farm visits *(for example, farm assets, liabilities, revenues, expenditures)*. This module should also enable loan officers to update clients' financial information and register and update guarantees.

3) Financial and Risk Information Analysis: Loan officers can capture and summarize clients' socioeconomic and financial details, risk information, and guarantee reviews.

Loan Modules

This module should help FIs effectively manage large volumes of loan applications in at least four applications.

1) Workflow Monitoring: Organize and monitor loan applications by workflow stage: loan request; farm visit and data collection; loan decision process; and loan processing and loan disbursement. The application should provide information on the timings required from loan application to loan disbursement.

2) Financial and Risk Summary for the Credit Committee: Critical farmer information in one page to be used by the credit committee during the loan approval. This information includes the balance sheet, income statement, financial ratios, and risk parameters for each farmer. Some applications could have an integrated scoring model and decision tree to improve standardization and objectivity of loan analysis and approval. Those parameters should be clearly disclosed.

3) Loan Approval/Rejection: A summary of all credit committee decisions, numbers and amounts of loans approved by session, reasons for loans rejected, and statistics on loan decisions on a monthly and weekly basis.

4) Loan Installments design: Enables the FI to reduce its credit risk by designing flexible loan installments that match farmer cash flows. The main type of payments that the system should offer are: 1) Irregular installment amounts with irregular installment schedules; 2) Grace periods; 3) Irregular installment amounts with regular installment schedules; and 4) Regular installment amounts with irregular installment schedules.

Cash Modules

This module allows banks to register all loans disbursed and collected during a period, the main applications are:

1) Credit disbursement: Enables the bank to disburse loans and monitor all scheduled disbursements.

2) Payment: Collects and registers all payments scheduled and received by the bank.

3) Disbursement of Reschedules Loans: Processes only those loans that have been rescheduled due to external shocks.

4) Monthly Payments and Disbursements Report: Monitors all disbursements and installment payments made in a period, and provides

detailed monthly reports by loan officer, branch, and region.

FIs can purchase satellite software applications to manage and monitor all of this information, which could then be synchronized with the core banking systems already in place. Some of these client management solutions are available for FIs to purchase as off-the-shelf solutions. FI staff will then need to work on integration and synchronization of the new systems with their core banking systems.

Other FIs, with fully integrated core banking solutions, could decide to develop or adjust those applications in their core banking system. Whichever solution the FI chooses, the FI should be sure to work with specialized experts in agricultural lending systems. Some tools available on the market include the ACDI-VOCA tool mentioned later in this guide, or the tool used by IFC *(CLARA)*, among others.

BUILD INTERNAL LEADERSHIP TEAM

To delve deeply into many of these areas, the FI will need to appoint a project manager and a cross-functional leadership team to manage the initiative. The agricultural lending project manager should drive the change process and be accountable for implementing the project through each phase. Also, this person should serve as the primary point of contact with external agencies or consultants. should the FI decide to seek extra technical advice.

The project manager should ideally have some knowledge of agricultural finance and have strong analytical, planning, and communication skills. Selecting this person from among existing staff is beneficial since the person will have a solid knowledge of the institution, its organizational culture, and clients. The principal responsibilities of the project manager are:

- To drive development of all aspects of the agricultural loan product, policies and procedures, systems and quality control.
- To support operations staff with backstopping and guidance during implementation, especially during the pilot phase.

Depending on the FI's management structure, this person may also manage new agricultural lending staff.

In addition to the project manager, a core group of people from within the institution must oversee and manage the process of designing, developing, and implementing agricultural lending. The group should be composed of board members, senior managers, and key operations staff to ensure an integrated treatment of the challenges posed by the implementation of this product.

This team should have the skills, capacity, and commitment necessary to oversee the pilot, and should represent the interests of the staff directly affected by the changes. The leadership team should be cross-functional, typically including the heads or representatives, ideally from each of the following departments:

- Operations and Credit Department *(especially senior-level branch managers)*
- Risk
- Finance
- Administration
- Human Resources
- MIS
- Internal Audit.

Substantial time and effort should be invested in the selection and training of this core team. This is essential not only to ensure well-designed loan products and policies, but also to ensure that the core team is capable of training other staff as the new product is rolled out. Because these individuals also are responsible for guiding changes across the institution required for delivery of agricultural loans, they will need to be strategically selected and supported by managers.

During the implementation phase, the project manager will play an important function in driving the process and coordinating with the leadership team to oversee adjustments required in the different departments across

the organization. Since each of these departments will be required to revise their systems and activities with the introduction of the new product, their support and active involvement in the decision-making process is crucial in the early stages.

PREPARE FOR IMPLEMENTATION

The agricultural lending project team should create a high-level action plan when preparing to introduce agricultural lending products, especially if the agricultural sector is a new target market. This plan must cover institutional capacity building, preliminary market research, and pilot plans. To accomplish this, the project team should assemble all materials and information generated to this point and consider the following:

- Institutional goals for the agricultural lending product
- Institutional changes required to meet goals
- Anticipated changes to other products and services
- Proposed stages and detailed timeline to ensure success of the product introduction process, including responsibilities, deadlines, and whether external support will be solicited
- Identification of a specialized advisory service provider to support the institution with adjustments to the lending processes and training of staff
- Preliminary Pilot budget and financial projections.

The project team must have a complete understanding of the organizational structure and how departments coordinate work by studying internal strategic plans and organizational charts. Particular attention should be paid to all departments that will offer operational support to those involved with agricultural lending. Everyone should have a clear understanding of the reporting structure and support mechanisms available for the agricultural lending staff to ensure well-coordinated product implementation.

After deciding how the agricultural lending staff will fit into the institution, the project team should develop the organizational structure for the pilot phase. The chart should illustrate specific managers and loan officers, and it should clearly delineate the reporting hierarchy. The recommended structure should facilitate delivery of high-quality products and services while encouraging effective sales and collection efforts. Loan servicing and monitoring needs should also be examined and the operational platform reviewed to ensure the appropriate team is trained in agricultural products and in place to monitor the portfolio of generated loans. The new structure will be tested during the pilot phase. The team will have a chance to assess potential new technology platform requirements involving investments in technologies *(for example, handheld devices or GPS units)*, vehicles, mobile banking units, or other equipment needed to reach borrowers located in rural areas. Creating lower-cost satellite offices that are staffed during market days could be a strategic option.

Also, the project team must review and adjust the goals and objectives of the sales and underwriting teams to ensure that they are aligned with the growth objectives of the pilot. Agricultural loan officers should mainly focus on expanding the agricultural portfolio. However they should also process non-agricultural loans in rural areas. Focusing only on agricultural loans could reduce a loan officer's productivity due to the seasonal demand for agricultural loans and could also increase the concentration of the institution's portfolio risks. Therefore, each loan officer's portfolio exposure to agriculture should be limited to around 40 percent to 50 percent. The loan officers focusing on agriculture should have adequate experience with agriculture, allowing them to effectively analyze farmer production techniques, managerial skills, basic credit demand, and risks before passing on the best applications to the credit committee. Ensuring technical capacity of loan officers will require

the project team to develop an outline for appropriate training for each loan officer, including specialized training in the highest priority value chains.

To complete the preparation phase, the project team should present and review the pilot's organizational structure and operational platform requirements with the senior management team to ensure effectiveness and buy-in.

CHALLENGES AND LESSONS LEARNED

One of the biggest challenges in preparing to launch a pilot is to design a cost-effective model to test the product without redirecting important resources and funds from the institution.

Having the right level of agricultural expertise is critical to driving sustainable growth of the agricultural loan portfolio. Many FIs find it extremely challenging to find staff that possesses in-depth knowledge of agriculture as well as the lending experience required to serve clients effectively. FIs often have to decide whether to hire agricultural experts and train them to lend or provide agricultural training to existing lending staff.

Past experience has shown that it is usually easier and more effective to train agricultural experts in financial analysis and lending to farmers and rural businesses than to train existing loan officers on agricultural production techniques. By training agricultural experts in financial analysis, FIs have increased their productivity in rural areas while simultaneously providing adequate financial services to farmers in a sustainable manner.

Another challenge frequently faced at this stage is the building of consensus among key internal stakeholders. A large number of people in the institution will be directly or indirectly affected by the introduction of agricultural lending. So, its success will depend on their commitment and enthusiasm. The more input people can have in defining the changes made, the more they will feel as though they can own the final result. Not all suggestions or recommendations can be implemented, but the project team should follow up with relevant staff members, so that they feel that their voices have been heard.

CHECKLIST

During this phase, your institution's management should use the data you already have to understand how the new products will fit into the institution. You should also have identified a core agricultural lending project manager and leadership team and developed a high-level action plan that will start to implement during Phase 2 – Market Research. At this stage, your institution's senior management needs to spend time providing clear direction and vision inside the organization on how agricultural lending will be introduced.

The following checklist will help determine whether you are ready to proceed with phase 2 of the new product development process:

- Have you assessed your institutional readiness to introduce agricultural lending?
- Have you identified a full-time, competent, and knowledgeable senior manager to lead the agricultural lending initiative?
- Have you established a cross-cutting team to provide leadership throughout each of the phases of the process?
- Have you put together your high-level action plan for each phase of the process, detailing how and with whose support each phase will be conducted?
- Have you identified an external technical advisor to guide the institution with adjustments required to implement lending processes and tools for agriculture and agribusinesses?
- Have you begun to build understanding and commitment to the process of agricultural lending among your staff and key stakeholders?

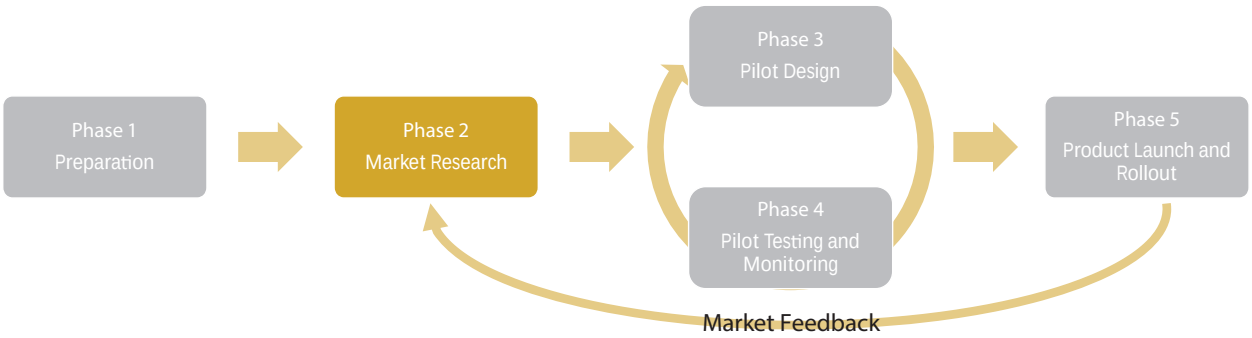
Product Development Phase 2 – Market Research

Product Development Phase 2 – Market Research

The second phase of the new product development cycle begins after an institution has finished conducting its gap analyses, preparing its leadership team, and building internal support. At this point, the project team is ready to conduct in-depth research on potential new clients and markets.

In the market research phase, the project team gathers information to understand characteristics of the new clientele, market dynamics, and estimates of crop volumes, seasonality of income, crop diversification strategies, and financing needs by sector and size of farmer.

Figure 9 – Phase 2 – Market Research



Some important questions FIs usually ask when defining agricultural expansion strategies include:

- What are the main challenges when expanding financial services into rural areas?
- What type of farmers and activities should we finance?
- Who are the key value chain players and how can we collaborate with them?
- What would be the role and responsibilities of the different partners in a value chain finance model?
- What are the best risk assessment models and tools for lending to small farmers?
- What are the skills and HR competencies required to lend to farmers?
- What delivery channels are more effective in rural and agricultural areas?
- What are the most effective marketing strategies to reach farmers?

The project team will use the information discovered during the market research phase to select regions with the strongest agricultural potential. They will study farmer profiles and links in the target value chains to design a profitable business model and develop sector-specific financing products. Once the products have been developed, their acceptance by potential clients is important for the success of the business model. Additional market research may be needed later to continually

refine and improve products and adjust them to market needs.

SELECTION OF REGIONS WITH HIGH AGRICULTURAL POTENTIAL

The first step in the market research process is to determine which markets make the most sense to research and which markets expose the FI to the lowest risk. In this case, since the project team is investigating the development of new agricultural lending products, the FI should select regions with high agricultural potential as prime targets for the new products to minimize risks. FIs can diversify their risks by financing multiple crops throughout the year in these regions. FIs can finance an even wider array of projects while mitigating weather risks in regions with access to irrigation.

Crop insurance is emerging as an important enabler when financing agriculture because FIs can use this tool to minimize losses in particularly risky regions. However, in many emerging economies, crop insurance is not available, or is limited. Alternatively, weather index insurance can be used to cover agricultural portfolio risks, but requires a reliable data on climatic events, which are usually gathered by a network of weather stations. Many developing economies lack those systems and technologies. But even without the presence of insurance, banks can still use different strategies to mitigate risks and provide financing to the agricultural sector. Therefore, insurance is just one fact to consider in the selection of a region to start a pilot on agricultural lending.

The bank should identify and select regions with high agricultural potential and crop diversity. It should also look for regions with dynamic private sectors *(traders, other agricultural industries/processors, and exporters)*, which buy crops from farmers or add value by processing them. Additionally, governments, donors, and NGOs can provide valuable extension services. Regions with training institutes that transfer skills on best agricultural practices to improve crop yields and income are important in reducing production risks. These organizations can help the bank identify and select communities that have benefited and adopted best practices.

When analyzing a region for its agricultural potential, the project team should consider the variables listed in table 3:

Table 3 – Variables to Analyze When Researching a Region's Agricultural Potential

Variables	Region 1	Region 2	Region 3
Agricultural Land			
Total land			
Agricultural land			
Agricultural land with irrigation			
Population and GDP			
Total population			

Variables	Region 1	Region 2	Region 3
Rural population			
Total GDP			
Agricultural GDP			
Crops Produced in Hectares (HA)			
Basic grains			
Vegetables			
Fruits			
Industrial crops			
Livestock heads			
Poultry			
Egg layers			
Piggeries			
Cattle			
Dairy production			
Main Value Chain Present			
Agricultural processors			
Crop exporters			
Crop Retailers			

The selection of appropriate regions is essential to the success of agricultural expansion because it can greatly reduce risks. The branch selection process evaluates the agricultural and market potential of a particular region, which will determine its risk exposure level. Of course, if the FI already has branches in the most attractive agricultural regions, these would be the best places to start evaluating target clients.

Phase 2 Featured Practical Example: Analysis of rural agricultural markets and risk analysis in Vietnam.

Vietnamese Banks Work to Expand Rural Lending

In 2013, IFC investigated financing opportunities to farmers and agricultural enterprises. The team identified three regions in Vietnam *(Red River Delta, Central highlands, and Mekong Delta)*, which have significant potential for agricultural production. After analyzing the principal crops, total area planted, and production volume, the team narrowed down the regions, and conducted detailed value chain analyses in two regions: the Central Highlands and Mekong Delta. IFC Team visited several districts in each region and interviewed farmers producing different crops and other value chain players by size *(small, medium, and large)*. The team investigated both perennial crops *(tea, coffee, rubber, pepper, and cashew)* as well as seasonal crops *(rice, maize, and vegetables)*. It also studied livestock *(Cattle, pigs, and poultry).*

The team found that the percentage of land used for agricultural, and the diversity of crops, were key indicators of the agricultural finance potential in the region. In the Central High Lands, the use of land for agriculture was between 15 and 38 percent. In relation to the potential demand for loans, there were approximately 450,000 farmers in the region, of which 86 percent owned less than 2 hectares. Nonetheless 10 to 15 percent of small farmers rented additional land for production, which showed the strong demand that existed for their products.

With these figures, together with a preliminary analysis of the private sector, the team concluded that the value chain actors in the Dak Lak region of the Central Highlands offered more opportunities to diversify the loan portfolio. This would help banks better mitigate agricultural and market risks.

Some final criteria to consider when selecting branches to pilot the new agricultural lending product include:

- Operational self-sufficiency for at least two years
- Good performance indicators and smooth operations
- Strong regional demand for agricultural loans
- Limited competition in agricultural finance *(that is, relatively neutral testing ground)*
- Organized branch manager with strong leadership and management skills
- Good communications with head office
- Adequate physical space at branch for additional staff and clients.

EVALUATE TARGET CLIENTS

Once potential regions are selected, the second part of the market research stage is to identify farmers' and value chain players' characersitics. This helps the project team to segment potential clients and determine how many are bankable and how many would be interested in agricultural loans. This step enables the FI to understand the demographic details of their new potential clients and how best new agricultural products could meet

their needs. With a detailed understanding of the average farmers' production capacity, assets, and cash flows, institutions can design financial products suited to the needs of regional farmers. A thorough picture of farmer profiles, including production cycles and cash flows, will help institutions define loan amounts, grace periods, frequency of installments, and terms suitable to farmer needs in the different target regions. The project team will need to interview potential clients in the field, which can be great preliminary training for loan officers, who will need to collect this kind of information in the future to assess client loan applications. For a sample farmer segmentation interview form, see appendix E – Sample Producer Segmentation Interview Form. The FI should plan on using these forms to interview individual farmers in the target region. It is best to interview 9 to 12 farmers in the region for each target crop or sector. These farmers should represent a range of farm sizes and crop metrics so that the FI can get a more holistic picture of target clients.

When evaluating potential clients and the results of the segmentation interviews, the project team should keep the following questions in mind:

- Who are the target clients for agricultural lending at the FI?
- Will the FI focus mostly on cross-selling to existing clients, or seeking new clients elsewhere?
- If the FI does choose to seek new clients for the agricultural loan product, what will this mean for the portfolio in terms of client mix?
- What eligibility criteria will be used *(for example., net farm income, repayment history, number of employees, growth prospects, and sector)?*

Once all the data is gathered, it will be helpful to organize it in either Microsoft Excel or another database application to analyze the information. In this way, the team can break the responses into categories and analyze where the strongest potential clients will fall. Since the FI is evaluating lending directly to farmers, two of the most critical indicators will be farmer incomes and farm sizes. It will be best to break up the data into three or four income/farm-size segments and then analyze these key factors:

- Average area cultivated
- Average income attributable to each type of crop/livestock
- Number of seasons per year
- Average production costs
- Average annual profit
- Average assets available to post as collateral
- Average loan amount demanded and received
- Average monthly loan installments.

The FI should analyze each of these factors for an average small, medium, and large farmer in the region for the last agricultural year, as defined by income segment or farm size. Crop yields, volumes sold, and crop prices in the region, commercialization channels, and market dates should be identified. Non-farm income, such as renting of property or sales of related goods should also be taken into account. Finally, production costs should be estimated with break-ups for labor, agricultural inputs, and other costs. Based on this data, the FI can estimate yearly income, production costs, and net income for different types of production. Estimates can be rough at this stage since the objective of the exercise is to understand the characteristics, financing needs, and credit risk associated with different types of farmers of the target region. This information will enable the institution to determine which type of farmer offers a lower or more balanced risk profile. For a detailed example of what this analysis could look like, see appendix G - Farmer Segmentation Analysis.

The following example illustrates how the project team could evaluate target clients.

Target Client Evaluation for Farmers in Vietnam

As part of an agricultural lending market research effort, IFC evaluated in Vietnam the risk levels of farmers in some promising agricultural regions to understand the production cycle, distribution channels, and main challenges faced by them. The team asked farmers to define the criteria used to classify small, medium, and large farmers in the surrounding area, and estimate the percentage of farmers that would fall under each category. Finally, the team asked farmers to select nine farmers to be interviewed, three farmers per each category *(small, medium, and large)*. They asked about employment numbers and investigated whether the farmers planted any additional crops besides coffee on their farms *(see table 4).*

Table 4 – Coffee Producer Profiles in Central Highlands

	Large	Medium	Small
Crops (Ha)			
Coffee	20	4.5	1
Pepper Intercrop with Coffee	3.5		
Fruit Rambutan, Orange	5		
Total	**25**	**4.5**	**1**
# Temporary Employees	20	12	1

The team found that large farmers operated on average 10 HA of land or more *(owned or rented)*, medium size farmers operated on 2 to 9 HA, and small farmers operated on 1 HA or less. The next step in the evaluation consisted of looking at the balance sheets of each farmer. The team evaluated assets – including a breakdown of current assets *(for example, working capital and inventory)* and fixed assets *(for example, irrigation systems, equipment and house)* – as well as liabilities and equity. The team also constructed simple income statements to see how much each farmer made and when they received payment for their goods *(see table 5).*

Table 5 – Total Assets and Last 12 Months Farm and Family Income ($)

	LARGE		MEDIUM		SMALL	
Coffee	*Size*	*Income*	*Size*	*Income*	*Size*	
Dec - Feb/full production	20 HA	115,500	4.5 HA	16,000	1 HA	5,850
May			4.5 HA	14,000		
Pepper						
Feb	3.5 HA	65,000	2 HA	13,500		
Jun			2 HA	27,000		

	LARGE		MEDIUM		SMALL	
Eggs			3,000 Egg layers	64,800		
Fruits						500
Nov - Dec	5 HA	24,000				
TOTAL INCOME		**204,500**		**135,300**		**6,350**
TOTAL PRODUCTION COSTS		**83,280**		**54,640**		**2,580**
		41%		40%		41%
NET FARM INCOME		**121,220**		**80,660**		**3,770**
Other Family Income						
Agri Input Dealer (Fertilizer)		8,000				
Trading Coffee & Rice		1,200				
Electric Installation				12,000		
Rent of House				900		
Interest Income Portfolio		17,100				
Total Other Family Income		**26,300**		**12,900**		**1,200**
Net Farm Income + Other Income		**147,520**		**93,560**		**4,970**
Percentage Farm Income/Total Famer Income		82%		86%		76%
Family Expenses		14,670		5,884		3,210
Disposable Income/Year		**132,850**		**87,676**		**1,760**

The differences are important when comparing yearly income because there is a very healthy income mix of on-farm and off-farm income, particularly for large and medium-sized farmers. The large farmer with 20 HA of coffee and 3.5 HA of pepper generates a total net income of $121,220. This farmer also has an off-farm income of $26,300 from an agricultural inputs store, coffee trading, and interest rates from small loans made to local farmers.

On the other side, the small farmer only has income from coffee and a secondary income from fruits. His yearly net income is approximately $3,770 from both activities. The small farmer needs to work as an agricultural worker to complement his farm income to cover all family expenses.

Next, the team evaluated the financial demand of each farmer type and investigated what aspects of a loan were attractive to each prospective client *(see table 6)*.

Table 6 – Financing Needs for Coffee Farmers in Central Highlands

Variables	Large	Medium	Small
Loan amount	$15,000–30,000	$6,000–10,000	$1,500–3,000
Use	Expand fertilizer business	Buy more land for coffee	Working capital for coffee
Loan term	10 months	3 years	1 Year
Disbursement	1 Disbursement	1 Disbursement	1 Disbursement
Payment Plan	End of term/quarterly interests rate	Yearly	Yearly/January/Monthly interest payment
Collateral	Land/red book limits borrowing	Farm	Farm
Percentage of Farmers by Size	5%	25%	70%
Number of Farmers	4,334	21,670	60,677
Target	30% = 1,300 Farmers	30% = 6,500 Farmers	10% = 6,068 Farmers
Average Loan Amount	$12,000	$6,000	$2,000
Market Size (estimated)	**$15.6 million**	**$39 million**	**$12.1 million**

In the communities visited, farmers estimated that 5 percent of the total farming population were large farmers who had more than 10 HA of land; 25 percent were medium farmers with 2 to 9 HA of land; and, 70 percent were small farmers with 1 HA of land or less. In the hypothetical case that the bank would target 30 percent of the total number of large and medium farmers in the region, the team estimated they could reach 1,300 large and 6,000 medium farmers. The portfolio growth potential in 3-5 years for low-risk farmers *(large and medium farmers)* could reach $15.6 million and $39 million respectively. This preliminary calculation shows promising business opportunities for the bank in the region.

After meeting with farmers in the field and collecting the requisite information, the project team can divide the interviewees into risk categories. Farmer risks are associated with the frequency and regularity of their cash flows along with their level of technical skills and expertise with different crops. Broadly, farmers can be placed into the following risk groups:

- *Low-risk farmers:* Those with good crop diversification, multiple harvests per year, and access to irrigation, which enables them to generate regular monthly cash flows. They are usually commercially oriented with sizable production volumes that generate strong revenues and high repayment capacities. They possess good technical skill levels and have multiple buyers.
- *Medium-risk farmers:* Those with some crop diversification, multiple harvests per year, and can pay at least the monthly interest on loans and the principal in lump sums two or three times a year. They tend to be commercially-oriented with adequate crop production volume, which generates midsize revenues. They possess average to good technical skill levels.
- *High-risk farmers:* Those who have low crop diversification, generate only seasonal income, who cannot pay interest or principal on a monthly basis, but can only pay lump sums at the end of the crop cycle. They generate small production volumes mostly directed to household consumption and small portions directed to the markets. They possess low to medium technical skill levels.

The following example illustrates how the project team could use the information from the farmer evaluation above to arrive at an appropriate risk level determination.

Risk Level Evaluation of Farmers in Vietnam

To determine risk levels of farmers in the evaluation above, the team studied the results of the evaluation and summarized the findings in a table that clustered farmers by risk profile. Table 7 displays farmer risk profiles in the Central Highlands. Poultry and egg producers in the region produced good volumes, generated strong cash flows, and had monthly incomes enabling them to pay monthly installments. These producers had good technical skill levels and secure access to markets. The coffee and pepper farmers had diversified production and multiple incomes throughout the year. Both crops had strong demand in international markets and prices were trending upward. These farmers applied good agricultural practices. Finally, the team found that rubber producers were the riskiest, particularly because of the excessive specialization and lack of alternative crops. Additionally, producers in the region had a limited number of interested buyers. Even though rubber trees can generate income during eight months of the year once in full production, it takes seven years for rubber trees to reach full production capacity.

Table 7 – Farmer Risk Profiles of Central Highlands

Risk Levels	Activities
Low Risk	Poultry and egg producers or pig producers combined with coffee or pepper *Strengths:* *Frequent cash flows, diversification of risks, multiple income streams throughout the year, access to markets, stronger management skills* *Risks:* *Price volatility, susceptible to pests and disease*
Medium Risk	Coffee and pepper farmers *Strengths:* *High demand for products, high crop values, good technical skills* *Risks:* *Seasonal income, moderate diversification, price volatility*
High Risk	Rubber producers *Strengths:* *Access to markets, strong demand, income spread over eight months* *Risks:* *No inter-cropping options, long gestation period (seven years), high investment per HA, only one source of demand*

The example above shows that estimating the potential regional demand is critical when deciding whether or not to expand financial services. The team estimated the potential demand during their meetings with farmer groups. During these meetings, farmers were first asked to estimate the total population of the village as well as the percentage of small, medium, and large farmers living in the village. The team used this information, along with the financial needs of each type of farmer, to come to a reasonable estimation of market size. Table 8, shows the potential demand for the Central Highlands.

Table 8 – Estimated Portfolio Size for Central Highlands

Activity	Large	Medium	Small	Total
Target Poultry and Egg Producers	113	565	584	1,262
Average Loan ($)	75,000	30,000	7,500	n/a
Portfolio Outstanding ($)	**8,475,000**	**16,950,000**	**4,380,000**	**29,805,000**
Target Coffee and Pepper Producers	1,300	6,500	6,068	13,868
Average Loan ($)	12,000	6,000	2,000	n/a

Activity	Large	Medium	Small	Total
Portfolio Outstanding ($)	**15,600,000**	**39,000,000**	**12,136,000**	**66,736,000**
Target Rubber Producers	91	182	182	454
Average Loan ($)	60,000	20,000	5,000	n/a
Portfolio Outstanding ($)	**5,454,000**	**3,634,000**	**908,750**	**9,996,750**
Total Outstanding Portfolio ($)	**29,529,000**	**59,584,000**	**17,424,750**	**106,537,750**
Outstanding Clients	1,504	7,247	6,834	15,584

FIs can estimate potential growth and assess the portfolio risk level for a region with this information,. FIs could then selectively choose where to launch new agricultural products based on their risk appetites.

COMPETITIVE LANDSCAPE ANALYSIS

As mentioned in the introductory chapters, the team should evaluate impacts that government programs might have on the agricultural sector. Specifically, subsidies or other programs may challenge the final viability of a new product aimed at the agricultural sector, so the team should thoroughly research these programs at this point. Additionally, the team should analyze which other financial institutions are present in the region, which segments they target, and what type of products they offer to the agricultural sector. When piloting a new agricultural lending product, you must have a detailed understanding of the lending products offered by the competition. This information helps the FI can understand how competitive and attractive the new product is. Basic information that could be collected the competitors is summarized in table 9 below, as well as in appendix F – Competitive Position Analysis. While it may be challenging to attain this level of detail – since many institutions are usually hesitant to share specifics of their loan portfolios – this information can be very useful when designing the final product.

Table 9 – Variables to Consider when Researching Competitors' Products

Variables	Bank 1	Bank 2	Bank 3
Total Bank's Portfolio			
Loans for Agriculture			
Segments/sectors targeted			
Minimum and Maximum Loan Amount			
Loan Term			
Grace Period			
Payment Schedule			
Interest Rates			
Administration Fees			
Other Fees			
Time from Application to Disbursement			

By using this data, and the results of the industry, competition, and geographical analyses, the project team will have a good idea of the ideal client profile and where the product should be launched. This information will help ensure that the FI designs adequate products tailored to the needs of this new client base. It will also help the FI launch its expansion with clients that represent the lowest risk for the institution. To expand successfully, the FI should consider how many existing clients might be eligible for agricultural loans. Expansion into a broader, more diverse client base can happen once the institution is more familiar with the region.

The introduction of agricultural lending often means integrating a new profile of target clients, one with different financing needs and more complex business cycles. The choice of target clients should be consistent with the FI's mission, vision, and strategy. Thus the team should carefully consider the FI's current image in the market and re-examine the FI's original mission. Although the FI may be able to shift people's perceptions by introducing agricultural loan products, the FI is unlikely to reach a completely different target audience without significant marketing or re-branding efforts.

GO-NO GO

Some institutions may determine during this phase that they are not well-placed to introduce agricultural lending. If research reveals a tight market with stiff competition and little room for new entrants, management may want to continue to serve current target market segments with greater efficiency and improved service rather than diversify product offerings to the rural sector. Or, if the FI assessment reveals capability gaps or suggests that the financial or administrative burden would be too great, it may also be wise to wait.

One of the most useful ways to decide whether to proceed is to determine how long it will take for the agricultural lending product line to break even. If the market conditions are favorable, and the FI has sufficient capital available to sustain the product line until predicted profitability, these could be good indications to proceed.

At this point, the project team will have all the information required to make the pitch to senior management and explain why the bank should enter the agricultural lending sector. The team should present a business case for the pilot phase with a clear value proposition, targets on portfolio growth, and defined levels of productivity for loan officers. Deciding not to proceed should not be viewed as a failure since the introduction of any new product is a major investment for the institution. External and internal conditions must be conducive for an effective introduction.

Business Case and Projections for a Financial Institution in Indonesia

Based on the information gathered during the market research and risk assessments, a team from an Indonesian bank decided to focus on financing egg, poultry, and dairy producers to to start with. Theseare more sophisticated sectors and generate daily cash flows. The team decided to wait before focusing on vegetables and corn, which are very dynamic sectors but which generate more seasonal incomes. To gain management buy in, the team presented information explaining the market potential and then described the risks associated with each sector. They then stepped through the estimated portfolio growth and loan officer *(LO)* productivity forecasts for the pilot phase. The team assumed that the bank would start with two LOs per branch at nine piloting branches in total. Further, LO

productivity was projected to scale up over 12 months according to the following levels: one loan disbursed per month per LO during the first five months of the pilot; two loans disbursed per month per LO from months six to 12; and, three loans disbursed per month per LO from months 13 to 18. The table below shows projected productivity per LO at the end of the first 12 months.

Table 10 – Projected LO Productivity During Pilot

Year	1
Case Load/LO	12
Portfolio Outstanding/LO ($)	37,678
Loans disbursed per LO/month	1

The team projected total agribusiness and rural loans to total just over $675,000 after the initial 12 months, according to the schedule below.

Table 11 - Projected Outstanding Loans and Portfolio Size of Pilot

Months	Number of Branches	Number of Account Officers	Targets	
			O/S Loans	O/S Portfolio ($)
1 – 5	3	6	53	237,138
6 – 9	6	12	105	425,626
10 – 12	9	18	210	678,205

With this information, the team successfully presented their business case to senior management and received approval to begin planning the pilot. The 12-month pilot allowed the team to thoroughly analyze product adoption and use in the field and make adjustments to the product terms as necessary.

STRATEGY DEVELOPMENT FOR PILOT PHASE

If the project team determines that the FI is well-placed and that there is enough of a target market to pursue, they can begin developing the strategy to implement the pilot. Developing the strategy for the pilot phase can take place after getting a clear understanding of the overall agriculture market and the key economic actors operating within the FI's target geographical area.

The pilot strategy should address certain key features of the pilot program, such as:

- Finalizing initial branch locations and delivery mechanisms for testing the new product.
- Setting objectives and goals that are ambitious, but also realistic based on the team's data and financial models.
- Determining what additional investments are required to pilot the new product. Investments would involve training of staff and targeted marketing and sales campaigns.

CHALLENGES AND LESSONS LEARNED

Perhaps the biggest challenge during the market research phase is to ensure that the FI has enough resources to reach out to target clients in the regions with the highest agricultural potential. Taking the time to travel to these regions and setting up quality interviews with farmers and other value chain actors can take some time and resources. The FI's team could conduct one or two weeks of market research with a limited number of interviews *(for example, 45 to 60 farmers and 10 to 15 value chain players)* to reduce research costs and resource demands. The interview forms are simple and the bank staff can conduct the interviews themselves. However, the research team must be supported by local experts to identify farmer groups and value chain players and schedule the interviews. Sometimes, it may be more efficient to enlist the help of outside resources, such as local marketing firms to help survey the target populations, or a donor agency, such as IFC. Many value chain studies are conducted on various crops in countries around the world. These are publicly available and are a great starting point for an FI to begin to learn about certain agricultural products. But understanding the farmers' perspectives on financial needs and what they expect from a bank is slightly different and more nuanced, and will require one-on-one interactions.

FIs must take their time to investigate new markets, but should be careful to avoid *"analysis paralysis"* from information overload. It is not necessary to speak with thousands of farmers in each value chain to gain a full understanding of their needs and how a bank can address those needs. As mentioned earlier, a representative sample should consist of around 9 to 12 farmers per crop or sector of varying sizes from around the target geographical areas. It is likely that one farmer's challenges are very similar to his immediate neighbor's challenges. So interviewing each one is unlikely to yield any additional insight and may not be an efficient use of the FI's time and resources. Rather, pick small samples of many agricultural sectors from around the region and infer from the data what the representative challenges are and how the institution could design agricultural lending products. This process may seem expensive or cumbersome. However, if the FI decides to continue developing a new agricultural product as a result of this research, the information can help with loan assessments for the first clients.

CHECKLIST

During this phase, the project team should have collected enough data to make an informed decision about whether or not to proceed with agricultural lending. The team should have evaluated the target market and competitive environment to determine where it would make sense to launch a new agricultural product. The project team should have

also collected data from farmers in the target regions to understand their financial needs and how the organization can meet those needs without taking on excessive risk levels. By combining this data, the project team should have an ideal region and a profile of an ideal target client that they can use to then create a new product. Finally, the project team should have worked with the board and executive management to draft a business plan and rural strategy for the pilot phase.

The following checklist will help your team determine whether you are ready to proceed with Phase 3 of the new product development process:

- Has your team identified any necessary additional resources to undertake the various components of the market research phase?
- Has your team completed an analysis of the competitive environment and target market? And has it identified the geographic region *(or regions)* that has the largest agricultural potential?
- Has your team investigated the best branch locations to launch agricultural products or other appropriate delivery mechanisms, such as mobile devices, as well as associated costs?
- Has the team gathered data on farmers and producers in your target region(s) and does your team understand their financial needs?
- Has the team developed a business plan and strategy to launch the pilot phase?

Product Development Phase 3 – Pilot Design

Product Development Phase 3 – Pilot Design

After the project team has completed market research in the selected region and gained a comprehensive understanding of the potential market and client needs, the team is ready to design the pilot. Now, the project team needs to design and implement a business model that will ensure cost-effective services in rural areas and a thorough screening process to select farmers with good repayment capacity and willingness to pay. A robust lending model to finance the agricultural sector should:

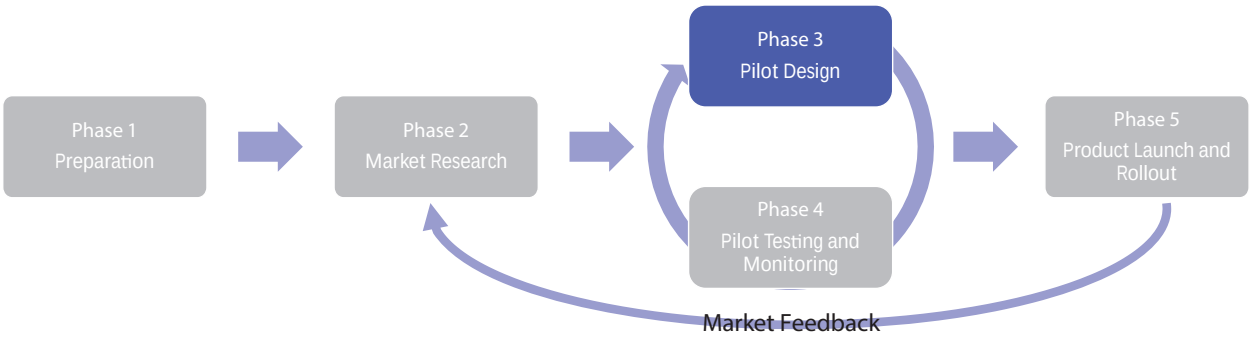
- Capture all income streams for the farm, identify the frequency of cash flows, ascertain the repayment capacity, and assess technical and managerial skill levels.
- Reduce credit risks by offering farmers adequate loan terms and repayment schedules matching their seasonal incomes, irregular cash flows, and build in occasional grace periods.
- Incorporate processes to enable cross-verification of yields, crop incomes, and crop production costs, collected by the loan officer during farm visits.
- Utilize objective score systems to estimate risk levels of farmers and resulting impacts on the maximum loan amounts.
- Employ a systematic and consistent process to cross-verify sales and production costs collected by contacting references *(buyers and suppliers)*.

This lending approach requires that loan officers have a good understanding of the agricultural sector to be effective. They must also have the skills and knowledge to analyze production techniques and interact with farmers. The model further recommends that FIs engage with the agricultural sector gradually and that they build strategic alliances with local players to manage and mitigate risks.

This third phase is the first of two iterative steps in the pilot process. During this phase, the project team will draft the initial features and characteristics of the new product. The team will develop key performance metrics and conduct extensive training *(theoretical as well as field coaching)* for loan officers. The team will also support and coach the FI's staff in the field with marketing activities, farm visits to collect data, loan analyses, and initial approvals.

Additionally, during this phase, the team will need to work with senior management to ensure sufficient financial resources to complete the pilot. A robust pilot will require funding to cover the costs of adjusting or setting up new branches, recruiting and training new staff, and conducting marketing and promotion activities.

Figure 10 – Phase 3 – Pilot Design



The pilot design process will require investing in resources to develop the product, set up the organizational structure to run the pilot, train staff, and conduct marketing activities during pilot implementation. At the end of this phase, the FI should have policies describing features and conditions of the agricultural lending product, a strong lending methodology, a training curriculum, and a plan to train loan officers. The FI's business model should gradually engage with the agricultural sector to target low-risk clients first. It must outline key marketing initiatives to ensure that the target clientele knows about the availability of the new product.

PRODUCT TERM SHEET

The project team, after analyses and interviews, should construct a reasonable pilot product. Table 12 presents a format that can be used to develop this term sheet.

Table 12 – Term Sheet Format

Product Name	Production/Pre-Harvest Finance, Post-Harvest Finance, Inventory Finance, Short-Term Equipment Rentals, Leases, etc.
Description	A brief summary of the product, such as target borrowers, loan purpose, and general terms and conditions of the loan.
Target Market	The type of business and activity the product is meant to finance.
Repayment Terms	• Maximum term of the loan in months or days. • Frequency of principal and interest payments (monthly, quarterly, or at maturity). This could also allow for irregular payment plans tied to agricultural sales.
Interest Rate and Fees	Normal interest rate allowed. Other fees associated with the loan, such as commitment, application, or past due fees.
Loan Amount	Maximum and minimum loan amounts.
Eligible Borrowers	This might include: • Minimum amount of experience in activity being financed. • Verifiable sales to commercial buyers. • Checking and/or deposit relationship with the FI for a minimum period.

Product Name	Production/Pre-Harvest Finance, Post-Harvest Finance, Inventory Finance, Short-Term Equipment Rentals, Leases, etc.
	• Average balance of at least x times the monthly interest payment. • Business within x kilometers of branch office.
Collateral	Personal guarantees might be required from all individual borrowers.
Other Requirements	Other requirements might include: • Crop insurance from an insurer acceptable to the lender (if available). • Additional collateral acceptable to the agricultural lending unit. • Electronic payment transfer directly from borrower's bank account.

Some factors in this product design may need to be revised or modified after the product is piloted for the first time. The monitoring and evaluation phase *(which will be covered in Phase 4)* is therefore very important. The pilot development phase is designed to be iterative so that if the FI determines that certain features are unattractive to the target market, they can be tweaked and perfected until the right balance is achieved. The most critical aspects will be aligning repayment terms and interest rates with customer needs. By conducting thorough interviews and listening closely to feedback from the potential clients, the FI should be able to design a product that meets customers' needs. *Specifically, the product should offer flexibility to match farmers' seasonal cash flows and irregular incomes throughout the year*. At the same time, it must consider the institution's cost structure and legal and regulatory context.

Customer Screening

Financial institutions must focus on visiting farmers with the strongest potential for successfully applying for loans. . The FI must create a set of simple criteria to pre-select farmers that are likely meet the criteria for receiving a loan. This will help to avoid spending time with farmers who would not qualify and ensure an adequate return on investment in developing agricultural lending processes. An effective pre-selection system will help increase the productivity of loan officers. Some examples of selection criteria are:

- Initial eligibility

  1. At least three years of experience farming in the region
  2. At least two years of experience in the crop being financed
  3. Percentage of production sold on the market over 60 percent
  4. Ownership of land; if not, guarantor must own land
  5. Farm located less than 30 Km from the branch and accessible all year round
  6. Loan amount requested between $3,000 to $50,000
  7. Loan to be used for farming *(working capital or fixed assets)*.

- *Farm Visit:* If the farmer meets the initial eligibility criteria, a loan officer can schedule a visit to the farm. During this visit, the loan officer will inspect the farm and fields to ensure the size and crop information provided on the application is accurate. The loan officer will also gather socio-economic data and collect the documentation required:

  1. Client's socio-economic information
  2. Borrower's capacity to repay

3. Assets and solvency
4. Character references.

- *Verification of information collected:* After the farm visit another staff member will cross-verify the information collected during the farm visit:
  1. Verification of references: clients, suppliers, banks
  2. Verification of utility bills, bank accounts, collateral, credit history.
- *Loan analysis:* The information collected from the farm visit is entered into the loan appraisal template.

Phase 3 Featured Practical Example: IFC lending methodology.

AGRICULTURAL LENDING METHODOLOGY

Employing a robust lending methodology will help the FI properly evaluate potential clients and will ensure all necessary information is captured. Many FIs already have proprietary lending tools and methodologies developed for their current business units. However, there are several important areas in agricultural lending that FIs should ensure are part of their lending processes. After reviewing the material in this section, FIs should be able to determine whether it would be more helpful to introduce a new methodology, update the current methodology with the necessary adjustments, or use one of the systems already developed.

This section discusses a methodology, developed by IFC, which comprehensively analyzes farmers' risks and incomes. This model was developed by combining and refining successful lending models previously design and implemented by Procredit[15], the Frankfurt School of Finance & Management[16], and ACDI/VOCA.[17]

The model identifies all farm and non-farm incomes during the duration of the loan and compares crop yields, incomes, and production costs against regional benchmarks. The lending model is supported by an expert score that identifies the risk levels of farmers and suggests maximum loan amounts based on risk profiles and disposable incomes. Finally, to determine financing needs and repayment schedules, the model prepares a detailed month-by-month cash flow analysis of all farm and non-farm income and expenses. The cash flow worksheet helps determine financing needs by identifying the months where the most negative cash flow occurs. It shows when the farmer can repay the loan, based on future incomes projected in the cash flows. See appendix H for a more detailed overview of the lending forms and expert score variables.

The key elements of loan appraisal include the following:

- *General Client Information:* Age, years of farming experience, years working in the region, educational level, house ownership, household size, and number of working members. This information is also used to estimate the socio-economic scores of the client.
- *Capacity to Repay:* The analysis takes into consideration three sets of data to estimate the borrower's capacity to repay:
  1. Past 12 months' farm income *(for example, hectares planted and crops and livestock sold)*. This information helps determine the historical crops or livestock volumes produced by the farmer, and if planned production during the duration of the loan is reasonable. The Weighted Total Yield *(second column from the right)* is the average of two times the minimum yield, plus the last yield, plus the maximum yield, divided by four.

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15 *Introducing Rural Finance into an Urban Microfinance Institution: The Example of Banco Procredit, El Salvador. Juan Buchenau and Richard L. Meyer.*

16 *Agricultural Loan Evaluation System (ALES). Frankfurt School of Finance & Management.*

17 *Profit Planer Farm Cash Flow Analysis Tool, ACDI-VOCA.*

Last Year Yields and Income (Crops produced and harvest in the last 12 months)

Crops	Cultivated Area	Estimated Yields			Units	Weighted Total Yield	Production / Ha	Date
		Last	Min	Max				
Tomato	4.00	220,000	192,000	240,000	kg	211,000	52,750	
Corn	2.00	16,000	12,000	18,000	kg	14,500	7,250	
						-	-	
						-	-	
						-	-	

2. Projected farm income during the duration of the loan (for example, hectares to be planted and crops and livestock to be sold to estimate future crop income, the loan appraisal form calculates conservative average crop yields and average crop prices *(the same approach used for weighted yields is used to estimate average crop prices)*. Also, it deducts family consumption and a percentage of crop losses.

Projected Farm Income next Cycle (During the loan duration)

Crops	Cultivated Area	Units	Total Prod	Family consumption	% Losses	Total Production Sold	Selling Price			Weighted Total Yield	Total Income	Date
							Last	Min	Max			
Tomato	4.00	Kg	211,000		5%	200,450	1,550	1400	1800	1,538	308,191,875	Oct
Corn	2.00	Kg	14,500	500	3%	13,565	2,550	2200	2700	2,413	32,725,563	Jul
-			-			-				-	-	
-			-			-				-	-	
-			-			-				-	-	
									TOTAL INCOME		Rp	340,917,438

3. Other farm income, such as livestock or dairy production, is also considered when applicable.

- **Buyers:** After estimating the main farm incomes, identify main buyers of the crops. These buyers will be contacted and used as references to verify the sales amounts reported.

- **Farm Production Costs (for both crops and livestock):** The production costs collected should be very detailed, and should be identified for each crop. This information will enable loan officers to understand the technical level of farmers and how knowledgeable farmers are about prices of inputs and crop yields and prices. Production costs are classified as input costs, labor costs, service costs, and operational costs.

- **Technical Skill Level:** After analysis of the production costs, yields, and agricultural practices used by the farmer, the loan officer can assess the technical level of the farmer based on inputs used, agricultural practices, and the accuracy and level of detail of the information provided. For a detailed description of the farmer's skill level scores, see appendix H.

- **Other Family Income and Expenses:** The income analysis includes other non-farm income to understand the concentration and risk exposure of the farmer. Family expenses and other debt obligations are also used to complete the assessment of the repayment capacity of the farmer.

- **Analysis of Client's Assets and Liabilities:** This section of the loan appraisal form focuses on farm size, asset composition, and capital structure. Here, the loan officers should identify the inputs, agricultural and livestock inventories, tools and machinery.

- **Farm Characteristics and Potential:** In this section, the objective is to understand the farm characteristics and agricultural potential by analyzing the size of the farm, soil characteristics, land plot slope, access to irrigation, and anticipated rainfall. If the farmer has more than one plot of land, each plot should be captured separately. The condition of the land will also be used to estimate scores.

SUMMARY FARM AND FAMILY INCOME AND PRODUCTION COSTS

Total Farm Income during the duration of the loan	Total	
Farm Income	Rp	340,917,437.50
Income / Stored Crops	Rp	1,447,500.00
Others Farm Income		
TOTAL FARM INCOME	Rp	342,364,937.50

Production Costs	Total	
Inputs	Rp	117,692,000.00
Labors	Rp	70,920,000.00
Services	Rp	13,400,000.00
Operations	Rp	5,000,000.00
TOTAL PRODUCTION COSTS	Rp	207,012,000.00

NET FARM INCOME	Rp	135,352,937.50

Other Income and Household Income / Year	Total	
Salaries & Business	Rp	66,000,000.00
Family Expenses	Rp	44,300,000.00
Current Debt Payment	Rp	43,888,890.00
DISPOSABLE INCOME FARM & FAMILY	Rp	184,823,110.00

- **Liabilities:** This section looks at the indebtedness level of the farm before the loan is disbursed and how much additional debt the farmer can take. The liabilities are divided into short-term and long-term liabilities. The original amount, loan use, current balance, installment amounts, and frequency of payment are recorded. Installments are also included in the cash flow analysis to estimate the farmer's repayment capacity. Collect the last payment stub or proof of payment from the farmer's FI and request contact persons in the respective FIs to verify the information provided.

- **Comparison to Regional Benchmarks:** The information collected during the farm visit is then compared to regional benchmarks. This information can be adjusted if necessary to have consistent and reasonable assumptions to estimate net farm income and repayment capacity. The first column shows the production costs of the regional benchmark and the yellow column shows the data collected during the farm visit. If there are discrepancies, adjustments can be made in the yellow column.[18]

- **Cash Flow Analysis and Loan Design:** Once adjustments to data collected during the farm visit have been made; loan officers enter other family income and family expenses in the monthly cash flow sheet. Here, the credit committee can analyze in detail the monthly cash flows and financing needs of the farmer, which is represented by the most negative monthly cash flow throughout the production cycle. By analyzing cash flows, the credit committee can also design the loan term, grace period, and payment structure. For example, if the most negative cash flow occurs in month 8, then that is the amount that the farmer will need to finance his activities. If that farmer anticipates income from

[18] *Profit Planner Tool. ACDI/VOCA.*

Select Crop Below			
159-Tomatoes-Fresh-Commercial			
Plant Date	**Jul-15**	**Min**	1
Timing	Independent	**Max**	20
Area	**4**	Ha	
Region	Malang		

Item Description	Value / Unit Area		Total
	Est.	Adj.	
Fertilizer	14,700,000	11,100,000	**44,400,000**
Seed	2,500,000	2,600,000	**10,400,000**
Crop Protection Product	4,950,000	4,240,000	**16,960,000**
Field Materials	10,150,000	9,140,000	**36,560,000**
	-		
Subtotal Input Costs			**108,320,000**
Preparation & Planting	5,600,000	2,680,000	**10,720,000**
Maintenance & Weeding	6,200,000	16,150,000	**64,600,000**
Harvest	3,600,000	3,750,000	**15,000,000**
	-		**-**
	-		**-**
Subtotal Labor Costs			**90,320,000**
Preparation & Planting	1,503,000	1,500,000	**6,000,000**
Maintenance & Weeding	-		**-**
Harvest	-		**-**
Transportation	1,400,000	1,400,000	**5,600,000**
	-		**-**
Subtotal Service Costs			**11,600,000**
Production	-		**-**
Packaging	-		**-**
Utilities	-		**-**
Rent & Fees	5,250,000		**21,000,000**
	-		**-**
Subtotal Operations Costs			**21,000,000**
Yield Sold Kg	50,540	50,113	**200,452**
Price per Unit	1,600	1,538	**1,538**
Total Revenue			**308,295,176**
Total Expenses			**231,240,000**
Nest Profit			**77,055,176**

agricultural activities in months 5, 9 and 10, then those can be set as the three installments to repay the loan.

- **Credit Committee and Loan Approval:** The credit committee will review two documents that summarize the information collected. The first document is the cash flow analysis and the second is the credit committee summary sheet *(below)*. This document shows the farm income and expenses as well as non-farm income and family expenses on the left side of the sheet. The disposable income, at the bottom of this table, determines the repayment capacity of the farmer. Below the disposable income is the balance sheet of the farm, which shows the size of the farm, the asset allocation, liabilities, and capital structure of the farm. This information will determine the solvency and liquidity of the farmer to absorb more debt. On the right, using the information entered in the preceding tables, the tool calculates key financial ratios and analyzes the farmer's risk profile. The tool also analyzes the strength of these metrics using the score analysis from appendix H. The score system suggests a maximum loan amount based on the risk level of the farmer and the farmer's disposable income. Low-risk farmers qualify for loans up to 70 percent of their disposable income, while medium-risk farmers qualify for loans up to 30 percent of their disposable income.

FARM INCOME		
Farm Income	Rp	340,917,438
Stored Crops	Rp	1,447,500
Other Farm Income	Rp	-
Total Income	Rp	342,364,938
Production Costs		
Inputs	Rp	117,692,000
Labors	Rp	70,920,000
Services & Operations	Rp	18,400,000
Total Production Costs	Rp	207,012,000
NET FARM INCOME	Rp	135,352,938
Salary and Business	Rp	66,000,000
Family Expenses	Rp	44,300,000
Current Debt Payment	Rp	43,888,890
Disposable Income	Rp	113,164,048
BALANCE SHEET FARM		
Cash & Account Receivables	Rp	80,000,000
Inventory - Agriculture	Rp	117,600,000
Inventory - Livestock	Rp	43,200,000
Current Assets	Rp	142,800,000
Land and Building	Rp	528,000,000
TOTAL ASSETS FARM	Rp	911,600,000
Short Term Liabilities	Rp	10,000,000
Long Term Liabilities	Rp	15,000,000
TOTAL LIABILITIES	Rp	25,000,000
TOTAL EQUITY FARM	Rp	886,600,000
Other Family Assets	Rp	390,000,000
Other Family Liabilities	Rp	42,000,000
Family Equity	Rp	348,000,000

Financial Ratios	Level Ideal	Farmer	Result
Liquidity Ratio	< 60%	4.2%	Strong
Cumulative repayment capacity ratio	> 1.5	3.00	Strong
Debt ratio including the loan	< 60%	8.95%	Strong
Operational Efficiency	< 60%	60.47%	Weak
Loan to Value Ratio (LTV)	< 70%	41.67%	Strong

Farmer Risk Profile	Score	Weight	Classification	Result
Farm Conditions	18	18%	3.24	Good
Technical Level Farmer	19	18%	3.42	Average
Crop Diversification Ratio	6	15%	0.90	Weak
Farm's Financial Strengh	17	20%	3.40	Strong
Farmer's Character	13	14%	1.82	Good
Farmers's Socio Economic	18	15%	2.70	Average
Total Score	91	100%	15.48	68.94%
		Max	132.00	

FARMER RISK PROFILE	PERCENTAGE	RECOMMENDATION
Very Low Risk	>80%	Approve up to 70% of disposable Income
Low Risk	65%- 80%	Approve up to 50% of Disposable Income
Medium Risk	50%-65%	Review and approve up to 30% of DI
High Risk	< 50%	Reject
TOTAL SCORE	68.94%	APPROVED

Disp Income / year	Rp	113,164,048	Cycles/year
Disp Income / Cycle	Rp	113,164,048	1

			Int rate	interest / year	Rekomendasi
Max Loan Proposed	Rp	56,582,024	Rp -		50.0%
Load Proposed by LO	Rp	50,000,000	Rp -		

Use of the Loan
If the production fails, how could you pay back the loan?
Sell the car

KEY BUSINESS STRATEGIES FOR AGRICULTURAL FINANCE

The implementation of the pilot in the next phase will require fine tuning and balancing several important components:

Agricultural Potential: Serve areas with strong agricultural potential first. Look for crop diversification, multiple crops seasons, access to irrigation, and access to diverse markets.

Target Businesses in Rural Areas First: Look to prioritize financing businesses in rural areas, such as crop traders, input and service providers, and crop processors.

Select Farmers with Lowest Risk: Prioritize funding for farmers with the lowest risk levels. Look for farmers with stable monthly incomes first, and then expand the portfolio to higher risk farmers with seasonal incomes.

Build Strategic Partnerships: Risks can be mitigated by leveraging the knowledge of local players to form strategic partnerships with larger agricultural industries, technology transfer agencies, or insurance companies.

Risk Assessment: Develop a strong and customized risk assessment process with updated loan application forms for agricultural clients. Use scoring models to evaluate the strengths of crops and livestock and analyze cash flows closely.

Product Design: Design products tailored to farmer needs, including seasonal payments, irregular installment amounts, and grace periods.

Branch Location: Leverage a rural branch location to reduce operational costs. Additionally, be sure to create working regions for each loan officer and use technology, such as mobile devices, to facilitate ease of payment, when possible.

Diversification: Make sure the FI's portfolio is reasonably diversified. This guide recommends that a maximum of 30 percent of the portfolio should be in agricultural loans.

Loan Officer Tasks: Rural loan officers should manage both agricultural loans and commercial loans. By doing this, each loan officer's productivity is maximized, the seasonal demand for agricultural loans can be balanced with demands for commercial loans at other times of the year, and each loan officer's portfolio risk can be diversified.

MARKETING AGRICULTURAL LENDING PRODUCTS

Once the product term sheet is developed and approved by senior management, the project team must organize a marketing campaign to attract new clients. Marketing in rural areas requires a slightly different approach than marketing in urban areas. In rural areas, loan officers may find it useful to contact farmers' associations by contacting group leaders and explaining the new services offered by the FI to them.

The loan officer could also request to physically meet the group of farmers at an association meeting. During this meeting, the FI can use abbreviated customer segmentation questionnaires to identify the characteristics of the region, such as the number of farmers in that particular area, the main crops, the biggest challenges throughout the production, and harvesting and marketing processes. The loan officer should listen carefully and identify the main challenges, which could imply financing opportunities for the FI.

The information gathered at these meetings will help the loan officer propose specific loan products that fit the needs of farmers. Meetings with farmer associations should be organized initially on a weekly basis. The information collected should be stored in a worksheet summarizing market potential, number of farmers, and financing needs identified. After the meetings, the FI can more easily identify the most interested farmers and schedule farm visits to continue with the application process.

Incentivizing loan staff to proactively organize meetings with farmer groups will facilitate fulfillment of the marketing plan. Loan staff must appreciate the advantage of targeting a new demographic that it had previously not targeted before. For example, the bank may require loan staff to meet with at least 25 farmers each month. Evidence of such meetings may come in the form of weekly marketing reports that summarize where the meetings were conducted, how many farmers attended, what the main financing needs of the group were, and how many farmers were interested in taking it further.

The procedures for marketing to agricultural businesses will depend on the size of the business. Sometimes it is more effective for branch managers or middle managers to organize and meet agricultural cooperatives and enterprises to build institutional

relationships and to explore areas of collaboration between the FI and those players. Once the contacts have been established and the objectives defined, loan officers should start marketing agriculture financial products to the farmers linked to those companies and cooperatives.

The bank may already have a wealth of agriculture-related businesses and/or their employees as depositors. Existing depositors are low-hanging fruit that can be harvested most rapidly to build the agricultural portfolio. As soon as the agricultural sector is targeted and this new portfolio is opened, the bank's interest in financing targeted agricultural activities can be communicated to existing depositors to make them aware of new loan products designed to serve agriculture.

PERFORMANCE METRICS

It is important for the project team to set clear objectives for the pilot so that it can measure success before a full rollout. Metrics should be both quantitative and qualitative. Quantitative metrics could include the total number of agricultural loans disbursed, loans disbursed per rural loan officer and per branch, average loan size disbursed, and outstanding loans per branch and per rural loan officer. Additional metrics could include the number of rural loan officers per branch and number of branches offering the agricultural lending product, as well as the impact of the product on the bottom line of the FI.

Qualitative metrics could include staff and client perceptions or assessments of the ease of putting processes in place. The actual targets should differ from institution to institution depending on the size of the FI, there is no perfect benchmark. However, regardless of size, the project team should have a set of key performance metrics approved by senior management against which they can track their progress during the actual pilot. Targets should be set with the expectation that learning and efficiency will improve over time. More detail on how to track performance metrics is given in Phase 4.

KEY STAFF CAPABILITIES

There are specific skills that each branch manager and each new lending officer should possess when building up the agricultural lending team. These skills will help ensure that potentially successful applications are forwarded to the credit committee for final approvals.

Rural and Agricultural Lending Officers

Building up institutional capacity to effectively lend to agricultural clients is a necessary prerequisite to launching an agricultural lending product. The decision to train agricultural lending staff or to recruit from outside the institution depends on the educational and professional background of current staff and its capacity to develop new skills through training. To make this decision, consider the profiles of the existing group of loan officers and the local labor market.

Agricultural lending requires an in-depth understanding of rural clients, particularly when defining farmer risk profiles and evaluating their technical skill levels. On the other hand, the basic financial principles required to analyze a loan are fairly standard and easier to learn. It is easier for an agronomist to learn financial analysis than for a business professional or an accountant to learn agronomy and crop production techniques. FIs may find it more cost-effective to hire agronomists and train them on financial analysis than to train existing staff on intricate agronomic principles.

To ensure agricultural loan officers maintain adequate levels of productivity, FIs should also finance other economic activities in rural areas. Agriculture is seasonal, and during some months of the year, there may be little or no demand for agricultural loans. Loan officers must have diversified portfolios, where agricultural loans represent at least 20 percent and at most 50 percent of their loan portfolios.

Working areas must be created for urban and agricultural loan officers to reduce competition among them to get the same clients. Urban loan officers should focus on urban and suburban areas only, while agricultural loan officers should create working regions outside the city and work those regions on a weekly basis. Within their regions, agricultural loan officers should market loans to traders, manufacturers, and service providers apart from farmers and producers. Working areas must be designed early in the process to avoid competition and tensions among team members.

When building up agricultural lending staff, management should look for some typical attributes that characterize effective agricultural lending officers:

- Educational background in the following areas:
  - Agronomy
  - Farm management
  - Sales and marketing of agricultural inputs
  - Training and technology transfer to small farmers.
- Basic understanding of financial, economic or accounting principles *(some banking experience welcome, but not required)*.
- Familiarity with agricultural markets.
- Open to frequently traveling to the field *(60 percent - 70 percent of the time)*.
- Able and willing to ride on a motorbike.
- Willing to work in the field under the sun, dust, and rain.
- Excellent communications skills and attention to details.

Branch Manager Responsibilities

The responsibilities of branch managers will shift substantially with the introduction of agricultural lending. Branch managers will need to become more involved in the assessment and monitoring of farmers, in analyzing their financial data, and assessing their technical skills. The ability of branch managers, who often head credit committees, to undertake sound loan assessments is pivotal to the success of agricultural lending.

The new responsibilities for branch managers would include:

- Monitoring of new products that may require additional analyses.
- Implementing new reporting requirements: cross-checking and analyzing to ensure accurate data collection.
- Ensuring staff have the appropriate analytical capacity and tools.
- Maintaining an understanding of local agricultural markets and strategic planning for growth and expansion.
- Building strategic alliances with value chain players.
- Fostering collaborations with technology transfer institutes.
- Promoting communication and information flows, both externally through marketing and through internal communications.

Branches will be carefully selected for rolling out the new agricultural lending product, based on the market research in the previous phase. It will be possible to offer targeted training programs to build necessary staff skills in these few branches. As the lending program expands, the institution can accordingly train more staff.

AGRICULTURAL LENDING STAFF TRAINING

Existing and incoming staff must be trained on proper agricultural lending methodologies and procedures to ensure success of the pilot and

launch of the new product. Loan officers, project management, and credit committee members all need to be trained on the specifics of agricultural lending. The agricultural lending project manager should coordinate with the human resources department in developing and running the training sessions. The project leader should also coordinate the development of training materials. Several training curricula on agricultural lending have already been developed by international organizations such as IFC; the project manager may start by seeking assistance from outside sources to leverage existing expertise and materials.

Successful training programs for agricultural loan officers include theoretical, in-class *(1-2 weeks)* and field coaching components *(up to 6 weeks)* with managers and experienced loan officers.

Theoretical training should cover:

- The bank's commitment to agricultural finance and how it fits within its mission
- Crop production cycles and benchmarks for target value chains
- Agricultural risk and rural lending principles
- Estimates of past and future agricultural revenues
- Assessments of farm assets and liabilities
- Documentation of crop income and business expenses
- Cash flow analysis and loan structuring
- Credit assessment, analysis, and approval criteria
- Description of the new product and how to structure appropriate loans
- Aspects of customer service
- Marketing strategies in rural areas
- Portfolio monitoring in rural areas.

Analytical tools and approaches used by the institution should be explained, practiced through exercises *(for example, preparing a balance sheet and income statement for an agricultural business)*, and tested. Preparation for field training should be done through role playing and processing of *"mock"* client applications.

By the end of the theoretical training, trainees should be comfortable with calculating repayment capacities and the financial ratios used for loan decisions. A test to measure the trainees' comprehension is conducted to improve the training and screen out unsuitable individuals before they move into the field. Screening prospective staff avoids potentially problematic contacts with clients, and also limits costly time investment involved in field training.

Field training involves coaching new loan officers in conducting client interviews, observing indicators about the household or farming business that might influence loan assessment, and capturing key socio-economic information for financial analysis. It also involves illustrating ways to ensure cross-checking and verifying accuracy of information.

During field training, trainees are often mentored by an experienced trainer or loan officer in conjunction with the branch manager. It is an essential component of the training, and therefore, operations and human resources teams must allot adequate time and staffing to coach of trainees.

The field training covers such subjects as:

- Group meetings with farmers for research and marketing activities
- Farm visits and data collection
- Loan appraisal and data verification
- Loan approval processes
- Communicating decisions and next steps to applicants.

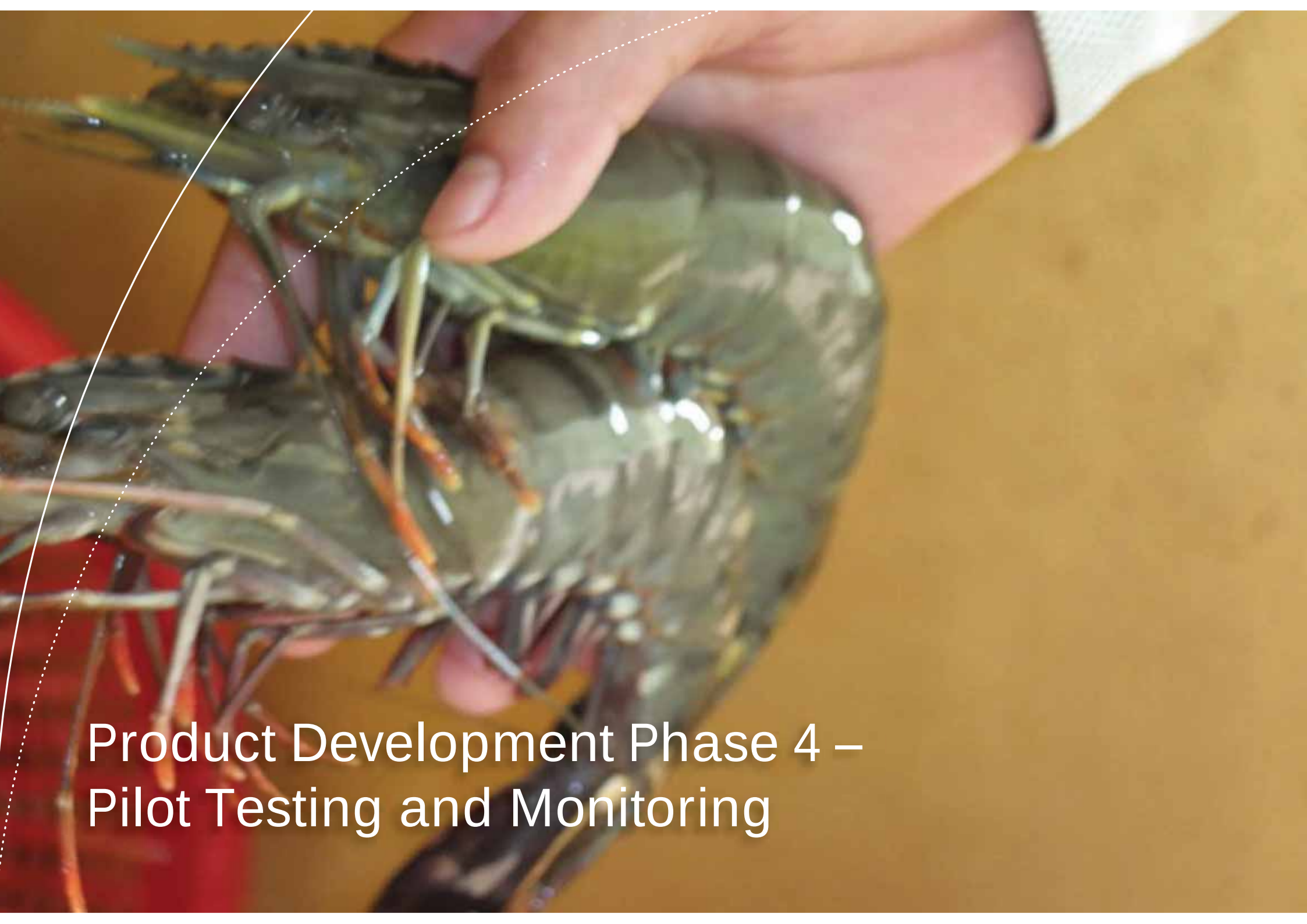
At the end of the training program, new loan officers should be familiar with all processes associated with lending to new agricultural customers. They should be able to source new clients, interact with them in productive ways, gather information through interviews, and move applications through the approval process. New loan officers may require some practice to be able to identify productive clients, so the training is crucial for the ultimate success of the agricultural portfolio.

CHECKLIST

The primary goals during this phase are to iron out the final details of the pilot program, create an outline and term sheet of the new product that includes key parameters and marketing plans, and train staff on agricultural lending.

The following checklist will help determine if you are ready to continue to Phase 4 of the new product development process.

- Have you defined the key characteristics of the new product, drawn up a term sheet, and got the new product approved by senior management?
- Have you discussed and determined goals for the pilot branches?
- Have you developed a training curriculum and support materials?
- Have you trained loan officers involved in the pilot on the different aspects of the lending technology such as information collection in the field, loan assessment, loan approval, and arrears monitoring?
- Have you established clear performance targets for loan officers?
- Have you prepared a marketing plan to reach the first clients?
- Have you implemented and adjusted lending policies, if necessary?

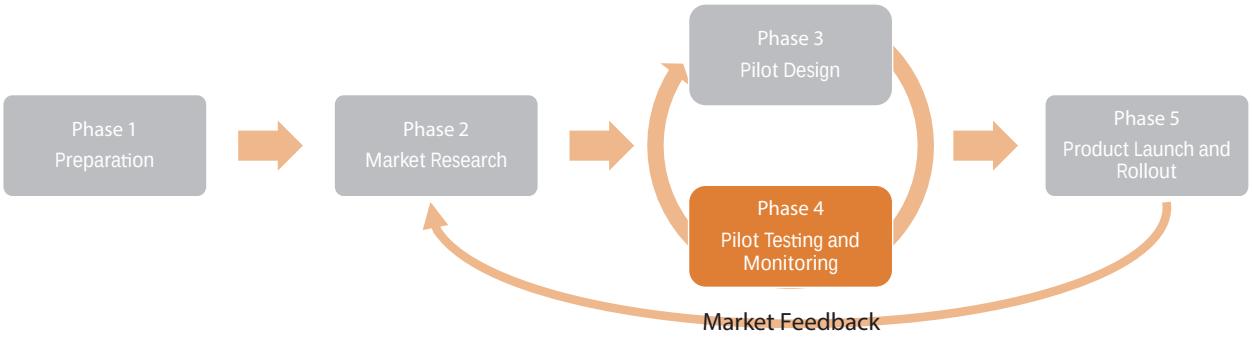


Product Development Phase 4 – Pilot Testing and Monitoring

Product Development Phase 4 – Pilot Testing and Monitoring

After the project team has completed design of the pilot product and determined what the pilot program will look like, the team is ready to begin pilot testing and monitoring results. This fourth phase is the second of the two iterative steps in the pilot process. During this phase, the project team will begin the piloting process and monitor the pilot's operational performance, the quality of the risk analysis, productivity of the loan officers, and the effectiveness of the marketing strategies. Also, the team will assess how well the new product is received and used by the target clientele. Depending on how the pilot rates on the pre-determined performance metrics from Phase 3, the product may need to return to Phase 3 to be adjusted and rolled out again.

Figure 11 – Phase 4 – Pilot Testing and Monitoring



The pilot testing phase is an opportunity to offer the product to a sample group of clients to determine whether these customers need, and will use the product. The results of this phase will help determine whether demand exists for the new product, what modifications or changes to the terms and conditions are needed, and what features or processes need adjustment. The time required for the pilot will depend on both internal and external contexts of each institution. When conditions are particularly favorable the pilot may last only around six months. Favorable conditions include when a team has strong leadership or the product is widely accepted. With less favorable conditions, however, the project team might need to pilot test the product and tweak the services for a year or more before satisfactory results are obtained.

AGRICULTURAL LENDING PROCESS

FIs beginning the pilot rollout for their new agricultural products, may find it useful to review in detail specific steps of the lending process, from identification of new clients to monitoring and reporting. FIs should ensure that each loan officer and member of the credit committee works through this process to ensure that each loan is handled efficiently and analyzed correctly. The steps outlined below take 15 days in all. Depending on the ex-

pertise of each FI, this process may take longer, especially if the credit committee is not located at the branch or if it only meets periodically *(for example, once a week).*

During initial stage of identifying new customers, the FI will explain the product to new clients and make preliminary decisions on whether to continue with the rest of the analysis.

1. First client contact – screening with loan officer *(Day 1).*
2. Information session – loan officer informs client about agriculture product *(Day 1).*
3. If the loan officer determines that the client has a qualifying project, he/she assists the client in completing an agriculture loan application form *(Day 1).*
4. Loan officer opens a client file *(Day 1).*
5. Loan officer adds client to agriculture pipeline report *(Day 1).*
6. After completing loan application, borrower gives documents *(collateral, references)* to loan officer *(Day 2)*.
7. Loan officer assigns a day to meet the client on-site to get more detailed information to complete the loan assessment forms described in the previous chapter *(Day 2).*
8. Loan officer carefully examines all documents related to collateral, paying particular attention to the status of inventory land records, coordinating with legal staff and government as necessary *(Day 3).*

The client's information and credit history is analyzed in great detail in the second stage.

1. Verification officer conducts due diligence by carrying out reference checks of suppliers, customers, and, where possible, the bank records of customer, as well as checking market and competitors *(Day 4)*.
2. Verification officer meets guarantors and checks collateral *(Day 5)*.
3. Loan officer and agriculture director identify which outstanding issues remain and decide whether to continue with this client *(Day 5)*.
4. Verification officer makes follow-on site visit to the farm to inspect farm premises, inventory, livestock, and internal books *(Day 6)*.
5. Loan officer analyzes final cash flow, income statement, and balance sheet prognosis; structures the loan accordingly; and completes analysis, write-up, and final documentation check *(Day 7)*.
6. Loan officer and lawyer(s) review final documents and forwards loan memorandum to branch manager *(Day 7)*.
7. Branch Manager reviews and provides approval for submission to agriculture credit committee *(Day 8)*.

In this third phase, the credit committee will either give its final approval and disburse the loan or reject the loan.

1. Loan officer submits loan application to credit committee *(Day 9)*.
2. If approved, committee signs off on loan approval form; if rejected, client is provided with a list of deficiencies and can resubmit when these are addressed *(Day 9).*
3. Loan officer informs client of loan decision *(Day 10)*.
4. Loan officer requests any additional documentation required to fulfill conditions and for closing *(Day 10)*.
5. Operations officer arranges collateral registration and insurance documentation with local and/or district government *(Day 11).*
6. Operations officer prepares loan/collateral agreements based on credit committee decision *(Day 12).*

7. Operations officer ensures that all disbursement conditions have been met *(Day 13).*

8. Loan officer walks client through disbursal of loan proceeds at the branch *(Day 13).*

9. Operations officer follows through on fulfillment of all conditions of loan disbursement *(Day 13)*.

10. Relationship manager checks all documentation and conditions and signs approval form *(Day 13).*

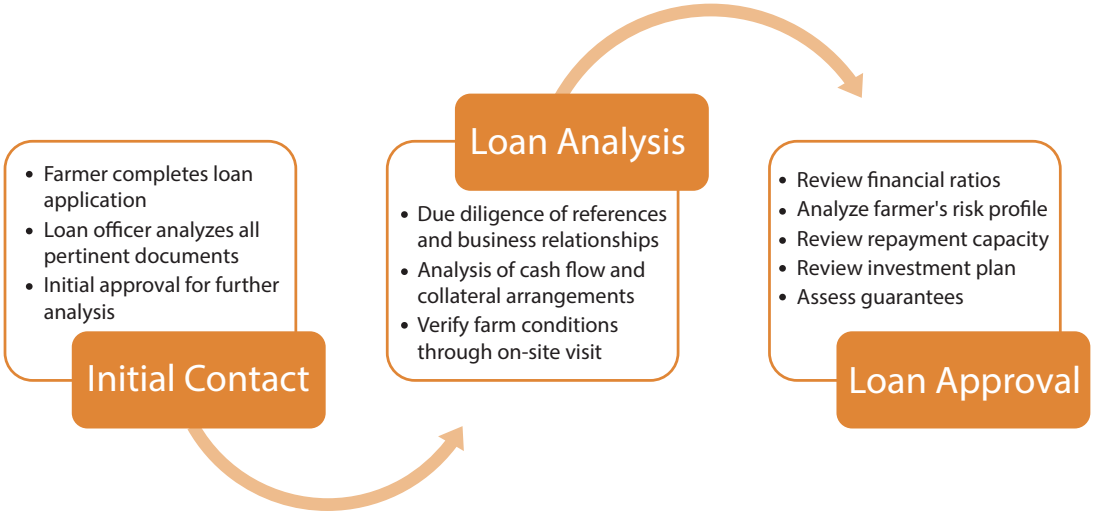
11. Client and guarantor(s) sign documentation *(Day 14)*.

12. Loan officer provides repayment schedule to client *(Day 14)*.

13. Teller disburses loan to client *(Day 15)*.

While some of these steps might require more than one day, a loan can be disbursed within a few weeks of the application. To summarize, the processes of lending to agricultural clients can be broken down into three steps as seen in figure 12.

Figure 12 – Lending Process for Agricultural Clients



While the pilot test is running, the project team can also prepare for analysis of the pilot's results and conduct some preliminary monitoring and evaluation. Doing this before the pilot is complete allows the team to better prepare to either move forward with implementation or conduct additional pilots. These are the areas to follow up:

- Loan officer and client agree to monitoring schedule *(As necessary)*
- Monitoring visits to client (Monthly)
- Agriculture updates monthly report *(Monthly)*
- Loan officer updates branch manager on problem loans *(As necessary)*
- Other reporting as determined by bank.

The team should conduct weekly and monthly evaluations of the entire pilot portfolio during the first six months, evaluate different types of clients, and record both complaints and positive feedback. Preliminary monitoring and evaluation should allow the team to do the following:

- Review internal loan approval and risk management systems
- Monitor levels of staff knowledge
- Evaluate customer service
- Gauge the effectiveness of marketing and communications.

Reviewing all of these on an ongoing basis helps the team identify issues and problems and improve the processes as the pilot progresses.

TRACKING PERFORMANCE METRICS

Monitoring and evaluation should take place throughout pilot implementation. The goal of this step is to analyze the actual performance of the pilot against the targets defined in Phase 3 and make any necessary changes before the product is rolled out across the organization. It is much easier to make changes and test them throughout the pilot, so it makes sense to take the time to get the pilot right. Some key performance metrics that the team should track include:

- Size of total agricultural portfolio outstanding;
- Percentage of portfolio that is at risk *(PAR)* – the total value of loans outstanding that have one or more installments of principal past due for more than 30 days, or 90 days;
- Loan officer productivity, such as loans disbursed per officer each month;
- Loans outstanding per loan officer
- Total agricultural portfolio as a percentage of the institution's total portfolio;
- Average loan size for agricultural loan products;
- Cycle time – the total number of days from initial contact to loan disbursement; and,
- Customer satisfaction level and demand for the agricultural loan product.

For sample performance reports that may help the project team track these metrics, see Appendix I – Sample Performance Reports.

Beyond collecting quantitative data on the numbers and amounts of loans outstanding, monitoring and evaluation should also include some of these following key qualitative items:

- Monitor the lending process quality at all three levels: initial contact, loan analysis, and loan approval;
- Re-assess the technical proficiency levels of the loan officers participating on the pilot team;
- Analyze product acceptance by clients;
- Talk to staff or hold informal focus groups to evaluate the level of satisfaction with the product;
- Check for product marketing consistency across loan officers and branches;
- Discuss any necessary product adjustments with pilot team; and,
- Design and monitor the necessary adjustments of the different areas

If the FI does not have an ongoing customer satisfaction program, the project team must conduct research with individual loan clients to understand how they perceive the new product and to evaluate their level of satisfaction with the product and suggested alterations. Qualitative research with current customers will give the team a sense of how satisfied customers are with the product and their response to the marketing initiatives. Qualitative research with potential customers will inform the team of any barriers customers have against borrowing from the FI and why marketing initiatives have not compelled them to take advantage of the new product.

Upon completion of the pilot, feedback should be collated and written up into a pilot evaluation report that outlines the actual versus target metrics, key lessons learned, outstanding issues and recommendations. This should be used for any further pilots, as well as for developing the plan for rolling out the product across the institution.

CHALLENGES AND LESSONS LEARNED

A major challenge faced by FIs during this phase is the lack of technical and analytical skills in their agricultural loan officers. Many FIs face this problem when they begin investigating expansion into agricultural markets. Lending to the agricultural sector has many nuances and risks associated with it, which are absent in the commercial sector. For this reason, this guide stresses the importance of creating a robust and detailed training curriculum *(including extensive field coaching)* to build on the skills that loan officers have already developed working with the commercial sector. By layering on the new analytical techniques and appraisal processes for the agricultural sector, the FI can more effectively develop strong agricultural lending officers.

Another key challenge faced by many FIs at this stage is the structuring of an effective marketing strategy. This can be difficult when targeting one geographic area with potential clients that are spread over a large territory. For this reason, this guide recommends first focusing on existing clients at the branches selected as pilot sites. There are likely existing clients who participate in agricultural activities, who could use additional financing to bolster their businesses. Reaching out to these clients to advertise the new product can be an effective way of spreading the news about the new offering. Additionally, using technology, such as targeted SMS campaigns to reach existing clients in the pilot region, may yield additional clients.

Financial institutions must also collect reliable quantitative and qualitative data on a timely basis. Prudent agricultural lending requires the collection and analysis of a significant amount of data on clients, production, and prices. IFC has seen FIs encounter this challenge in numerous situations in its work supporting introduction of agricultural lending around the globe[19]. The more FIs can adapt the tools described above *(further exhibited in appendices H and I)*, the easier and more cost-effective it will be to evaluate client data. Microsoft Excel can be an especially useful tool to increase the reliability of the process. By building in automatic calculations, the chances of errors is greatly decreased. Automation can also increase efficiency and support faster portfolio growth, as well as improve loan application assessment.

Additionally, the uptake of the new product among target communities can present a challenge to some FIs. Having a new product with flexible repayment terms linked to cash flows can be attractive to rural farmers. However, FIs need to ensure that target customers know the product is available and how it can benefit them directly. Holding meetings with key farmer associations is a great way to get the FI in front of target customers, but sometimes FIs need to go even further with their marketing. Sometimes, something as simple as incorporating images of the target clientele in marketing materials can help overcome the mistrust that some farmers have of FIs and their presumption that FIs are not interested in serving them.

A strong customer service orientation can also have a positive impact on customers adopting the product. FIs can compete effectively with subsidized credit from institutional players and differentiate their offerings among themselves by providing rapid loan processing and disbursement, personal attention to clients, customization of products, terms and services to match client needs, and non-financial services.

[19] *Access to Finance for Smallholder Farmers. IFC. 2014.*

Phase 4 Featured Practical Example: Piloting challenges at an East Asian FI.

East Asia Bank Faces Challenges when Piloting Agricultural Lending

IFC worked with a bank in East Asia that was rolling out an agricultural lending pilot. The bank piloted the product over the course of one year, using three agricultural lending officers. These officers were able to disburse a total of 67 loans representing about $450,000. The bank experienced a wide variability in disbursements of loans each month, but learned a lot about their target clients through the process. For the next year of the pilot process, the bank plans that each loan officer will disburse an average of three to four loans per month totaling about $11,000. After the initial 24 months, the ideal loan officer will manage a portfolio of about 100 outstanding loans worth $300,000. During the last year of the pilot, this total should climb to 160 loans worth $480,000. The bank plans to achieve a non-performing loan rate of less than 3 percent after two years and less than 4 percent after the third year. There will be two specialized agricultural loan officers per branch for the rollout phase.

Overall, the bank has found that the pilot implementation process was slower than originally planned, preventing the team from meeting original targets. The pilot team encountered the following key challenges:

- Limited analytical skills of loans officers, which slowed their learning process and productivity
- Insufficient and unstructured marketing activities
- Lack of monitoring and follow-up after marketing meetings with farmer associations
- Initial low quality and accuracy of data collected, which required multiple visits to the clients to clean and clarify the data
- Inadequate availability of vehicles to visit farmers and clients in rural areas slowed down marketing activities.

As a result of these challenges, the bank decided to standardize and document the processes for pre-selection of clients to reduce loan processing times. It also updated its recommended profile for hiring agricultural loans officers, ensuring that they do have agricultural backgrounds and stronger analytical skills. The bank is implementing a structured marketing plan that will be used during the rollout phase.

CHECKLIST

The primary goals during this phase were to finalize the processes for loan officers and credit committee members, and to launch the product in a select region. During this phase, the project team should also have collected data on the performance of the pilot and tracked it against pre-determined targets.

If the pilot did not perform as well as expected, the project team should return to Phase 3 of the process and redesign the necessary elements and then launch the pilot again. The following checklist will help you determine if you are ready to continue to the final phase of the new product development process.

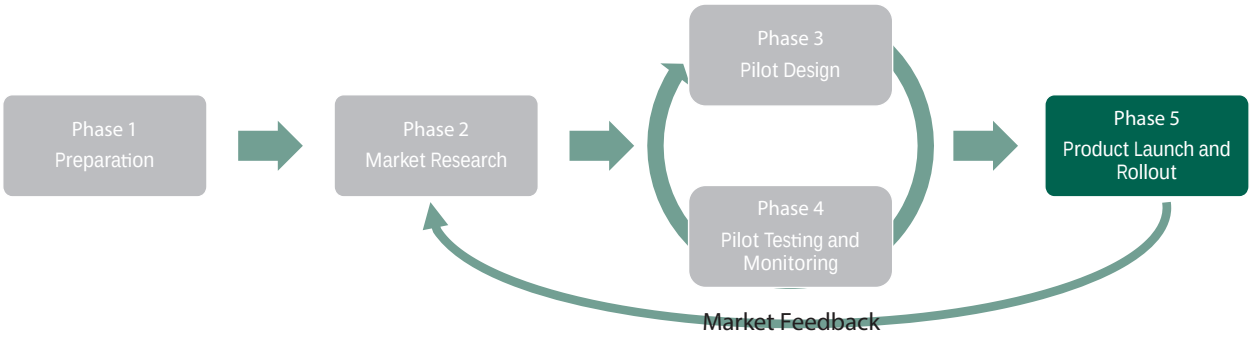
- Did the pilot run according to plan and was it completed within the set deadlines?
- Did you successfully resolve all issues and problems arising from the pilot?
- Were the results of the pilot monitored on a regular basis throughout its duration? Were these results combined with an evaluation when the pilot was complete?
- Has a decision been made about your need to conduct another pilot? If your team decided that you needed another pilot, has it been completed?
- Have the key lessons from the pilot been documented and implications for implementation been identified, especially recognizing how the lessons might apply at different branches and with different client groups?
- Was your project manager, senior management, and the board satisfied that the pilot met the required targets?
- Is the pilot team prepared to transfer its knowledge to other staff not involved in the initial pilot(s)?

Product Development Phase 5 – Product Launch and Rollout

Product Development Phase 5 – Product Launch and Rollout

After completing the pilot program, and if the results show promise for future growth of the agricultural lending portfolio, the project team is ready to develop a strategy to roll out the product across the institution. The release of the product should be gradual and will require having necessary human and financial resources already in place. This phase also requires constant monitoring or market feedback throughout the life of the new product. Each agricultural lending officer will interact with clients on a regular basis. The officer must listen to customer suggstions on product improvement or new products. This will allow the FI to evaluate product updates and the program as a whole, as client needs evolve over time. Some of these interactions may lead the FI to return to the market research phase *(Phase 2)* to learn more about the opportunities that have opened up.

Figure 13 – Phase 5 – Product Launch and Rollout



STRATEGY DEVELOPMENT FOR THE ROLLOUT PHASE

Once the pilot is completed and product adjustments, if needed, are implemented, the team should spend time building a comprehensive agricultural lending strategy for the rollout. A well-developed strategy will help management guide and track organizational goals and objectives. With the information gathered up to this point, the project team should work with management to envision where the organization is headed in the next three to five years. This vision should reflect the vision for the entire FI and for the agricultural lending business. The strategy should put in place a roadmap for how the FI will achieve its goals. It should set short term *(less than one year),* medium term *(one to three years)*, and long term *(three to five years)* objectives. This implementation plan should contain actionable steps, with a detailed schedule. Key elements include target crops and client types, the channels for reaching clients, human resource and training needs, new products, appraisals, monitoring, and risk management systems.

An organization's strategy for the rollout should be discussed, debated, and decided at the board level to truly become part of organizational make-up. Subjects to be covered during these conversations should center on issues of strategic importance, including:

- Understanding the broader market and whether there is the scale and opportunity to reach profitability.
- Understanding the FI's competitive advantages in the marketplace and ensuring that the new product line strategy builds on these advantages.
- Ensuring that objectives and goals are realistic. Management should be detached and critical when setting objectives, and set worst, expected, and best case scenarios during financial modeling.
- Understanding how the agricultural lending product line will affect other areas of business. Will it support these other areas or cannibalize them?
- Establishing whether the organization has personnel capable of delivering on this business plan. If not, what is the plan to achieve the needed level of organizational development?
- Establishing operational platform requirements. Does the bank's branch network reach sufficiently into those areas of market opportunity? Which branches should be prioritized based on the market research results? What would be the appropriate branch rollout strategy?
- Determining what additional investments are required to reach the new market. Investments involve hiring or training of existing staff, investment market surveys, marketing and sales campaigns. It should include bank infrastructure and new technologies, such as hand-held devices that could assist in reaching more remote borrowers.

As mentioned in the introduction, agricultural lending can vary from direct lending to farmers to more structured value chain finance models. The example below illustrates the creativity that can go into strategy development; FIs worked with rice mills in the Mekong Delta region of Vietnam to indirectly finance rice farmers.

Collaboration between Banks, Rice Mills, and Rice Farmers in the Mekong Delta Region

Rice processors, in the Mekong Delta region of Vietnam, are engaged with farmers to differing degrees. Some processors have built short-term relationships based on price opportunities, while others provide more integral support to farmers by supplying certified seeds and fertilizers, and then purchasing all the production via contract farming. FIs have multiple advantages when working with such players. This guide encourages FIs to identify and select value chain players for cost-effective collaboration.

In the Mekong Delta the team interviewed two large processors who trade more than 200,000 tons of rice per year. These are local companies, using different strategies to collaborate with farmers. The first one uses contract farming and pre-finances seeds and fertilizer to farmers specializing in Jasmine rice for export, while the second company produces traditional rice for the domestic market *(see table 13)*.

Table 13 – Financing Models in the Mekong Delta

Financing Models	Large Co. #1	Large Co. #2
Does the company pre-finance farmers?	Yes	Yes
Number of farmers pre-financed	6,000	500
Portfolio outstanding	$36 million	$250,000
Loan term	4 months	4 months
Criteria to finance	Quality of production, location, group association	Quality of production
Interest in Collaborating with FIs	**Yes**	**Yes**
Amount of pre-financing	$5 million	$230,000 to 460,000
Number of additional farmers	1,000	500
Loan term	4 months	4 months

The two large rice processing plants finance a significant number of farmers - 6,000 and 500 respectively - with an outstanding portfolio of approximately $36 million and $250,000. Both companies are interested in collaborating with FIs to provide additional financing to farmers. The first company could finance 1,000 additional farmers with a bank's support, while the second company could add 500 additional farmers. Given the different strategies these companies employ to interact with local farmers, they approach additional financing opportunities in different ways. The first company is interested in preselecting farmers. It will help the bank organize the groups to market the products, provide technical supervision to farmers, and later, support the bank with retention and collection of loans. The other rice processor is more interested in getting a loan from the bank to on-lend those funds to the farmers, assuming 100 percent of the risks. In fact, this company does not want the bank to lend directly to its farmers.

With these two strategies in mind, local FIs could approach each company and structure appropriate models to suit their needs. These two rice producers are examples of the types of firms FIs should seek out when building agricultural lending portfolios. FIs new to agricultural lending can adapt and adjust their strategies to accommodate this type of partnership.

Some of the key questions that the project team should keep in mind as it finalizes a rollout plan for agricultural lending across the institution:

- What organizational structure does the institution want to put in place *(for example, centralized unit, small units at each branch)*? Which structure is more cost-effective?
- Which region and branch does the institution expand to next? What are the criteria for making this selection *(for example, level of demand, ability to assign a regional coordinator)?*
- What human and financial resources are needed to introduce agricultural lending in additional regions?
- What will the marketing strategy be? Do all lending officers have a clear message and do they know how to effectively present the product to new clients?

SETTING UP AN AGRICULTURAL LENDING UNIT

At this point in the new product development cycle, the project team should evaluate whether it is necessary to set up a separate agricultural lending unit. Incorporating the agricultural lending unit into the overall organizational structure will ensure that the chain of command is in place for decision-making, distribution of authority is understood by all working in the agriculture business line, and functional duties are assigned and covered.

At the beginning of the rollout phase, it may make sense to keep agricultural lending housed with other lending units. By doing this, the portfolio will have a chance to grow and mature before the unit is separated as a standalone entity. The growth of the portfolio will take time. So, in the early stages of the rollout, the FI could take advantage of overlapping management processes until returns and volume necessitate the elevation of the unit. Senior management should decide the thresholds for separating out the agricultural lending unit that must be met before the rollout phase begins.

Once the decision is made to create a standalone agricultural lending unit, this team can help standardize implementation and processes across the institution, develop institutional relationships with other value chain players in the regions to expand outreach to farmers, and help manage and mitigate risks. This unit could also coordinate market research in new regions and collect data on crop prices and trends by leveraging its experiences from the pilot and rollout. Types of structures can vary by institution. However, the operational structure must be clearly defined within the FI to enable it to support sales, lending, and monitoring staff with agriculture-specific knowledge. To accomplish this successfully requires support from the board and senior management team and credit staff *(as covered in Phase 1)*. The first step is getting each group to understand what is involved in agricultural finance, how it affects the FI, and how to take ownership of the process.

The way in which agricultural lending is integrated completely into an FI's structure depends on a number of factors. These include the FI's current organizational structure, particularly its credit operations, experience in agricultural lending, the volume of agricultural lending in its portfolio, and its strategy for capacity building, training, recruiting, and retaining quality staff.

On the other hand, if agricultural lending is a new or relatively new concept for an FI, it may not be necessary for an FI to create a separate agricultural lending unit. Instead, the FI could invest in increasing staff capacity in the field, regional offices, and headquarters. Adequate regional technical and operational support as

a link between headquarters and branch offices is of critical importance but is often overlooked. While there should be agricultural lending champions within an FI, there are pros and cons to creating an agricultural lending unit. It may be a good fit for very experienced FIs with large volumes of agricultural lending, but may not work for smaller FIs.

Any organizational chart revisions should also be accompanied by a review of the operational platform for delivering agricultural loans. Investments may need to be made in additional technologies, such as hand-held devices, information technology *(IT),* and management information systems *(MIS)*, to enhance electronic lending platforms to reach more distant populations. Increasingly, FIs around the world are investing in technology that can have a significant impact on their rural and agricultural lending lines and financial services, including savings. FIs are expanding networks of automated teller machines as well as mobile banking and *"branchless banking"* approaches, such as handheld devices and mini printers, global positioning systems *(GPS)*, and mobile phone applications.

For example, an FI in the Dominican Republic has started using handheld mobile devices to capture and analyze seasonal incomes and cash flows from farmers, effectively automating the collection of data. These handheld devices have reduced data input errors, increased data processing speeds, and have shortened the loan approval process. M-Pesa in Kenya is another interesting example of how mobile payments have reached more than 50 percent of the country's rural population20. The collaboration between Safaricom and local banks has enabled bank clients to transfer money and purchase goods using their mobile phones, dramatically reducing transactional costs, particularly in rural areas.

DEVELOPING AN IMPLEMENTATION PLAN

Expanding financial services into new rural areas requires an integrated approach to manage and mitigate the risks of agricultural lending. FIs must implement the different tools and strategies discussed above, including: selecting regions with high agricultural potential, targeting low-risk farmers, developing robust and adequate loan appraisal technologies, designing adequate loan products for farmers, selecting staff with adequate backgrounds, and developing strategic partnerships with local value chain players to manage risks. Calibrating and balancing all these principles will help ensure a successful implementation and rollout of new agricultural lending products.

Rolling out agricultural lending across the institution involves making the new product available to a much bigger market, and thus requires careful planning. Assuming that the characteristics and features of the product are in line with the needs of prospective clients, the project team will need to develop a detailed plan that assigns responsibilities and defines time periods for the broader rollout. The strategy should include a number of components, including:

Strategy and Budget: First and foremost, the team will need to determine the timing and logistics behind rolling out the product to each and every branch of the institution. Next, and in conjunction with senior management, the project team should clarify how agricultural lending fits into the broader institutional mission. As a part of this, the team will also need to set a clear budget for expansion of processes across the institution. This will include an ongoing marketing plan that covers all branches and includes profitability planning to finalize the numbers of agricultural loans

[20] *56 percent of rural Kenyans are "registered active mobile money users." Financial Inclusion Insights. Kenya Country Profile. 2015.*

and size of the portfolio that will be required for agricultural lending to be profitable. Using the data from the pilot rollout, the team should also finalize short-term strategic actions that need to take place to ensure success of rolling out agricultural lending. Additionally, a long-term development strategy that includes hard targets and objectives for the agricultural portfolio as a whole will need to be laid out in the implementation plan.

Growing the Agricultural Lending Portfolio: Based on the results of the pilot and the extensive research conducted during the market research phase, the team must determine how best to grow the portfolio. This could occur by attracting new clients or by cross-selling to existing clients. No matter which strategy the team uses, clear targets must be set and progress tracked as the product is rolled out. Additionally, the team will need to design a training curriculum for the rest of the loan officers who will be working with agricultural clients. This could occur by region or at centralized training centers. Ideally, the product will be rolled out gradually in the regions with highest agricultural potential, so branches located in the primary agricultural regions could be targets for the initial wave of training.

Marketing and Promotion Strategy: Combining the FI's marketing experience and the results of the pilot, the project team should devise a strategy to promote the agricultural lending product, specifically to the target audience selected as priority earlier in the process. The team should specifically use the data obtained during farmer interviews and focus group discussions from the market research phase. This data will help the team determine which message is most compelling to the target audience and how best to reach them. The strategy for promoting agricultural lending should form part of the FI's overall branding and marketing strategy. Each region should develop its own marketing plan targeting farmer associations, value chain players in the region, and input and technology suppliers. Branch managers and product managers should monitor progress of the marketing plans in each region on a monthly basis. The messages used should complement those used for other products and be consistent with the overall corporate brand. Each component of the marketing and communications should be complementary and promote a compelling message about the FI that resonates with the rural population.

Monitoring Growth: Based on the goals and objectives set forward in this strategy, the team will need to monitor the growth of the portfolio and establish systems to ensure each milestone is met. Using the tracking tools described in the previous section and in appendix I, the project team should track portfolio performance as the product is rolled out. Beyond these basic measures, the project team should track gross portfolio size, costs and profits. Further, by increasing the number of loan officers working with the agricultural sector, the team will need to establish criteria and monitoring systems to ensure that necessary capacity and levels of technical knowledge are maintained across the institution.

ARREARS MONITORING

As discussed above, lending to the agricultural sector is risky in part because the agricultural sector is exposed to risks such as climate change and market demand. External shocks like typhoons, droughts, and other weather catastrophes impact the agricultural sector regularly. Market and price risks could affect farmers in a region or country with devastating effects on their incomes and repayment capacity. Even when there are no major external shocks, agricultural production is subject to minor variations in yields and harvest dates, which could delay payments of loan installments.

FIs growing their agricultural lending portfolios need to have special strategies to deal with

major shocks as well as with minor natural climate variations that could affect yields or harvest seasons. In the latter case with minor natural climate variations, FIs could prevent and reduce relationship stress and negative interactions with clients by providing some extra time to farmers for repayments. This could include allowing the extra time farmers require to harvest, process, and sell their products. Any additional time given to pay loan installments should be discussed with farmers during the loan assessment and included in the loan design.

Sometimes, even after giving extra time to pay loan installments, farmers might face delays in the harvest and marketing of crops. Banks should have systems in place that closely monitor farmer payment schedules. Whenever there are delays in the payments, loan officers should visit farmers immediately, identify the problem, and determine if the late payment is due to external factors and whether the willingness to repay is strong. If this is the case, the bank could be flexible and provide additional time. Those rescheduled loans should be for short periods of times, and should have a detailed report and the approval of a supervisor or branch manager. After the extra period, farmers should be able to repay the loan. If there are additional problems, those cases should be analyzed and processed by special loan recovery teams, and the responsible loan officers should provide close support.

In case of major disruptions due to external shocks such as typhoons, droughts, or other weather events that could impact larger regions and large numbers of farmers, FIs should put together a special team to assess the damage at the farm level. FIs should work in coordination with government agencies to assess the damage in the region. Even with drastic external shocks, the level of damage and impact at the farm level varies dramatically. Therefore, FIs should visit each farmer and assess the damage suffered individually, if possible. In many cases, damaged crops will recover later, but produce suboptimal yields. In these cases, FIs should negotiate individually with farmers, providing extra time and even additional funds to those farmers heavily impacted, if they show strong willingness to pay back the loan. Some farmers will be impacted only moderately, and will be able to pay back the loans with only minor delays or rescheduling. The only way for FIs to assess the real impact and to identify those differences is to visit farmers one by one and negotiate with them individually. FIs should show real interest in understanding each particular situation and be open to providing adequate support accordingly.

In any event, additional provisions must be made every year to manage those cyclical external shocks. FIs should have a long-term vision for the agricultural sector, which will in turn have a positive impact on farmers, and further build goodwill and loyalty among the community.

SUMMARY CASE STUDY

The case study below illustrates one institution's methods for rolling out agricultural loans to a sector of the population it was already serving. This example briefly shows how the institution progressed through the product development process and how it adapted its current processes and operations to better meet the needs of its customers. This FI used innovative channels to significantly increase its business and customer base. It trained staff in a specialized unit attached to its lending department and tweaked products that already existed in its portfolio.

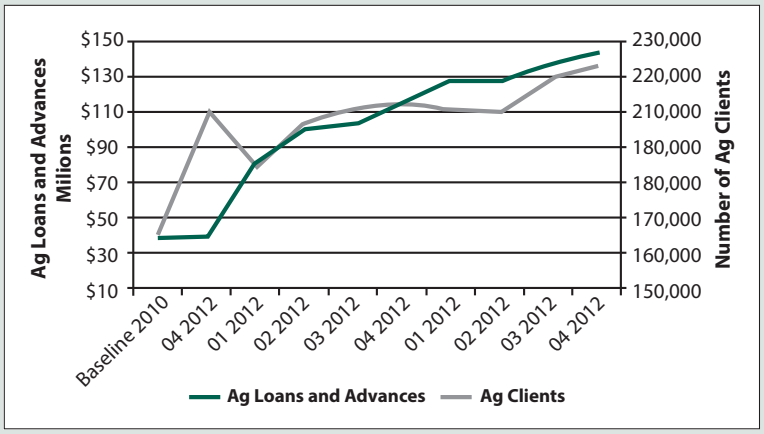
Phase 5 Featured Practical Example: Introduction of agricultural lending at a Cambodian FI.

Cambodian Financial Institution Develops Agricultural Lending[21]

A financial institution partnered with the World Bank's Agriculture Finance Support Facility to develop agricultural lending skills, design new loan products to respond to farmers with larger financing needs, and enhance service delivery to reach remote rural populations.

The FI established an agricultural lending unit at the beginning of the project within its credit department. It was faced with the challenge of finding quality loan staff that understood agriculture. The FI decided to fill key positions in the unit with internally recruited personnel specialized in product development and lending, who were subsequently trained in agriculture. The institution also decided to use existing lending staff, many of whom had already been lending to agricultural clients, but lacked agricultural expertise. To address this, the FI appointed two permanent trainers within the unit to train and coach lending staff at the branch level during the product pilot stage on how to lend to agricultural clients. Another eight trainers coached staff during the rollout stage. Also, an agricultural expert was recruited to provide sector expertise and manage the FI's relationship with agricultural value chain partners. The new unit directed and managed the expansion of agricultural lending, taking responsibility for product design, staff training, and development and implementation of agricultural lending guidelines, policies, and procedures.

Figure 14 – Growth of the FI's Agricultural Lending Portfolio 2010-14



Previously, the FI had traditionally focused on providing microloans to farmers. However, these microfinance loans had not been sufficient to meet the needs of farmers because of their small value, inflexible repayment schedule, and relatively higher interest rates. During the project, the FI developed a new cash flow-based loan product that was designed to meet the growing demand for larger loans among farmers not served by other financial institutions in Cambodia. With the launch of the new product, the average agricultural loan was approximately $6,000, compared to the average microloan of $1,300. The new loan provides flexible repayment terms in line with farmers' seasonal cash inflows. Interest on the new loan product is on average 0.10 percent lower than microloans. The product was piloted gradually in 14 branches in various

[21] *Cambodia: Project Results and Lessons. World Bank Group. February 2015.*

parts of Cambodia and the nationwide rollout is now taking place. Loans are disbursed by specialized credit officers trained on the new cash flow-based lending methodology. As of October 2014, the new loans amounted to $11.6 million *(equivalent to 4 percent of the FI's total loan portfolio)*.

As in similar markets, Cambodian FIs have a limited presence in rural areas since the low population density does not justify the cost of running a branch network. Hence, the FI needed to find a cost-effective means of reaching rural clients. To achieve this, the FI took advantage of Cambodia's high mobile phone penetration to launch a pilot mobile banking service with mobile tellers—the FI's field office employees who visit rural clients to facilitate financial transactions. Currently, such transactions are limited to deposits, withdrawals, new savings accounts, and account balance confirmation. However, the bank plans to include other services, including loan applications. The transactions are completed using 3G-equipped smartphones. Clients receive an SMS confirming completion of the transaction.

CHALLENGES AND LESSONS LEARNED

Developing new products and services that better meet client needs results in increased business, but also requires additional capacity to manage growth effectively. In the case study presented above, the FI started to serve a new market of farmers with larger financing needs. Given the high demand for its new product during the pilot phase, the FI implemented appropriate measures to ensure its staff was able to take on new clients effectively. Measures included continuous staff training in agricultural lending methodologies and operational improvements to effectively manage increased cash volumes. To enable more rigorous and appropriate credit risk assessment of larger agricultural loans, the FI developed a detailed risk assessment methodology and trained its lending staff on how to use this when appraising loan applications. Also, coaching provided to the lending staff enhanced the staff's ability to serve larger clients with more complex requirements by building up their relationship management skills. The FI also tested the use of both an agent distribution network and mobile tellers as cost-effective means to expand and scale up services to agricultural clients.

Best Practices and Success Factors for New Entrants

IFC conducted a recent study on financial institutions introducing agricultural lending in Latin America. The lessons that resulted from this study can be valuable when planning the roll out. As discussed before, introducing agricultural lending in a financial institution requires careful planning and preparation, as well as adaptation of systems and resources. It goes beyond just introducing a new product. It also requires high-level management commitment, setting realistic targets, and being ready to adjust terms and practices. The factors listed below are required to successfully introduce agricultural lending:

- **Knowledge of the Client:** While important for any lending operation, it is particularly critical when entering the agricultural lending market.

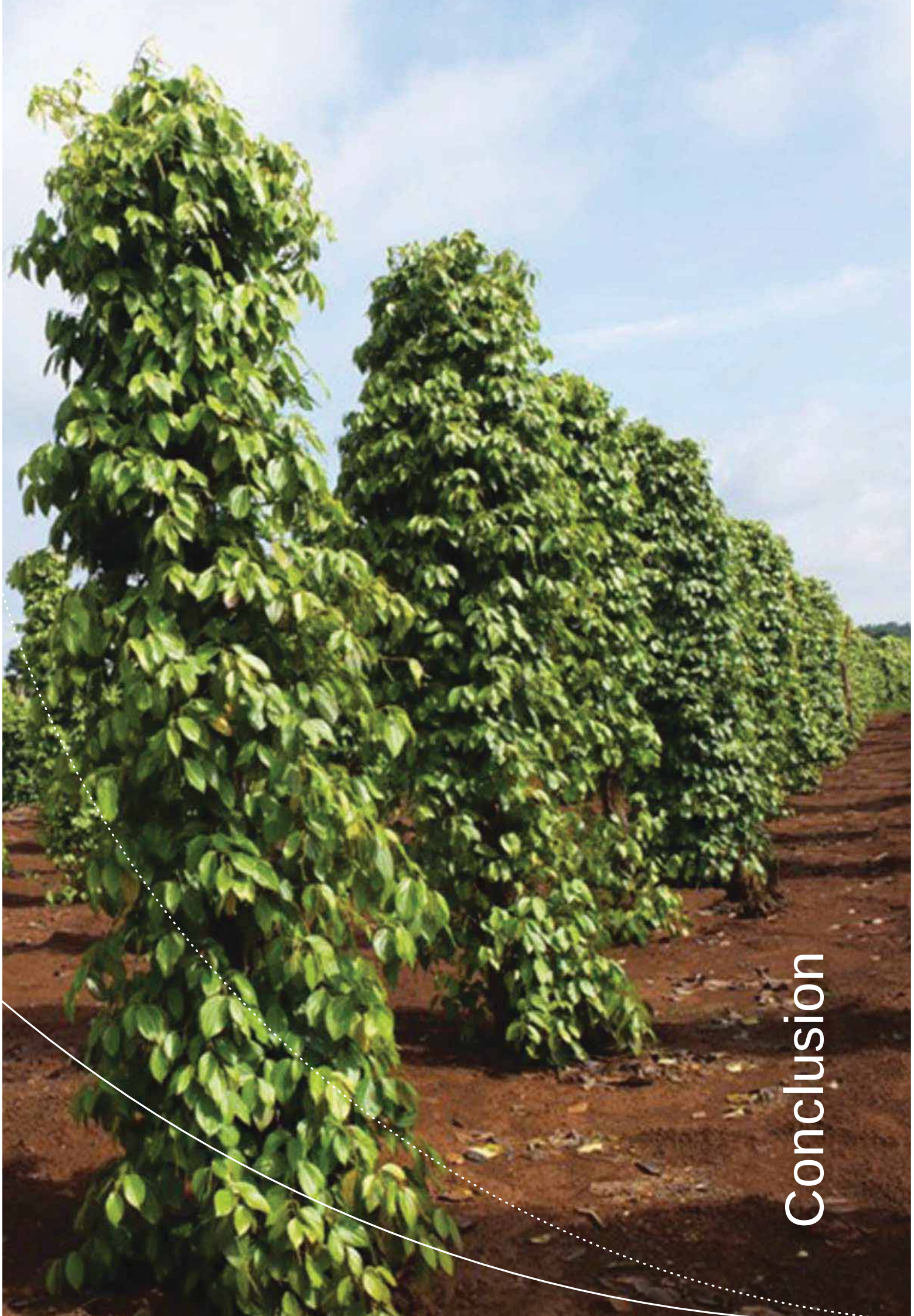
- **Flexible Products:** Agricultural lending is not one size fits all. Loan tenor, disbursement, and payment terms need to be adaptable to the diverse farmer profiles.
- **Cash-Flow Analysis of the Household Production Unit:** Analyzing the household production unit allows to match payment terms to cash flows. It also provides a more accurate analysis of payment capacities and true risks of lending to farmers.
- **Diversified Risk Management Tactics:** Agricultural lending risks are diverse and need to be mitigated in a variety of ways. Close, field-based client monitoring, portfolio diversification, conservative cash flow analysis, and credit bureaus and credit scoring are all tools an FI can use in risk management. Also, the FI's collateral requirements should be commensurate with loan sizes and other risk factors, such as client repayment history, crop diversification, and non-agricultural sources of revenue.
- **Specialized Loan Officers:** Hiring loan officers with a background in agriculture is considered critical. Introducing additional, specialized staff positions to support portfolio quality may also be necessary.
- **Design Incentive Systems to Promote Agricultural Lending:** Establishing distinct targets for agricultural and commercial portfolios, and/or adjusting the agricultural targets to seasonal variations, may help incentivize agricultural lending.
- **Automation of Data Capture and Credit Analysis:** Prudent agricultural lending requires collection and analysis of a significant amount of client, production, and price data. Automation can reduce errors, increase efficiency, support faster portfolio growth, and improve loan application assessment.
- **Customization of Marketing Materials to Reflect the Target Market:** Incorporating images of the target clientele can help overcome the mistrust that farmers often have of financial institutions and their presumption that FIs are not interested in serving them.
- **High-Level Buy-In:** Successful lending to the agricultural sector requires products, approaches, and systems that are distinct from those for microcredit. It requires different mindsets and investments in new tools and systems. In short, it requires a strong institutional commitment and support by senior level management.
- **A Strong Customer Service Orientation:** FIs must provide rapid loan processing and disbursement, personal attention to clients, customized products, terms and services that match client needs, and non-financial services to compete effectively with subsidized credit from agricultural development banks and differentiate offerings among themselves.
- **Explore Opportunities to Introduce or Expand Value Chain Finance:** Value chain finance could be used to serve the *"missing middle"* farmers – commercial farmers in existing value chains – and reach larger groups of farmers more efficiently.
- **Explore Lower Cost Delivery Channels:** Agent and ATM networks, mobile phone banking, and debit cards can all be used to reduce costs of lending to rural and agricultural clients, while making it easier for clients to access financial services.
- **Consider Introducing or Expanding Availability of Longer - Term Financing for Asset Acquisition:** To meet farmers' investment needs, FIs may wish to adjust their maximum loan terms and lending methodologies, and use of value chain finance and other mechanisms to reduce the risks of long-term finance.

- **Evaluate Opportunities for Cross-Selling:** A focus on the broader financial needs of agricultural clients could help reduce client vulnerability and contribute to the economic advancement of low-income clients, while improving profitability at the individual client level.

CHECKLIST

Before you begin the final rollout of agricultural lending, make sure you have accomplished the following:

- Have you created a detailed expansion strategy and rollout plan, including a detailed timeline, assigned responsibilities, and budget?
- Have you created a promotions and marketing strategy?
- Have you agreed and documented where agricultural lending will be rolled out and in what order?
- Has staff been trained to carry out the rollout and have new loan officers been trained?
- Have standardized processes been drawn up for all branches adopting agricultural lending?
- Have you established a means to monitor and evaluate your rollout?



Conclusion

Conclusion

Introducing agricultural lending can be a complicated process. But if the institution puts in the time necessary to adjust processes, research target markets, train staff, and monitor the pilot and institutional rollout, both the FI and the clients can benefit greatly from the results. In summary, here are some key points to remember as you introduce agricultural lending at your institution:

- Before you begin the new product development process, you should investigate several important overarching aspects: the macro-economic and regulatory environments, institutional financial stability, senior management buy-in, and client demand for the product.
- You must understand your target client to design products that effectively meet their needs.
- You must create a sound project team to introduce agricultural lending.
- You should design and implement a strong lending methodology that captures seasonal cash flows, ensures that data collected is consistent with regional benchmarks, helps the FI understand the farmer's risks, and suggests loan decisions according to an objective standard.
- You should seek external help for phases where your institution lacks the required capabilities.
- Your agricultural lending team and your senior management must plan carefully for the introduction of agricultural lending.
- You should introduce agricultural lending gradually and build strategic alliances with other players in rural areas *(agribusinesses, technology transfer institutions, insurance companies, and government agencies)* to manage and mitigate agricultural risks.
- You should conduct at least one successful pilot before you roll out agricultural lending across your whole institution.
- You should monitor and evaluate agricultural lending on an ongoing basis and deal with problems as they arise.

Following these guidelines should help you introduce agricultural lending successfully, generate profit for your institution, motivate your staff, and satisfy your clients.

Appendix A – Additional Risks

The table below discusses some additional risks and examples of challenges that FIs could examine when exploring investments in the agricultural sector.

Table 14 – Agricultural Risks and Mitigation Strategies

Risk	Mitigation
Inventory Risk: Inventory risks include both overproduction and underproduction. If a farmer overproduces during a certain harvest period - perhaps in response to rising prices or as a result of speculation that the product will be in greater demand - he or she must have space to store the product for sale at a future date or find other markets to sell the product. Under-producing as a result of poor planning or poor growing conditions could negatively impact sustainability of business relationships and every aspect of the farmer's life, including his or her ability to repay a loan.	To mitigate this risk, FIs could require that producers formalize their sales relationships in contracts and use those as collateral for financing. Another approach could be to use a system similar to that described above for mitigating climate and natural resource risks - FIs could require producers to buy a package of services that includes insurance and technical assistance. These services could help cover any losses; should a producer be unable to repay the loan.
Cash Risk: Perhaps the most basic risk, which this guide will explain in more detail later, is the lack of liquidity most farmers face during the growing season. Most agricultural products do not produce stable cash flows like other commercial enterprises or services, so farmers are sometimes unable to meet monthly loan repayment requirements that are typically demanded by FIs. As a result, farmers are unable to take advantage of traditional financial products, even if there is an FI physically present in the community.	Focusing on mitigating cash risks can be a very important area for FIs entering the agricultural finance space. Handling these risks can be largely managed by the FIs themselves. This repayment risk can be lessened by investing in the developing or adapting new financial products to the unique needs of the agricultural sector. For instance, tying repayment to cash flow patterns (for example, repayment at harvest times) can make accessing finance much easier for rural clients and can considerably reduce credit risks for the FI.
Regulatory Risk: Given the pressure on governments to ensure adequate agricultural production and food security, the regulatory environment could pose challenges to FIs evaluating investments in the sector. Agricultural value chains frequently face risks from government regulations and programs. For instance, unfavorable government subsidies could distort market dynamics and disincentivize private sector investment. Or excessive taxes and customs formalities could make exporting too cumbersome.	When it comes to government regulations, FIs can do little if the government enacts policies that adversely affect investments in agriculture. One of the best ways to overcome this challenge is to seek out a diverse range of investments in different crops and products at all levels of the value chain. As is the case with any portfolio of investments, as long as the risk is spread out over a number of different value chains, the impacts of regulation changes will be minimized.

Appendix B – Hybrid and Structured Financing Models[23]

PRODUCER ORGANIZATION FINANCING

The small size and dispersed location of small farmers that dominate the production base of certain commodities make it difficult and costly for banks to lend directly to small farmers. Many times, producer organizations are established to aggregate the needs of farmer members and enable efficient supply of a range of functions that may include input supply, advice on good farm practices, transport, marketing and sales, post-harvest processing, and access to finance. When strong, well-managed producer cooperatives or associations exist, banks can lend to or through these producer groups, or the organizations can help aggregate the credit requirements of farmer members.

There are two variations on this model: the first *(Model 1)* is also known as a wholesale model, based on a bank lending indirectly to smallholders through the aggregator organization. In this case, the entire group is the borrower, and therefore group members guarantee each other. The second *(Model 2)* is also known as the agent model, in which the group's organization may administer the loans or a portion of the loans, but individual group members are also directly obligated as borrowers.

The benefits of both approaches are savings on costs of creditworthiness assessment and loan administration. Success factors include strength of management, length of history, and commercial orientation of the cooperative through which the bank will lend.

However, many such producer organizations are poorly managed. It is important to assess the management skills, financial capacity, and historical performance of such organizations both to effectively utilize the finance and to administer and manage individual loans to farmer members through the organization. The following are key criteria to determine whether a producer organization or cooperative will make a strong partner for an FI.

- Strong, established market links and the capacity to sustain them.
- Track record of assuring needed quality and production levels.
- Demonstrated ability to add value through input supply, technical services, post-harvest packaging, transport, and/ or financing links.
- Management capabilities to continue to put together and expand operations.
- Solid legal structure enabling the aggregator to support loans.
- Solid finance and accounting systems and results to make the aggregator a reliable partner and if required, conduit for lending.
- Work with a substantial number of small farmers, normally at least a hundred and often thousands, to justify FI's intention to establish cost-effective partnerships.

Weaker producer organizations may not be appropriate for Model 1 but could be used in Model 2 to help identify progressive farmer borrowers. They can be strengthened to provide some complementary services, but may not be viable as conduits for financing or other services. Additionally, the security of the model can be enhanced by cash collateral

[23] *This section borrows heavily from IFC's "Guide for Financing Agriculture Value Chains." P. Varangis, H.A. Miller, D. Chalila, H. Dellien and D. Shepherd.*

requirements at the organization level to provide some form of group guarantee, instead of relying on traditional collateral or claims on harvest proceeds at the individual farmer level.

Producer organizations can fill many different responsibilities, and whether to use Model 1 or Model 2 depends on the structure and role of the organization.

INPUT SUPPLIER FINANCING

Most commercial banks have limited branch networks outside major urban centers and few branches in rural areas. Banks can pursue agricultural finance via branchless banking arrangements with small retailers and other companies *(including telecoms)* that have rural distribution networks. Input supply companies and other agro-dealer networks *(such as those for equipment or irrigation)* are particularly suitable for agricultural finance, as these companies often have strong knowledge of the good farmers in the community. They have the capacity to screen borrowers and serve as conduits for bank loans, particularly in the financing of inputs or equipment.

In this model, banks may also lend directly to local agricultural input dealers but leave the providingsion of credit to individual farmers completely in the hands of the agro-dealers themselves *(using agro-dealers as in the wholesale model described previously)*.

Some agro-dealers are part of a network established by input supply companies, associations, or other initiatives providing technical assistance, which are playing proactive roles in combining finance with other services. In these cases, the bank can tap into the combination of inputs and advice to provide finance to enable farmers to increase productivity and earnings.

In most cases, these agro-dealer arrangements do not involve buy-back arrangements with farmers and thus do not address access to markets. When an input supplier links with a buyer and a financial institution, such models then move into the territory of more structured value chain finance due to the high degree of collaboration necessary.

Banks should look for the following qualities when identifying potential input supply company partners:

- A strong track record of providing a range of value added inputs to small and medium-sized farmers, normally combining seeds, fertilizer, and plant protection products.
- Strong relationships of trust and respect with local farmers, based on solid value add and integrity of the dealer and, if relevant, the brand of the network.
- Strong knowledge of technical aspects of farming in key commodity groups, ideally graduates with agronomy training to help screen agro-loans and participate in disbursements and collections.
- Profitable operations in which agricultural finance can contribute incrementally to the profitability of the dealer through fees and increased input sales.
- Ideally, value proposition that includes technical and information services to farmers, enabling the farmer to receive inputs, technical support and finance from the dealer.
- Adequate in-house capacity to handle the screening of agro-loans in the season prior to planting/growing, when most agricultural loans need to be made.
- Location in an area where the financial institution intends to concentrate agricultural finance operations.

STRUCTURED VALUE CHAIN FINANCING

Structured value chain finance *(VCF)* models require the most collaboration with corporate agribusinesses, as banks rely on some form of

buyer contracts *(written or verbal)* to help secure its loans in these models. From the bank's perspective, having a strong buyer in the chain in itself provides comfort.This helps to reduce or manage the risks of limited market access and price volatility, and thus reduce default risks, especially if the farmer has an off-take agreement with a trusted counterparty.

Structured VCF models can be divided into tight and loose VCF models, with *"tightness"* determined by the magnitude of side-selling risks. The risk of side-selling is the biggest challenge for any actor that provides inputs, input finance, or working capital to farmers in a value chain with expectations to generate repayment via sale proceeds from these farmers.

Loose value chains are typical of crops that are more easily marketable and, therefore, attract third-party buyers seeking to purchase crops directly from farmers in the value chain. While farmers may have contracts with value chain buyers, they can be tempted to *"side-sell"* to these third party buyers. Therefore, buyers are reluctant to provide any form of guarantee or support to the bank for loose VCF models.

Tight value chains are integrated chains in which farmers face only one de facto buyer for certain types of crops, such as highly specialized export crops, highly perishable crops, and crops with constriction points in the chain, usually transport costs or specialized processing *(such as sugar or cotton)*. In these tight VCs, side-selling is very costly or even impossible. As a result, buyers are often willing to engage more robustly with the bank in activities to facilitate VCF and may even provide a guarantee or other forms of risk-sharing.

As may be expected, there is also a spectrum between strictly loose and extremely tight value chains. Because of the differences between loose and tight, as well as the range between the two ends of this spectrum, approaches needs to be customized according to the situation.

Corporate-farmer relationships, crop characteristics, and involvement of other intermediaries in the value chain must be analyzed before developing a specific structured value chain approach. The following guidance can help determine whether a value chain falls into loose or tight VCF structures.

Corporate-farmer relationships in tight value chain finance are most successful:

- When the agribusiness has built long-standing relationships with a large number of small farmers due to a natural monopoly. For example, in sugar cane, the weight and perishability of the commodity means that sugar cane producers are dependent on the sugar mill in the area.
- When the differentiated characteristics of the crop being procured by the agribusiness means that the company pays higher prices than others in the market. For example, a dried onion exporter seeks hard white onions that get a higher price than other onions in the market.
- When the agribusiness has developed stable, mutually advantageous procurement and technical service arrangements with a substantial number of small farmers.

Crop characteristics matter, as high value added commodities are most promising for tight VCF relationships:

- In products such as fruits and vegetables, dairy, coffee, and cotton, the agribusiness can justify the needed expenditures to provide or organize input supply, technical services, quality control, and procurement with a substantial number of small farmers.
- If the company has the market channels to assure farmers differential prices for quality or differentiated products, these relationships tend to be stable and provide a strong platform for value chain financing.

- Perishable products—fruits, vegetables, dairy--which require cold storage or rapid arrival to final markets to retain value, offer strong prospects for tight value chain financing.

Intermediary and aggregator involvement in the value chain can affect the degree of tightness:

- The involvement of traditional traders and middleman can undermine the establishment of tight value chains between agribusinesses and small farmers.
- These traders often charge high effective rates for advances, take high margins, and do not help farmers improve productivity and earnings.
- At the same time, many small farmers have generations of dependence on these traditional traders, who often are embedded in the community, willing to provide advances and emergency loans, and provide stable procurement arrangements.
- When an agribusiness enters such situations, it must be able to offer superior value through higher prices for quality outputs, advice on good practice, access to inputs, and access to lower-cost financing.

These structured models represent the highest degree of collaboration and coordination and require considerable time to structure and implement. The actual details of the roles and responsibilities of each party must be carefully agreed to and implemented. However, in addition to the high cost of coordination, the potential outreach here is limited to only those farmers that are connected to the buyers *(and input suppliers).*

In some cases, such structures are the only feasible way to reach a large number of farmers. Structures, in which distribution and repayment are managed by the agribusiness buyer and/or input supplier, demand maximum transparency to ensure that farmers understand the financial products that they are receiving *(in terms of loan amount, interest rate, and other terms).*

Appendix C – Financial and Governmental Policies Affecting Agricultural Lending

The table below lists some key financial policy areas FIs should evaluate when considering launching a new product for the agricultural sector.

Table 15 – Financial Policies and Their Impacts on FIs

Financial Policy	Policies that Enhance Agricultural Finance	Policies that Undermine Agricultural Finance
Interest Rates	Freedom for FIs to set reasonable interest rates. They need to charge interest rates that allow them to cover their costs and enable profit.	Interest rate ceilings set at levels that do not enable profitable agricultural loans to farmers.
Subsidies	Temporary subsidies to FIs to cover a portion of initial costs of establishing strong agricultural finance operations, with participating FIs free to charge rates that would be viable without external subsidies.	Interest rate subsidies that are cumbersome, carry an expectation of low repayments, and undermine the building up of rigorous, commercial agricultural finance. Temporary interest rate subsidies often lead to elimination of lending once subsidies end.
Guarantees	Guarantees used as inducement for financial institutions to develop agricultural finance. FIs take the majority of risk (or first loan losses) to provide incentives to build a rigorous agricultural finance operation and develop other risk-mitigating policies/instruments.	Guarantees to cover more than 50 percent of first loan losses. This policy does not incentivize FIs to conduct rigorous due diligence at the outset, It often creates lax, poor performing agricultural finance portfolios.
Quotas	Required lending to farmers with no interest rate ceilings or a reasonable ceiling. This can induce FIs to create systems and capabilities for profitable agricultural finance.	Lending requirements with interest rate ceilings. These ceilings often induce FIs to avoid or find other means to meet the requirements.
Collateral Requirements	Flexibility in acceptable collateral for rural/agricultural borrowers that reflects local land use rights and includes moveable collateral (commodity inventory, equipment, contract rights). The application of capital adequacy requirements at the portfolio level (instead of the individual loan level) can help.	Strict collateral requirements and minimum coverage levels imposed by central banks with significant reliance on land with titled property ownership severely limit loans to farmers lacking clear land titles.

Financial Policy	Policies that Enhance Agricultural Finance	Policies that Undermine Agricultural Finance
Agricultural Development Banks	Agricultural development banks with market-oriented policies, appropriate interest rates, diversified portfolios and a management structure free of political pressure. Alternative roles in second-tier financial linkages and/or support to all FIs.	Agricultural development banks providing subsidized loans. This undermines the building up of services by other commercial institutions.
Social Security	Separate financial sector and governmental social sector policies. Policies should separate support to rural/agricultural households from political influence.	Credit waivers, especially those influenced by political interests. These waivers severely weaken the credit culture and strongly discourage FIs from lending to the agriculture sector.

The table below outlines some key governmental policies affecting agricultural lending for which background research should be collected, along with notes to assess the policies from a qualitative perspective.

Table 16 – Government Policies and Their Impacts on FIs

Government Policy	Policies that Enhance Agricultural Finance	Policies that Undermine Agricultural Finance
Infrastructure	Government provision and financing of roads and other infrastructure, if done effectively, can facilitate the flow of value chains, particularly in relatively remote areas.	Ineffective government provision or financing of infrastructure can hinder the development of commercial value chains.
Price Controls	Governments should support transparent market pricing of commodities with investment into availability of price information for key crops. Governments should procure key commodities at market prices only when necessary to stockpile for food security objectives.	Government controls on commodity prices, normally geared to protect the end consumer, often undermine earnings to farmers and agribusinesses. When governments enter into direct procurement of commodities from farmers, with minimum prices established adminis-tratively, they often undermine the ability of companies to establish direct relationships with small farmers.
Insurance	Government agricultural insurance can be useful in reducing costs of building weather stations and historical data, provided that any government-supported insurance is:	Government agricultural insurance that is poorly managed and exclusive can undermine the willingness and ability of private insurance providers to develop and offer services. Poorly

Government Policy	Policies that Enhance Agricultural Finance	Policies that Undermine Agricultural Finance
	• Reasonably priced • Simple to administer by FIs • Quick to honor claims • Solvent • Non-exclusive, database also available to private insurance suppliers.	designed government insurance may also lead to increased moral hazard.
Subsidies	Guaranteeing a floor price for staple crops can ensure that a country has a reliable supply of important agricultural goods.	Subsidies are expensive to implement and keep prices artificially low, thereby stifling international competition.
Tariffs	Taxes on imports or exports can protect domestic industries and cultivate demand for domestic goods.	Import and export taxes can artificially impact prices and decrease international competition.

Appendix D – Institutional Diagnostic[24]

This institutional diagnostic example will help the project team assess the feasibility of introducing agricultural lending in the FI. It should be used to summarize results of the industry and competitor assessment, market demand, and organizational readiness.

The project team should fill in the institutional diagnostic as it goes through the relevant steps in Phases 1 and 2, adding additional information as the project proceeds. This template should be used only as a guide. It is best to include as much information as possible, so the project team may need to include additional sections within this diagnostic.

INSTITUTIONAL READINESS

Financial Analysis

	Year 1	Year 2	Percentage Change	Projections
Portfolio Quality				
Repayment Rate as of 30 Days				
Portfolio at Risk (PAR) as of 30 Days				
Arrears Rate				
Write-Off Ratio				
Risk Coverage Ratio				
Efficiency				
Cost Per Borrower				
Personnel Productivity				
Operating Expense Ratio				
Case Load				
Average Portfolio Per Loan Officer				
Profitability				
Operational Self-Sufficiency				
Adjusted Return on Assets				
Adjusted Return on Equity				
Yield				
Financial Management				
Funding Expense Ratio				
Cost of Funds Ratio and Cost of Debt				
Debt to Equity Ratio				
Equity and Assets				

[24] *Adapted from H Dellien, O. Leland. "Introducing Individual Lending." Women's World Banking. 2006.*

Operational Effectiveness

	Year 1	Year 2	Percentage Change
Repayment Rate as of 30 Days			
PAR as of 30 Days			
Operating Expense Ratio			
Operating Self-Sufficiency			
Loan Loss Reserve			
Number of Loans Per Loan Officer			
Average Portfolio Per Loan Officer			
Ratio of Number of Loans to Total Staff			
Number of Active Loans			
Cost per Loan			
Average Loan Size			
Client Retention Rate			

LENDING METHODOLOGIES

Processes

Provide a brief description of the type of lending methodologies used by the institution, identifying principles and the specific approach:

1. First contact
2. Client visit
3. Loan appraisal
4. Loan approval
5. Disbursement
6. Arrears monitoring.

Questions:

- Has the process been standardized?
- Map out the loan process. How does this process compare to other best practices from institutions in your country or region?
- What are the specific areas for improvement?

PRODUCTS AND SERVICES

List the different types of products and services in a matrix similar to the one below. Consider graphing the growth of each product over time and try to understand the rationale for each product offering *(that is, does it target a specific market? Or does it serve a different need?)*

Characteristic	Product 1	Product 2	Product 3	Product 4
Outstanding Portfolio				
Number of Loans Outstanding				
Loan size (Average, Minimum, Maximum)				
Loan Term (Average, Minimum, Maximum)				
Interest Rate Nominal, Monthly				
Fees				
Compulsory Savings				
Other Fees				
Type of Guarantees				
Other Requisites				

BRANCH STRUCTURE AND ACTIVITIES

Map out the organizational structure of the branch.

Branch Manager: What are the main functions and responsibilities of the branch manager? How does the branch manager enforce lending policies? What are the key reports the branch manager uses to track loan officer performances? What are the key reports the branch manager uses to report performance to headquarters? What are the key reports to track arrears?

Loan Officer: What are the main functions and responsibilities of the loan officers? What are the key reports used and generated by the loan officers? How do they monitor performances? How do they track disbursements and arrears?

MANAGEMENT INFORMATION SYSTEMS (MIS)

How efficiently are the loan tracking systems working? Are the reports generated from the system adequate to monitor performance? Does each layer within the organization have the necessary information to manage their areas? What is the minimum amount of information needed to manage in an optimal manner? Does the system track pre-disbursement and post-disbursement processes? Who is responsible for inputting data in the MIS?

ORGANIZATIONAL EFFECTIVENESS

	Year 1	Year 2	Percentage Change
Staff Retention Rate			
Ratio of Direct to Indirect Staff			
Incentives as a Percent of Salary			
Quit Rate			
Termination Rate			
Layoff Rate			

INTERNAL AUDIT

- Are policies and procedures for key functional activities such as credit, accounting, and finance in place?
- Are these policies clearly communicated and understood?
- Are these policies updated and if yes, how often?
- What is the process used to update policies *(how is feedback solicited and documented?)*
- What controls does the organization have in place to prevent fraud? Has fraud occurred before? (If yes, when and after how long before was it detected?

HUMAN RESOURCES

(Recruitment, Training, and Incentives):

- Commitment—to what extent do HR policies enhance the commitment of your people?
- Competence—to what extent do HRM policies attract, keep and/or develop people with skills and knowledge needed by the organization?
- Cost-effectiveness—how cost-effective is a given policy in terms of wages, salaries and productivity?
- Congruence—what level of congruence do HR policies generate or sustain between management and employees?

Human Resources Audit: The main purpose of the audit is to evaluate the effectiveness of the organization's human resource function. It should show both the department's strengths and weaknesses and provide management with a clear picture of the department's role in the organization and the following:

- Understand turnover: quit rate, termination, layoff, retention, retirement, length of service, absence, overtime, position vacancy, training and development and grievance rate.
- Understand personnel policies: salary and benefits package, supervisory practices, job design, and retirement plan components.

INDUSTRY AND COMPETITOR ANALYSIS

Marketplace Analysis

Questions	Year 1	Year 2	Percent Change
Market share vs. Total market			
Market share vs. Top 5 FIs			
Ang. Annual Loan Payment Over Per Capita GDP			

Legal and Regulatory Environment Analysis

- What laws govern the introduction of agricultural lending?
- Are there interest rate ceilings on lending products in this sector?
- Are there limitations on the amount or types of collateral that can be used when lending to rural populations?
- Does the government subsidize this sector or have any guaranteed purchasing systems in place?

Competitive Analysis

Summarize below the results of your regional analysis and your research on other banks and FIs offering agricultural lending products.

.....

.....

.....

.....

.....

.....

MARKET DEMAND AND SEGMENTATION ANALYSIS

Market Demand

Summarize below the results of your research with target clients, including key learnings and specific recommendations.

.....

.....

.....

.....

MARKET DEMAND AND SEGMENTATION ANALYSIS

Market Demand

Summarize below the results of your research with target clients, including key learnings and specific recommendations.

.....

.....

.....

.....

Appendix E – Sample Producer Segmentation Interview Form

Objective of the meeting

To better understand the characteristics, production strategies and challenges faced by producers in the region. The objective of the meeting today is to discuss farmer financing needs related to production, post-harvest, and marketing. This survey will enable the FI to design adequate financial products for farmers based on their cash flows and risk profiles.

1. Production characteristics of the region:

a. What are the main crops produced in this region?

Crops	Area Produced/Heads	Volume Produced

b. Which months of the year are high season and low season and which (crops/livestock) are produced during those months

Crops	High Season (Months)	Low Season (Months)

2. Demographics

a. Farmer's Name: .....

b. Gender: .....Male .....Female

c. Region, Province, and Village: .....

d. Type of Economic Unit: .....Family .....Partnership .....Cooperative .....Other

e. Land: .....Owned Owner/Land Title:.....Rented

f. Total Area Farmed: .....Own land: .....Rented land: ..... *(include measurement, for example Hectares)*

g. Irrigation access: .....Yes Type:.....No

h. Number of Paid Employees *(Temporary)*: .....Employees *(Permanent)*: .....

i. Family working *(Temporary)*: .....Family working *(Permanent)*:.....

j. How many farmers are in this village/district/region?

.....

k. How do you define small, medium, and large farmers in the region

Small Farmer: .....

.....

Medium Farmer: .....

.....

Large Farmer: .....

.....

l. Distribution of type of farmer by size in this region

Type of farmers	Estimate numbers of farmers in the region	% of total farmers
Small		
Medium		
Large		
Total # Farmers		

3. What are the main production challenges producers face in this region?

.....

.....

4. What are the financing needs to improve your production?

.....

.....

5. What are the yields in this region for the main crops

Crops	Minimum Yield	Average Yield	Maximum Yield

6. Assets

Description	Units	Price per Unit	Sub-Total ($)
Agricultural Inventory (Seeds, Fertilizers, Crop Stored)			
Livestock (Animals)			
Fixed Assets (Farm, Machinery, Infrastructure)			
TOTAL ASSETS			

7. Farm Income

a. Crops Seasonal Income/Agricultural Production Volume in the Last 12 Months (Cash-Flow Analysis)

Crop	HA	Production/ Units	Family Consumption	Production Sold	Price/ Unit	Income	Dates Sold	Marketing Channel
Total								

b. Livestock Income Last 12 Months

Type of Animal	Units Sold	Price/Unit	Income	Date Sold	Marketing Channel
Total					

c. Other Monthly Income: Activities in the Last 12 Months (Specify The Calendar Months)

Activity	Units	Unit Price	Total Income	Frequency (Daily, Weekly, Monthly)	Net Income / Monthly
TOTAL INCOME:					

8. Production Costs

a. Crop Production Costs/Crops During the Year

Type of Inputs	Units	Unit Cost	Total Cost	Date
Seedlings/Plants				
Soil Preparation				
Planting				
Fertilizer				
Pest Control				
Labor				
Planting				
Weeding/Pruning				
Harvesting				
Transportation/Package				
Others				
Total				

b. Animal Production Cost/Monthly Expenses

Type of Inputs	Units	Unit Costs	Total Costs	Monthly Costs/ or Date if Seasonal
Animals / DOC				
Feeding				
Minerals				
Health Control				
Employees				
Electricity				
Water				
Others				
Total				

c. Family Expenses

Family Expenses	Monthly	Seasonal
Food		
Education		
Transport		
Electricity/Gas		
Water		
Mobile Phone		
Clothing		
Health		
Recreation/Family events		
Help Family Members		
Festivals		
Others		
TOTAL		

9. Access To Financial Services

a. Which are the best known financial institutions in the region?

Name of Institution	What They Are Known For:

b. Previous experience with other banks, FI, or others / last 5 years

Name of Lender	Amount Requested	Use of the Loan	Loan Term	Interest Rate	Guarantees

c. Satisfaction level with financial services/most recent loan:

Name of the Institution .....

What did you like the most from this institution? .....

Overall are you satisfied with the services received? .....Yes .....No

What other financial services do you use? .....Savings .....Currency Exchange ..... Checking Acct ..... Remittances .....Payment Utility Services .....Other: .....

10. Financial Demand

a. What is your vision for the next 3-5 years regarding business expansion?

.....

.....

b. Financial Needs

Use of Loan	Amount Requested	Loan Term	Installment Frequency *(Monthly, Bi-Monthly, Quarterly, Semester, Yearly)*	Installment Amounts	Ideal Dates for Payments

c. Available Sources of Guarantee

.....Mortgage .....House Furniture .....Guarantors .....Business Assets

.....Vehicles .....Animals .....Jewelry .....Other:.....

d. Please mentioned the best way to market the products in your region?

Marketing Options	Yes/No
Meeting with Farmer's Associations	
Direct Visits to the Farm	
Meeting with Community Leaders	
Meeting with Local Collectors	
Radio/Program/Time	
Mobile Phone/SMS	
TV/Program/Time	
Written Press	

THANKS FOR YOUR TIME

Appendix F – Competitive Position Analysis

When investigating your competitions' agricultural lending products, take note of the "Seven Ps":

Product	Competitor 1	Competitor 2	Competitor 3
Product			
Minimum Amount			
Maximum Amount			
Repayment Period			
Repayment Flexibility			
Collateral Requirements			
Grace Period			
Specific Qualification Criteria			
Other Requirements			
Price			
Interest Rate			
Loan Appraisal/Processing Fees			
Penalty Charges			
Other Fees			
Promotion			
Marketing/Information Dissemination			
Advertising			
Place			
Branch Location			
Slogan/Branding			
Corporate Image			
Product Image			
Staff Quality			
People			
Personnel Involved in Process			
Process			
Loan Application Documentation/Requirements			
Loan Processing Time			
Physical Environment			
Branch Condition			
Layout			

Appendix G – Farmer Segmentation Analysis

Cassava Farmers in Cambodia

Characteristics of the Communes Interviewed

	Pailin	Trang	O'Rumdoul
Main Crops	Cassava, Corn, Soybean	Cassava, Corn, Soybean, and Rice	Cassava, Corn, Soybean
HA Produced	**800 HA**	**5,000 HA**	**350 HA**
HA of Cassava	85%	75%	85%
# of Farmers	**300**	**1,865**	**100**

Types of Farmers

	Pailin	Trang	O'Rumdoul
# of Farmers	300	1,865	100
Farmer type			
Small: < 3 HA	20%	5%	60%
Medium: 4 – 7 HA	40%	70%	35%
Large: > 7 HA	40%	25%	5%

Main Challenges of Production

Pailin	Trang	O'Rumdoul
Access to water	Access to water	Access to water, when is dry it becomes dryer compared to other regions
Access to credit		Access to credit
Low technical level of farmers	Poor quality of seedlings used by farmers	Low technical level
Deep water is high in calcium	Use of tractor is expensive	

Comparative Advantages of the Region

Pailin	Trang	O'Rumdoul
Good quality of soils	Fertile soil, less use of fertilizers	Highland, less pest problems
Good yields for cassava	Close to Thai border, strong demand and good prices	
Cassava is pest resistant		

Cassava Farmers

General Information	LARGE	MEDIUM	SMALL
Farm size	> 7 HA	4 – 7 HA	< 3 HA
Village	Kamreng	Soun Pou Leck	Kandal
Area Owned	13 HA	5 HA	3 HA
Area Rented	10 Ha	0 HA	0 HA
Temporary Employees	40	12	8
Full-Time Employees	3	0	0

Assets/Cassava Producers – Figures ($)

	LARGE		MEDIUM		SMALL	
2. ASSETS						
CURRENT ASSETS						
Agricultural Inventory						
Working Capital		7,000			10 kt	313
Livestock						
Cows						
Chicken						
Sub Total Current Assets		7,000		-		313
FIXED ASSETS						
Spraying machines	4	400			1	94

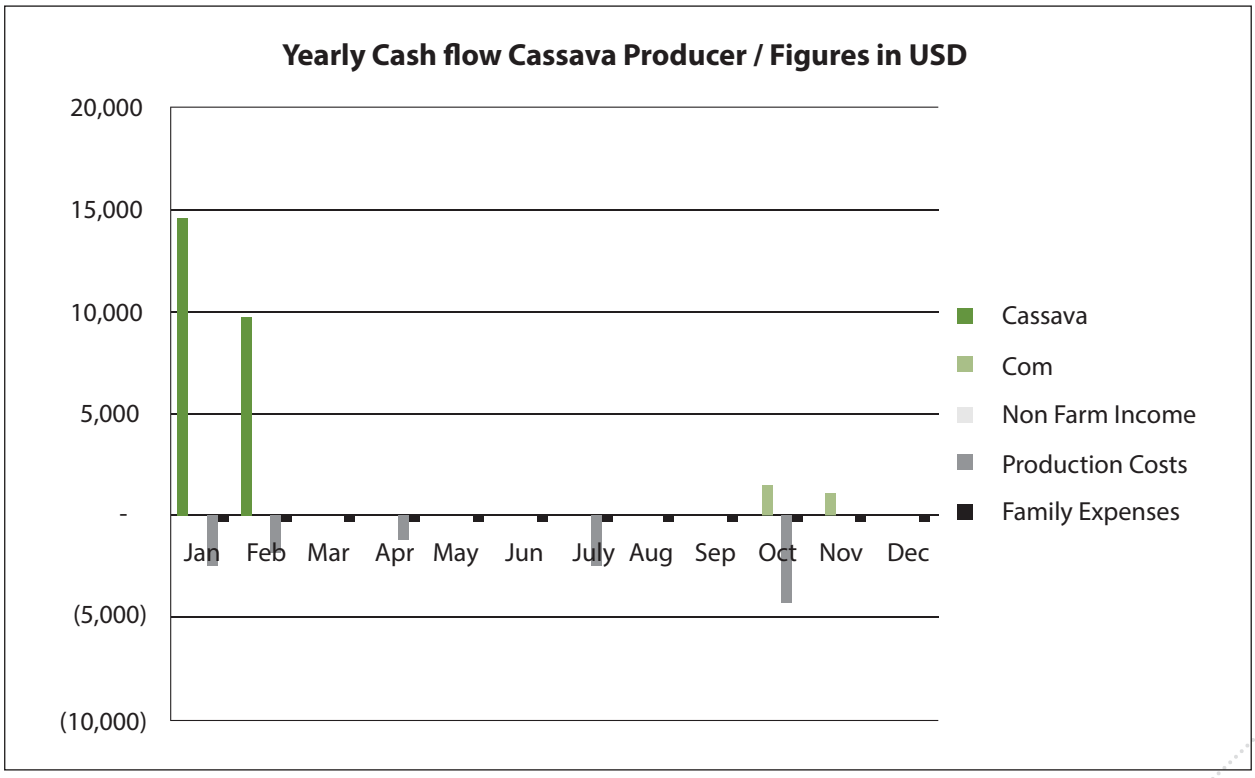
	LARGE		MEDIUM		SMALL	
Tractor	1	12,000				
Car			1	6,500		
Motorbike	2	3,200	1	2,100	1	1,200
Trucks	1	20,000	1	15,625		
Farm land	10 Ha	120,000	5 Ha	35,266	3 Ha	16,875
House	1	35,000	1	22,500	1	2,500
Residential plot					1600	3,125
SubTotal Fixed Assets		**190,600**		**81,991**		**23,794**
TOTAL ASSETS		**197,600**		**81,991**		**24,106**
LIABILITIES		**3,000**		**2,500**		**313**
EQUITY		**194,600**		**23,794**		

Last 12 Months/Cassava Farm and Family Income (USD)

	LARGE		MEDIUM		SMALL	
3. Farm Income						
3.1. Crops / selling date						
Cassava Dec-Jan	20 Ha	24,375	3.5 ha	6,250	3 Ha	5,625
Corn / Jul- Dec		2,571	1.5 ha	2,188		
Soybean						
3.2 Livestock / Selling date						
cow/carabao rental						
Total Farm Income		**26,946**		**8,438**		**5,625**
	LARGE		**MEDIUM**		**SMALL**	
4. Production Costs						
Total Production Costs		**12,126**		**2,663**		**2,188**

	LARGE		MEDIUM		SMALL	
NET INCOME FARM		**14,820**		**5,775**		**3,438**
Family Members		3		4		5
Other Yearly Income						
Salaries / spouses						
Motobike Taxi						1,519
Trucking						
Other Yearly Income		**0**		**0**		**1,519**
Net Farm Income + Other Income		**14,820**		**5,775**		**4,957**
% Farm Income / Total family Income		100%		100%		69%
Family Expenses		3,600		1,320		1,500
Disposable Income / Year		**11,220**		**4,455**		**3,457**

Yearly Cash-Flows/Cassava Producer



Final Risk Analysis - Large Cassava Producer

Risk Profile: Med

- Has low crop diversification and seasonal incomes
- Good agricultural practices and good yields
- Region has good climate and cassava is pest resistant, reducing risks
- Strong demand from Thailand and good prices
- Demand also to process dry cassava.

Financial Demand Cassava Farmers in the Three Communes

Variables	Large > 7 HA	Medium: 4-7 HA	Small: < 3 HA
Loan Amount	15,000	5,000	1,500
Use	Build rooms for rent	Diversify to Longan 1 HA	Working Capital
Loan Term	3 years	3 years	1 years
Payment Plan	1 payment / year	Yearly payment	Yearly payment
Collateral	Farm	Farm	Farm
Percentage of Farmers by Size	40%	40%	20%
Number of Farmers	591	1,461	213
Target	30% = 177 Farmers	30% = 438 Farmers	30% = 64 Farmers
Average Loan Amount	$15,000	$5,000	$1,500
Portfolio	$2.65 million	$2.19 million	$ 96,000

Appendix H – Loan Appraisal Forms and Expert Score Variables

The detailed forms contained in this section comprise IFC's agricultural lending tool and methodology discussed in Phase 3 of this guide.

LOAN APPLICATION FORM

Date

Application No.
Membership No.

A. APPLICANT INFORMATION

1. First Name
2. Last Name
3. ID Number
4. Gender
5. Birthdate
6. Age
7. Experience in the business
8. Time operating current farm
9. Civil Status
10. House ownership
11. Number of family members
12. No.Dependents
13. Education level
14. Phone No

Home Phone | Handphone

15. Home Address
16. Location (village, sub-district, district)
17. Type of Farm/Business
18. Farm / Business Address
19. List main sources of income

Activities	Land Area / No of Livestock

B. COSIGNER INFORMATION

1. Name
2. Address if different
3. ID No.
4. Birthdate
5. Age - Year
6. Pekerjaan
7. Nama Usaha
8. Alamat Usaha
9. No. Handphone
10. Net Income /month
11. Position
12. Years in the Co Year

C. GUARANTOR INFORMATION

1. Name
2. Address if different
3. ID No.
4. Birthdate
5. Age - Year
6. Activity
7. Name of Employer
8. Work Address
9. No. Handphone
10. Net monthly income
11. Position
12. Years in the Co. Year

Date
Time

Credit Officer

Applicant Signature

FARM INCOME AND PRODUCTION COSTS

Farm Income (Last Year)

A. Last Year Yields and Income (Crops produced and harvest in the last 12 months)

Crops	Cultivated Area	Estimated Yields			Units	Weighted Total Yield	Production / Ha	Date
		Last	Min	Max				

Projected Farm Income

B. Projected Farm Income next Cycle (During the loan duration)

Crops	Cultivated Area	Units	Total Prod	Family consumption	% Losses	Total Production Sold	Selling Price			Weighted Total Yield	Total Income	Date
							Last	Min	Max			
										TOTAL INCOME		

C. Income / Stored Crops (during the duration of the loan)

Crops	Volume Sold	Units	Selling Price			Weighted Total Yield	Total Income	Date
			Last	Min	Max			
						TOTAL INCOME		

TOTAL INCOME/CYCLE		

DISTRIBUTION CHANNEL

Main Buyers	Volume Sold / Cycle	Income / Cycle	% of sales on Credit	Duration of Credit
TOTAL				

Main Risks of the Farm

How you manage and mitigate those risks

CROP PRODUCTION COSTS

AGRI INPUTS	Crop 1			Crop 2			Crop 3			Date
	Cultivated Area			Cultivated Area			Cultivated Area			
	Units	Rp / Unit	Total Costs	Unit	Rp / Unit	Total Costs	Units	Rp / Unit	Total Costs	
Seed / Seedlings										
Fertilizers										
Pesticides										
Other Inputs/Material										
Sub Total										
TOTAL AGRI INPUTS										

LABOR COSTS

LABORS	Crop 1			Crop 2			Crop 3			Date
	Cultivated Area			Cultivated Area			Cultivated Area			
	Units	Rp / Unit	Total Costs	Unit	Rp / Unit	Total Costs	Units	Rp / Unit	Total Costs	
Land Preparation										
Crops Mantainance										
Harvest/Post Harvest										
Sub Total										
TOTAL LABOR COSTS										

SERVICES

SERVICES	Crop 1			Crop 2			Crop 3			Date
	Cultivated Area			Cultivated Area			Cultivated Area			
	Units	Rp / Unit	Total Costs	Unit	Rp / Unit	Total Costs	Units	Rp / Unit	Total Costs	
Sub Total										
TOTAL SERVICES COSTS										

OPERATIONS

OPERATIONAL ACTIVITIES	Crop 1			Crop 2			Crop 3			Date
	Cultivated Area			Cultivated Area			Cultivated Area			
	Units	Rp / Unit	Total Costs	Unit	Rp / Unit	Total Costs	Units	Rp / Unit	Total Costs	
Sub Total										
TOTAL OPERATIONS COSTS										

TOTAL PRODUCTION COSTS

ACTIVITIES	Crop 1		Crop 2		Crop 3	
	Cultivated Area		Cultivated Area		Cultivated Area	
Production Costs / Crop						
TOTAL PRODUCTION COSTS						

TECHNICAL LEVEL FARMER

Component	Farmer Data (Survey)
Years of Experience (years)	
Any crops being produced for 1st time?	
Use of Certified Seed	
Apply Phosphate Fertilizar	
Amount of Nitrogen applied	
When do you apply pesticides	
Crops Conditions	

SUMMARY FARM AND FAMILY INCOME AND PRODUCTION COSTS

Total Farm Income during the duration of the loan	Total
Farm Income	
Income / Stored Crops	
Others Farm Income	
TOTAL FARM INCOME	

Production Costs	Total
Inputs	
Labors	
Services	
Operations	
TOTAL PRODUCTION COSTS	

NET FARM INCOME	

Other Income and Household Income / Year	Total
Salaries & Business	
Family Expenses	
Current Debt Payment	
DISPOSABLE INCOME FARM & FAMILY	

Diversification of Household Income	

OTHER INCOME AND FARM EXPENSES

FAMILY EXPENSES

Members living in the House	5	Number of Member that work	2	
Family expenses	Monthly (Rp)	Seasonal (Rp)	Date / Month	
Food				
Rent				
Education				
Electricity, gas, water				
Transport				
Health and recreation				
Clothing				
Mobile phone/Internet/cigarret				
Family events / Social				
Savings / Debt payment				Months
Total / Month		Family Expenses per Year		

Other Off farm Family Income				
Other Stable Income	Conservative Estimate			Details Other Income
Type of Business				
Inventory				
Gross Income				
Margin				
Net Off Farm Income				

TOTAL FAMILY INCOME / Monthly (Salary + business)		Months
Total FAMILY INCOME / Yearly (Salary + business)		

Calculations / Observations						
Amount Loan requested by Client		Interest / Year			Loan Term (month)	
Use of the Loan					Installment Freq/Year	
Provide details of loan use					Install Amount	
If the production fails, how could you pay back the loan?						

FARMERS CHARACTER ASSESSMENT	Farmer Data
Cooperation in providing information	
Accuracy of information provided	
Does the producer keeps detailed records of performance	
Farm General Apperance	
Personal References	

Income Diversification Ratio of the Family

Income Diversification Ratio of the Family	Farmer Data
Family Income Diversification	
Cash flow Frequency	
Installment frequency	

INVESTMENTS, FIXED ASSETS, AND LAND

A. BALANCE SHEET AND ASSETS

CURRENT ASSETS

Institution		Amount
Cash		
Savings		
Checking Accounts		
Others		
	TOTAL ASSETS	

ACCOUNT RECEIVABLES

Main Clients	Acc. Receivables Term	Age Acc. Receivables	Balance
		days	
		days	
		days	
		TOTAL ACCOUNT RECEIVABLES	

B. FARM INVENTORIES

Agriculture	Quantity / Unit	Unit Cost	Value
Crop Stored /Livestock Prod	Quantity / Unit	Unit Cost	Value
Other Inventory (Seeds, pesticides, Fertilizers, etc)	Quantity / Unit	Unit Cost	Value
TOTAL AGRICULTURE INVENTORY			
Livestock	Quantity / Unit	Unit Cost	Value
TOTAL LIVESTOCK INVENTORY			

TOTAL INVENTORIES	

C. LOAN ASSESSMENT: FARM

FARM FIXED ASSETS

Farm Fixed Assets (Equipment, tools and cars)

Description	Quantity / Unit	Unit Cost	Value
		TOTAL FIXED ASSETS FARM	

FARM LAND	SITE 1	SITE 2	SITE 3	SITE 4
Crop				
Development stage				
Area Cultivated (Ha)				
Land Ownership				
Rent (Rp /year)				
Value of Owned Land/ Ha				
Payment Date				
SITE CONDITION				
% of area Irrigated				
Type of Soil				
Topography slope (%)				
Climate (# of dry season)		Month		
Value of Land (Rp)				
Total Cultivated Area (Ha)				
Owned Land		Value of Owned Land		
Rent Land		Total Rent Paid / Year		

OTHER FIXED ASSEST (Off Farm or secondary business activities)

Description	Units	Unit Cost	Value
		Amount	

LIABILITIES AND SUMMARY ASSESSMENT

CROPS LOAN ASSESSMENT

LIABILITIES

FARM LIABILITIES

Institution	Original Amount	Use	Monthly Installment	Frequency	Balance	Term	Contact person	Phone #
< 12 Month								
> 12 Month								
TOTAL LIABILITIES/MONTH								
SEASONAL INSTALLMENTS						Date		

TOTAL HOUSEHOLD LIABILITIES

Institution	Original Amount	Use	Monthly Installment	Frequency	Balance	Term	Contact person	Phone #
TOTAL HOUSEHOLD LIABILITIES						Month		
TOTAL MONTHLY DEBT PAYMENT					# Payments in the Loan Cycle			
TOTAL DEBT PAYMENTS DURATION OF LOAN								

IDENTIFY THE COLLATERALS USED IN THE LOANS LISTED ABOVE

Institution	Original Amount	Collateral Used

SUMMARY BALANCE SHEET FARM

Financial Information Farm

Date

1	Cash & Account Receivable	12	Current Liability
2	Cash	13	Short term credit < 12 months
3	Banks	14	
4	Account Receivables	15	
5	Inventory	16	
6	Agriculture	17	
7	Livestock	18	Long Term Liabilities > 12 Months
		19	
8	Fixed Assets	20	
9	Farm Fixed Assets	21	
10	Farm Land	22	Total Liabilities
		23	Equity
11	Total Assets	24	Total Liabilities + Equity

Informasi Keuangan Rumah Tangga

25	Total Assets Family	27	Family Equity
26	Total Liabilities Family	28	Equity Family + Farm

FINANCIAL RATIOS

VARIABLE	FARMER
Liquidity Ratio	
Total Current farm Assets / Total Current Farm Liabilities	
Cumulative repayment capacity ratio	
(Disposible income + Loan) / (Loan + Interest expenses)	
Debt ratio including the loan	
Total Debt including Loan / Total Assets Farm	
Operational Efficiency	
Operating Expenses / Revenue Ratio	
Loan to Value (LtV)	
Loan Amount / Value of Security	

FINANCIAL RATIOS AND SCORE

CREDIT COMMITTEE SUMMARY SHEET

Client's Name
Activity

Years of Exp
Loan Amount Requested

FARM INCOME
Farm Income
Stored Crops
Other Farm Income
Total Income

Production Costs
Inputs
Labors
Services & Operations
Total Production Costs

NET FARM INCOME
Salary and Business
Family Expenses
Current Debt Payment
Disposable Income

BALANCE SHEET FARM
Cash & Account Receivables
Inventory - Agriculture
Inventory - Livestock

Current Assets
Land and Building
TOTAL ASSETS FARM
Short Term Liabilities
Long Term Liabilities
TOTAL LIABILITIES
TOTAL EQUITY FARM
Other Family Assets
Other Family Liabilities
Family Equity

Credit Committee Resolution
Amount Approved
Loan Term
Installment Frequency
Installment Amount
Securities

Financial Ratios	Level Ideal	Farmer	Result
Liquidity Ratio			
Cumulative repayment capacity ratio			
Debt ratio including the loan			
Operational Efficiency			
Loan to Value Ratio (LTV)			

Farmer Risk Profile	Score	Weight	Classification	Result
Farm Conditions				
Technical Level Farmer				
Crop Diversification Ratio				
Farm's Financial Strengh				
Farmer's Character				
Farmers's Socio Economic				
Total Score				
		Max		

FARMER RISK PROFILE	PERCENTAGE	RECOMMENDATION
Very Low Risk		
Low Risk		
Medium Risk		
High Risk		
TOTAL SCORE		APPROVE

Disp Income / year		Cycles/year
Disp Income / Cycle		

		Int rate	interest / year	Rekomendasi
Max Loan Proposed				
Load Proposed by LO				

Use of the Loan
If the production fails, how could you pay back the loan?

Securities	
Collateral Value	
Type of collateral	

Branch Manager

Credit Officer

SUMMARY FARM DATA

FARM INCOME AND PRODUCTION COSTS

Crop 1			Crop 2			Crops 3		
Cultivated Area	ha		Cultivated Area	ha		Cultivated Area	ha	
ITEM	Total production costs	Production Costs/ Ha	ITEM	Total production costs	Production Costs/ Ha	ITEM	Total production costs	Production Costs/ Ha
Fertilizers			Fertilizers			Fertilizers		
Seed / Seedlings			Seed / Seedlings			Seed / Seedlings		
Pesticides			Pesticides			Pesticides		
Other Inputs/Material			Other Inputs/Material			Other Inputs/Material		
Inputs Costs			Inputs Costs			Inputs Costs		
Land Preparation			Land Preparation			Land Preparation		
Crops Mantainance			Crops Mantainance			Crops Mantainance		
Harvest			Harvest			Harvest		
Labors Costs			Labors Costs			Labors Costs		
Soil preparation			Soil preparation			Soil preparation		
Other Services			Other Services			Other Services		
Services Costs			Services Costs			Services Costs		
Rental Land			Rental Land			Rental Land		
Operational Costs			Operational Costs			Operational Costs		
Total Production Sold								
Price per unit								
Total Income			Total Income			Total Income		
Total Costs			Total Costs			Total Costs		
Net Farm Income			Net Farm Income			Net Farm Income		

OTHER HOUSEHOLD EXPENSES

Expenses	Monthly	Yearly
Family expenses		
Current Debt Payment		
Total		

OTHER HOUSEHOLD INCOME

Income	Monthly	Yearly

SCORE CARD

	I. Farm Conditions	Data Farmer	Score	Max
1	Total Area Cultivated			
2	Land Owenrship			
3	% of area Irrigated			
4	Type of Soil			
5	Topography slope (%)			
6	Climate (# of dry season)			
	II. Technical Level Farmer			
1	Years of Experience (years)			
2	Any crops being produced for 1st time?			
3	Use of Certified Seed			
4	Apply Phosphate Fertilizar			
5	Amount of N applied			
6	When do you apply pesticides			
7	Crops Conditions			
	III. Crop Diversification Ratio			
1	Family Income Diversification Ratio			
2	Cash Flows Frequency Ratio			
3	Installment Frequency			
	IV. Farm's Financial Strengh			
1	Liquidity Ratio			
2	Cumulative repayment capacity ratio			
3	Debt ratio including the loan			
4	Operational Efficiency			
5	Loan to value (LtV)			
	V. Farmers' Character			
1	Cooperation in providing information			
2	Accuracy of information provided			
3	Does the producers keeps detailed records of performar			
4	Farm General Appereance			
5	Personal References			
	VI. Farmers's Socio Economic			
1	Gender			
2	Age			
3	Civil Status			
4	# of Household Members			
5	# of Members contribute Financially			
6	Education level			
7	Ownership of House			

		Score	Weight	Classification	Result
1	Farm Conditions				
2	Technical Level Farmer				
3	Crop Diversification Ratio				
4	Farm's Financial Strengh				
5	Farmers' Character				
6	Farmers's Socio Economic				

Risk Level farmer	
Loan Amount Reccomended	

SCORE CRITERIA

No	Item	Criteria	Score
1. Sheet Clients & Data			
1	Gender	Male	*1*
		Female	*4*
2	Age	< 24 Years	*1*
		< 32 Years	*2*
		< 40 Years	*3*
		< 50 Years	*4*
3	Civil Status	Single	*1*
		Married	*4*
		Divorced	*2*
		Widow	*2*
4	Number of family members	< 2 Persons	*4*
		<= 5 Persons	*5*
		<= 6 Persons	*3*
		<= 8 Persons	*1*
5	Jumlah Anggota Keluarga yang bekerja	1 Person	*1*
		2 Person	*2*
		3 Person	*3*
		4 Person	*4*
6	Education level	None	*1*
		Primary	*1*
		Secondary	*2*
		High School/Technical	*3*
		University/College	*4*
7	House Ownership	Owned	*4*
		Rent	*1*
8	Tujuan Pembiayaan	Working Capital	
		Investment	
2_Sheet Inv, Fix Ass and Land			
1	Cultivated Land	< 1 Ha	*1*
		1 - 3 Ha	*2*
		3 - 10 Ha	*3*
		> 10 Ha	*4*

No	Item	Criteria	Score
2	Land Ownership	Owned	*4*
		Rent	*1*
3	% of area Irrigated	No irrigation	*1*
		< 50%	*2*
		50 - 75%	*3*
		> 75%	*4*
4	Type of Soil	Stony/Sandy	*1*
		Clay hard	*2*
		Clay soft	*3*
		Loam	*4*
5	Topography slope (%)	Flat	*4*
		Slope < 10%	*3*
		Slope < 20%	*2*
		Slope > 20%	*1*
6	Climate (# of dry season)	Dry season < 2 months	*4*
		Dry season 3 - 4 months	*2*
		Dry season > 4 months	*1*
3. Sheet Crop Income & Costs			
1	Years of Experience (years)	< 1 year	*1*
		1 - 3 years	*2*
		3 - 6 years	*3*
		> 6 years	*4*
2	Any crops being produced for 1st time?	Yes	*1*
		None	*4*
3	Use of Certified Seed	Never	*1*
		Sometimes	*2*
		Always	*4*
4	Apply Phosphate Fertilizar	Never	*1*
		Sometimes	*2*
		Always	*4*
5	Amount of N applied	Minimum	*1*
		Adequate for average yield	*2*
		Adequate for good yield	*4*
6	When do you apply pesticides	Never	*1*
		Only if there's infestation	*2*
		Prevention	*4*

No	Item	Criteria	Score
7	Crops Conditions	Poor	*1*
		Moderate	*2*
		Good	*4*
		Good	*3*
		Excellent	*4*
4. Liab & Summary			
1	Liquidity Ratio	< 1	*1*
		1 - 1,5	*3*
		> 1,5	*4*
2	Repayment capacity ratio	< 1,3	*1*
		1,3 - 1,5	*3*
		> 1,5	*4*
3	Debt Ratio including the loan	> 60%	*1*
		30 - 60%	*3*
		< 30%	*4*
4	Operational Efficiency	> 60%	*1*
		55-60%	*3*
		< 55%	*4*
5	Loan to value	> 70%	*1*
		50-70%	*3*
		< 50%	*4*
5. Liab & Summary			
1	Liquidity Ratio	< 1	*1*
		1 - 1,5	*3*
		> 1,5	*4*
2	Repayment capacity ratio	< 1,3	*1*
		1,3 - 1,5	*3*
		> 1,5	*4*
3	Debt Ratio including the loan	> 60%	*1*
		30 - 60%	*3*
		< 30%	*4*
4	Operational Efficiency	> 60%	*1*
		55-60%	*3*
		< 55%	*4*
5	Loan to value	> 70%	*1*
		50-70%	*3*
		< 50%	*4*

Appendix I – Sample Performance Reports

NUMBER OF LOANS DISBURSED

Branch	Name of Loan Officer	Number of Loans Disbursed		Actual vs. Target	Percentage from Total Disbursement	Number of Loans Disbursed per Loan Officer	
		Target	*Actual*			*Target*	*Actual*

LOAN AMOUNTS DISBURSED

Branch	Name of Loan Officer	Amounts of Loans Disbursed		Actual vs. Target	Percentage from Total Disbursement	Average Loan Size	Amounts of Loans Disbursed per Loan Officer	
		Target	*Actual*				*Target*	*Actual*

GROWTH PERCENTAGE

Branch	Name of Loan Officer	Loans Disbursed Month 1		Loans Disbursed Month 2		Percent Change		Loans Disbursed per Loan Officer	
		Number	*$*	*Number*	*$*	*Number*	*$*	*Number*	*$*

PORTFOLIO OUTSTANDING

Branch	Name of Loan Officer	Portfolio Outstanding		Percentage Difference	Number of Loans Disbursed per Loan Officer	
		Target	*Actual*		*Target*	*Actual*

OUTSTANDING PORTFOLIO IN ARREARS AND AT RISK

Name of Loan Officer	Principle Outstanding	1-15 Days		16-30 Days		61-90 Days		91-180 Days		180+ Days		Total Arrears	Arrears %
		No.	*$*	*No.*	*$*	*No.*	*$*	*No.*	*$*	*No.*	*$*		

LOAN OFFICER PERFORMANCE IN CREDIT COMMITTEE (CC)

Branch	Loan Officer	No. of Loans Submitted to CC	No. of Loans Approved	Total $ Requested for All Loans By		Total $ Approved by CC
				Client	Loan Officer	

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