



Value Chains and Their Significance for Addressing the Rural Finance Challenge

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Accelerated Microenterprise Advancement Project (AMAP) is a 4-year contracting facility that USAID/Washington and Missions can use to acquire technical services to design, implement, or evaluate microenterprise development, which is an important tool for economic growth and poverty alleviation.

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Abbreviations

ACDI/VOCA	Formerly Agricultural Cooperative Development International / Volunteers in Overseas Cooperative Assistance
AMAP	Accelerated Microenterprise Advancement Project
BDS	Business Development Services
CLUSA	The Cooperative League of the United States of America
EGAT	Economic Growth, Agriculture and Trade Bureau
GOM	Government of Mozambique
GWR	Grain Warehouse Receipts
IFAD	International Fund for Agricultural Development
IADB	InterAmerican Development Bank
KTDA	Kenya Tea Development Agency, Ltd
MFI	Micro-Finance Institution
NGO	Non-Governmental Organization
USAID	United States Agency for International Development
ZACA	Zambian Agricultural Commodity Agency, Ltd.

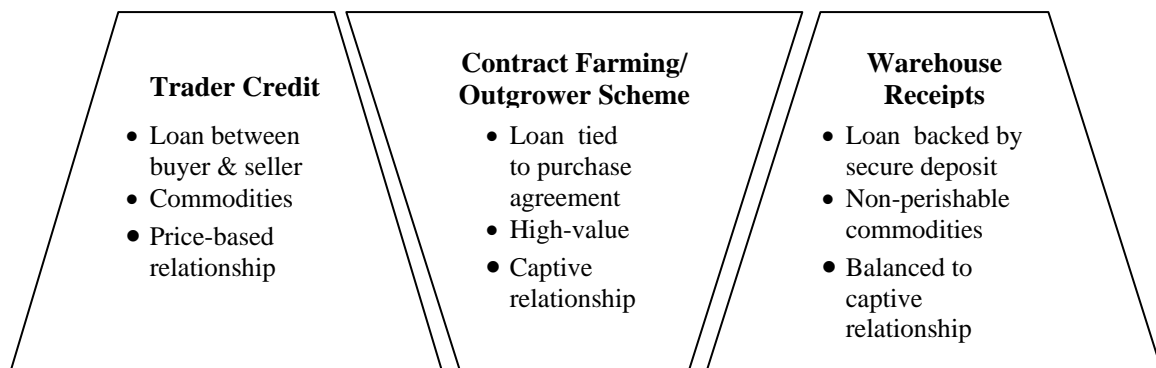
Executive Summary

The paper argues that one answer to the challenge of rural finance lies in our ability to complement a financial market orientation—one that focuses on financial institutions, the products they deliver, and the constraints and distortions they confront—with a product market orientation—one that focuses on rural enterprises, the value chains they participate in, the opportunities and constraints they face, and the most critical financial services they demand.

A value chain is a sequence of activities that a product passes through, with *value added in each stage*—from design, to the transforming of inputs, to the final market. These activities are carried out by a series of actors, who set rules and relate to each other in different ways, depending on the value chain. In chains dominated by the increasing concentration and clout of retailers, value is increasingly derived by product differentiation and innovation that reduces cost and enhances the importance of reliable supply. Specialty coffee would be such a value chain, and producers who operate in this chain tend to have a captive relationship with the retailers in exchange for their higher prices. Chains that move commodities, on the other hand, with numerous buyers and sellers, tend to have more casual and price-based relationships.

In pursuing the innovations needed to expand access to rural finance, it is important to build on existing relationships and services. The literature shows that a significant percentage of financial services reaching small farmers and rural residents occurs through the value chain. This paper explores three such products: **1) Trader Credit**; **2) Contract Farming/Outgrower Schemes**; and **3) Warehouse Receipts**.

Figure 1. *Characteristics of Three Value Chain Financial Products*



Trader Credit involves short-term or seasonal loans between buyers and sellers of inputs or products. It is typically provided in value chains related to commodities. Relationships between the buyers and sellers are often more temporary and more price-driven than in the case of *Contract Farming and Outgrower Schemes*. These loans are

tied to purchase agreements. Sellers are in a more formal or captive relationship with the buyer, who in turn often commits to providing additional services, such as technical assistance. This increased level of commitment is more appropriate for buyers and sellers of high-value, specialty products. *Warehouse Receipts*, issued to depositors of non-perishable commodities by safe and secure warehouses, allow financial institutions to use the deposited inventory for collateral. To the extent that the system incorporates transparent standards and grades, the sellers tend to be in a more collaborative than captive relationship with the warehouse.

These three products are promising. They all demonstrate cost-effective ways to screen potential clients while tapping new assets for securing loans. At the same time, these products help to increase yields and prices, lower costs and even change the way those products are sold. As Table 1 illustrates, each product offers different types of benefits, to varying degrees. Trader credit offers working capital to smallholders, allowing them to participate in promising value chains by expanding product sales both through better yields and more secure market channels. Contract farming and outgrower schemes allow producers to gain access to high-value markets, as well as to increase their productivity by offering them loans with embedded services, such as technical and marketing assistance. Warehouse Receipt Systems extend the sales season of grains while providing small farmers access to higher average prices, and the economies of scale that derive from upgrading the marketing process with consistent standards and grades.

Table 1: Benefits by Product

Note: Significant Benefits Presented in Italics

BENEFITS	Trader Credit	Contract Farming /Outgrower Scheme	Warehouse Receipts
Cost Effective Screening of willingness and ability to pay	Though personal relationships	Through contractual relationships	Secured product/ inspected warehouses
Expanded Collateral	Future product	Future product/contract	Secured product/ legal receipts
Appropriate Terms/Conditions	Timing tied to product transactions; in-cash and in-kind		Receipts enable longer storage; delayed sales
Increased Yields	Via increased Inputs	Via increased inputs; technical and marketing assistance	Reduced spoilage
Lower Costs	Bulk purchases of Inputs		Reduced sales cost
Higher Product Prices		Increased quality/ bulk sales of high-value products	Bulk sales; extended sale season
Standards and Efficient Sales		Through agreements	Sight un-seen transactions through standards and security
Market Access	Informal	Formal	Systematic
Technical Services	Sometimes	Usually	No

At the same time, each product faces a range of limitations. None of these products is conducive to long-term loans needed for investment capital. Value chain lenders bundle loans with other services, are more interested in profits from products than from loans, and tend to be less transparent in pricing and efficient in accounting than financial institutions. As Table 2 illustrates, trader credit is constrained in its ability to expand rapidly, and is most vulnerable to borrowers who sell their product to traders competing with those who lent them money. Contract farming and outgrower schemes have more of a built-in bias toward larger farmers due to their tendency to work with high-value crop. Warehouse receipts systems require significant changes to laws and regulations in order to clarify and protect the rights of all participants.

Table 2: Limits by Product
 Note: Significant Limits Presented in Italics

LIMITS	Trader Credit	Contract Farming /Outgrower Scheme	Warehouse Receipts
Larger Producer Bias	Preference for larger volume producers	Due to economies of scale required for many high-value crops	High cost ware-house approach favors larger producers
Expanded Outreach	Reliance on personal contacts; relationships takes time	Limited to high-value producers	-
Monopoly/Unfair Pricing	Traders have bargaining power over producers; checked by market information and trader competition.	Captive relationship, checked by need for reliable product	If warehouse not subject to standards and inspection
Side-Selling	Frequent, creating high default risk	Less options for side-selling; closer monitoring	No. Product already deposited.
Enabling Environment		Enforceable contracts	Significant legislative/regulatory changes needed

The benefits and limitations of value chain financing, as illustrated by these products, are the basis for this paper’s argument to develop and implement rural finance interventions with attention to value chains as well as financial markets. Drawing from cases presented in existing literature and cited in the description of the three products, the paper provides examples of specific objectives and interventions that can be considered in designing programs, improving the enabling environment, building the capacity of promising actors and institutions, and promoting a range of financial products and services. Table 3 summarizes the types of interventions and strategies that might be useful for missions in design and implementation stages, and cites relevant cases described in the paper.

Table 3: Implications for Program Design and Strategy

Program Element	Objective/ Relevant Cases	Examples of interventions
Design	Value Chain Analysis <i>Mozambique study</i>	☞ Mapping the actors and relationships ☞ Identifying upgrading opportunities ☞ Ranking interventions for cost-effectiveness
Enabling Environment	Improved Information	☞ Market Information Systems ☞ Credit Bureau development
	Expanded Collateral <i>Bulgaria Grain Law</i>	☞ Legal and regulatory changes on use of receipts and crops as collateral ☞ Contract laws and enforcement ☞ Collateral registry development
	Sound Government Policy <i>Cotton pricing in Ghana and Mozambique; Costa Rica debt forgiveness</i>	☞ Consistent and fair import policies ☞ Discourage monopolies and favoritism in licensing ☞ Avoid politicized debt forgiveness programs
Institutional Capacity Building	Strengthen actors able to deliver financial services to small rural enterprises and producers <i>Critecna, Peru; CARE Zimbabwe; ZACA, Zambia</i>	☞ Encourage/strengthen agribusiness agents, brokers & farmer organizations ☞ Promote/increase competition ☞ Pilot efforts that link value chain actors and financial institutions
Products and Services	Promote alternative products that expand rural access to financial services <i>Kenya Tea Development Agency; Ethiopia's Cooperative Union; Warehouse efforts in Bulgaria and Zambia</i>	☞ Integrate value chain financing into rural finance projects ☞ Promote standards that facilitate transparent and effective pricing strategies ☞ Pilot efforts, including DCA loans or guarantees to promising leasing products, investment loans, warehouse receipts systems

The paper concludes with a number of lessons that could prove useful to donors and practitioners interested in the relationship between value chains and rural finance:

- Financial institutions and donors that are interested in expanding rural financial services, but intimidated by the perceived risks, can identify opportunities and prioritize interventions through value chain analysis.
- Neither a value chain orientation nor a financial market orientation is sufficient for designing and prioritizing interventions to expand sustainable rural financial services.
- Value chain financing is useful in addressing working capital demands, but not investment capital.
- Actors who create linkages between small producers and downstream players are key to expanding the access of small rural enterprises to both markets and financial services.
- Captive governance structures within value chains are not inherently exploitative, as the relationships and embedded services they create can derive mutual benefit to chain leaders and captives alike.
- Competition and access to information are critical deterrents to exploitative relationships. Sustainable services and relationships depend on mechanisms that reinforce the mutual benefits to buyer and seller, lender and borrower.

Introduction

In June of 2003, recognizing the importance and challenges of expanding the provision of rural financial services, USAID sponsored an international conference, *Paving the Way Forward for Rural Finance*. A number of presenters, including Doug Pearce with a thoughtful plenary session on buyer and supplier credit (Pearce 2003), spoke of the challenges and promise of expanding rural financial services through value chain financing, in which “input suppliers, processing firms, warehouses and other commercial actors in the agricultural and rural sectors provide critical financial services to small and medium rural producers.” In the conference synthesis paper, “enhancing value chain financing” was identified as one of five strategic areas for expanding rural finance. (Carter and Waters, 2004)

Donors and practitioners are paying increasing attention to value chain financing. What is it? How does it work? What are some interesting and instructive examples? How would value chain financing relate to the important focus on financial market development and microfinance organizations? What are the promises, lessons and limitations? How can it be used in the design and implementation of programs?

In search of answers to these questions, the author conducted a review of literature on rural finance including case studies of current or past projects, research papers and analytical pieces on *three different value chain-based financial products*: 1) **trader credit**, 2) **contract farming or outgrower schemes**, and 3) **warehouse receipts**. The purpose of this review and subsequent paper was to assemble lessons identified in existing literature, and draw practical conclusions on the relevance of value chains for expanding rural finance, particularly to small scale producers.

This paper argues that one answer to the rural finance challenge lies in our ability to complement a financial market orientation with a product market one, and to design studies and interventions accordingly, paying attention to the role of financial services within value chains rather than solely within the context of financial markets.

In that spirit, this paper is divided into four sections, plus an appendix:

- A brief summary of the *challenges* involved in rural financial services;
- A definition of *value chain analysis* and consideration of its potential relevance to the challenges of rural finance;
- A description of the *three value chain based financial products*, illustrated with references to specific cases, as well as benefits and limitations of each product,
- *Conclusions* on the relevance of value chains for donors and practitioners in their work to expand rural finance, along with specific *implications for program design and implementation*, and
- A bibliography for readers interested in further exploring this theme, or specific cases and products.

Background and History

1. The Challenge of Rural Finance

Developing countries around the world have seen a reduction in rural credit over the last two decades, with the closing of many agricultural development banks. The decisions to close these institutions were well-founded where the banks:

- focused on subsidized, directed and politicized credit at the expense of other financial services demanded by the rural poor;
- discouraged sufficient mobilization of savings due to subsidized interest rates;
- directed loans to finance specified numbers of hectares of specified crops, influencing borrower decisions on what to grow;
- forgave debt for political reasons, undermining the development of a sound credit culture and blurring the distinction between grants and loans; and
- ran up enormous losses, straining national budgets.

Donor and government recognition of these failures resulted in a wave of development bank closures, and an appreciation of financial systems and the distorting effects of government and donor intervention. This awareness contributed to the considerable and rapid growth in microfinance institutions, and privatized commercial banks complying with the financial systems approach over the last fifteen to twenty years. Few of these however, have moved in to serve the rural market. This fact frustrates governments and donors seeking to increase the level of investment in rural development and economic opportunities for farm households, rural enterprises and value chains, clusters and industries in which they work. Growth for these actors often is limited by the scarcity of institutions offering loans for investment and working capital, savings products, and other financial services.

Conditions in rural areas help to explain the gap in rural financial services. Rural areas typically face *high transaction costs*. Compared to urban areas, clients are more dispersed, infrastructure is less developed, and branch networks are more expensive to maintain. Information to assess a borrower's ability and willingness to repay a loan is difficult and expensive to obtain. *Collateral* is more limited, often less documented, and more difficult to liquidate, increasing provisioning and foreclosure costs for financial institutions. Financial institutions that historically blurred the distinction between grants and loans have helped to create a credit culture in which rural residents may be less willing to repay their loans. Financing agriculture creates an additional set of costs and risks, from its seasonality and requirements for longer terms, to the fact that many borrowers will face the same production and price risks.

1.1 Three Gaps in Rural Financial Markets.

At the *Paving the Way Forward for Rural Finance* conference, Claudio Gonzalez-Vega (2003) described three gaps between the demand and supply of rural financial services.¹ These gaps are caused by:

- **Distortions**—policies, regulatory frameworks, governance structures, and subsidies that favor inefficient providers—which discourage efficient institutions from entering the market;
- **Costs** faced by efficient financial institutions to deliver rural financial services, that need to be lowered through investments in infrastructure and innovations in technology, products and processes for delivering those products; and
- **Unrealistic expectations**, based on assessments that are more political than economic in nature, that overestimate the real demand² for rural financial services. These unrealistic expectations often contribute to the distortions described above.

These gaps and challenges help to illustrate a financial systems perspective, one that focuses on the policy and regulatory environment and financial institutions as primary units of analysis. Given the complexity of financial systems, donors and project designers may grow frustrated with interventions that are slow in closing these gaps. Those who see the potential for the growth and expanded participation of small farmers and microenterprises in particular value chains find themselves asking how do we get the needed credit out there to tap potential growth and poverty alleviation opportunities: the banks are not willing, the MFIs remain urban focused, and must we wait until the enabling environment is ideal?

1.2. Success Factors and Innovation in Rural Finance

Despite the gaps, there are efficient financial institutions, entering into financial transactions that mutually benefit the provider and the customer. Their governance structures may differ, as well as their legal environments and product lines, but they tend to share the following characteristics. They possess a market orientation and commercial outlook, one committed to being profitable and with the capacity to risk capital in making basic business decisions. They have cost-effective screening methods to identify customers with the willingness and ability to cover transaction costs. These financial institutions integrate incentives for themselves and their customers into their products,

¹ Gonzalez-Vega identified three gaps: an *inefficiency gap* in which distortions make the potential supply for financial services greater than the current supply; an *insufficiency gap* in which real demand is greater than potential supply, a gap that could be closed through infrastructure and innovations in methodologies and technologies that reduce the cost and service providers to more quickly achieve economies of scale; and a *feasibility gap* in which expectations about portfolio levels are greater than the real demand for financial services.

² Real demand is defined as the ability and willingness of an individual to purchase a financial service at a price that covers all costs of delivering that service.

services and contracts—incentives such as competitive costs, adequate pricing, adequate security, terms that reflect the economic activities being financed, and effective controls to monitor and enforce contracts and manage risks.

There is a need to expand financial services to the rural sector. A respect for financial systems and markets, and the ability of financial institutions to operate efficiently within them is critical to this expansion. Fixing systems wholesale is a daunting task, and often requires more resources than are available to individual USAID missions. How can a mission, therefore, invest wisely in this expansion without creating further distortions and future failures? How can it encourage the expansion of those financial services that are needed to finance the economic opportunities it identifies in rural areas? How can it encourage needed innovations?

USAID's Rural Finance conference considered the role of innovation in the expansion of rural financial services. In another major theme paper "Innovative Products and Adaptations for Rural Finance", Juan Buchenau identified three critical objectives for innovation: reducing transaction and risk costs, creating longer term loan and savings products, and increasing the size of loans to rural customers. He also stressed that to be successful, financial products must not only be mindful of financial market realities, but also must be responsive to realities in the relevant product markets. They should be tailored to the cash flows of enterprises and rural households, and take advantage of links to traders and other actors in the product market, actors with existing relationships, constraints, and knowledge of each other.

Relying on a sound appreciation of financial markets, and building on the knowledge of and relationships with actors in relevant product markets, promising innovations have been evolutionary. "Innovations in lending should begin with low or limited risk through commitments of small amounts initially to larger amounts as experience develops" (Buchenau, 2003). Mark Wenner, in a study of promising rural finance innovations in Latin America, concluded that "innovations seem to work best when they are evolutionary in nature" where intermediaries build on experience and reputation in a related field and geographic area. (Wenner, 2003.) Similarly, Hollinger, in his research on methodologies of agricultural lending concluded that effective innovation requires a gradual approach that builds on the knowledge of local conditions, strong relationships with stakeholders and clients, and progressive product development (Hollinger, 2003)

Looking Beyond Financial Institutions: Value Chains

2.1. Build on What Exists

Historic experience shows that an exclusive focus on product market actors lent itself to subsidized and directed credit, market distortions, and inefficient and unsustainable services that reached those who were most politically connected. Donors have responded with efforts to get financial markets right, and to invest in financial institutions that were reaching new, more traditionally marginalized customers, with products and services that applied promising and best practices. These services have had success reaching marginalized customers in urban areas and market towns, but have reached limited numbers of rural residents and farm families. Innovations in rural finance, while limited, have built on existing realities and relationships in product markets.

Recognizing this fact, one answer to the challenge of expanding access to rural financial services lies in our ability to complement a financial market orientation with a product market one, and to design studies and interventions accordingly, paying attention to the role of financial services within value chains rather than solely within the context of financial systems.

This complementary value chain orientation is practical. After all, product market actors—traders, processors and agribusinesses, as opposed to financial institutions—are currently providing significant levels of value chain financing to the rural sector. The InterAmerican Development Bank reported that access to formal credit ranged from 2% of farm households in Peru, to 28% in Mexico (Wenner and Proenza, 2000). An FAO survey in Asia found that 80% of rice mills and half of all fruit and vegetable traders provide credit to farmers. In Zimbabwe, one large cotton ginner has more borrowers than any MFI in the country (Gordon and Goodland, 2000). In Bangladesh, more than a third of input sales are financed with trade credit from distributors, wholesalers and retailers.

2,2 What is Value Chain Analysis?

One tool for understanding the dynamics, opportunities and constraints of promising product markets is *value chain analysis*. As John Humphrey maps out in a concise description of the value chain approach (Humphrey, 2002), this tool builds on a few basic ideas:

- Products pass through a value chain or sequence of activities, with *value added in each stage* from design, to transforming inputs, to reaching the final market;
- *Increased globalization* has contributed to the dispersal of these activities over greater distances; and
- In chains dominated by the increasing concentration and clout of retailers, value is increasingly derived by *product differentiation and innovation* that reduces cost and enhances the importance of reliable supply.

These realities increase both the complexity and importance of the relationships that exist up and down a value chain. Retailers are increasingly involved in the design of the products they sell. Specifications need to be communicated effectively to producers. Producers need to be able to demonstrate that not only have they met specifications, but also have complied with labor, safety and environmental standards important to ultimate buyers. To be competitive, producers in developing countries increasingly need to understand and cultivate not only relationships with their immediate suppliers and buyers, but with distant leaders of the chains in which they participate. Buyers need to ensure reliable supply, increasing the incentive to provide embedded services, including finance.

An evolving tool, value chain analysis has a number of established characteristics and techniques.

2.2.1. Chain governance. The series of activities along a chain describes only part of the chain. How components relate to each other—as leaders, followers or equals—and the rules that govern their activities and relationships are also critical components of a value chain. In their handbook on global value chain analysis, Schmitz and McCormick (2002) list four alternative ways in which chains are organized, rules are developed and enforced, and resources, activities and power are distributed:

- Decisions on transactions are left entirely to the *market*, with multiple buyers and sellers of a commodity entering into transactions based mostly on price factors. This governance structure can be problematic for value chain financing. As the Product Overview section of the paper will show, easy access to alternative sellers reduces the incentive to make loans, and easy access to alternative buyers increases the options for side-selling.
- There is a *balanced network* of firms that co-operate and no firm is dominant. A warehouse receipts system in which standards are well developed and transparent, and actors collaborate to make the system effective, is an example of this type of governance structure.
- Lead firms form a directed or *captive network* through which they control production. This governance structure is reflected in relationships conducive to value chain financing, ones that develop around outgrower schemes, and with niche products. However, sellers who lack access to market information and some degree of competition can be exploited.
- One or two firms own and control the process from start to finish through *vertical integration* and the use of parent and subsidiary structures.

Within a captive network, one may be a leader or a dependent player. The nature of this relationship is not necessarily exploitative. In order to ensure consistent, reliable and adequate supply, lead firms may be motivated not only to dictate specifications, but also to embed such services as technical assistance, training, and finance into the marketing services they provide. Finance can be an incentive for contracts that ensure supply, as well as fund the working capital a producer needs to upgrade a product to meet a buyer's standards. It is unlikely to fund investment, however, except in a vertically integrated structure.

2.2.2 Upgrading is also a central concept in value chain analysis. By investing in increased efficiency and innovations in either process or final product, collaborating with other players, shifting in the functions one plays along the value chain, or even shifting from one chain or sector to another, a player or group of players can capture more value for the chain and/or from the chain. Value chain financing, focused more on seasonal working capital than longer term investment capital, is more likely to facilitate product upgrades than process upgrades. One exception is warehouse receipts, which can build significant efficiencies into the marketing process itself and allow a farmer access to scale efficiencies typically available only to players further up the value chain.

2.2.3. Techniques. In order to carry out a value chain analysis, the following techniques can be used:

- **Mapping** is a central element of value chain analysis, using diagrams to show the flow of transformations and transactions from sourcing raw material and inputs, to production, to further processing, to marketing and final sale. The maps can also illustrate costs, value added at each stage, secondary services (such as finance or communications infrastructure) important to each stage, critical constraints, and the relative clout of players along a value chain.
- **Participatory Approach.** Because each player along a value chain impacts the value earned, and because players performing different functions and exerting different levels of clout often have very different perspectives on critical opportunities, bottlenecks and the potential and feasibility of different interventions, value chain analysis demands the participation of the full range of stakeholders. This range includes buyers, processors, producers, input suppliers, and public agencies and associations that impact industry, trade, labor and commercial regulations and practices. Just as value chain maps diagram downstream and overseas players, interviews and strategic sessions also tap the range of players along the chain. The perspective, buy-in and participation of stakeholders and champions increase the likelihood that the most critical bottlenecks and opportunities will be not only identified, but successfully pursued.

In summary, a value chain orientation is relevant because it starts with what is already happening in the field—*the actors, relationships, rules of play, range of services (including embedded financial services), and bottlenecks* to growth. This increases the likelihood that interventions and innovations will help to close the insufficiency and inefficiency gaps of rural finance, by recognizing and incorporating market realities rather than distorting them. It encourages us to consider expanded financial services not as ends in themselves, but as inputs for increasing the competitiveness and earnings of particular value chains—specialty coffee, grains, horticulture, for example—and particular actors within them. This orientation will help to close the feasibility gap. And, to the extent that a participatory approach is used, it incorporates the perspectives and taps the energy of critical stakeholders and champions of promising interventions, increasing the likelihood that interventions will build on existing innovations and relationships and receive the buy-in they need to be successful.

Product Overview

3. An Overview of Three Rural Finance Products Offered by Non-Financial Institutions

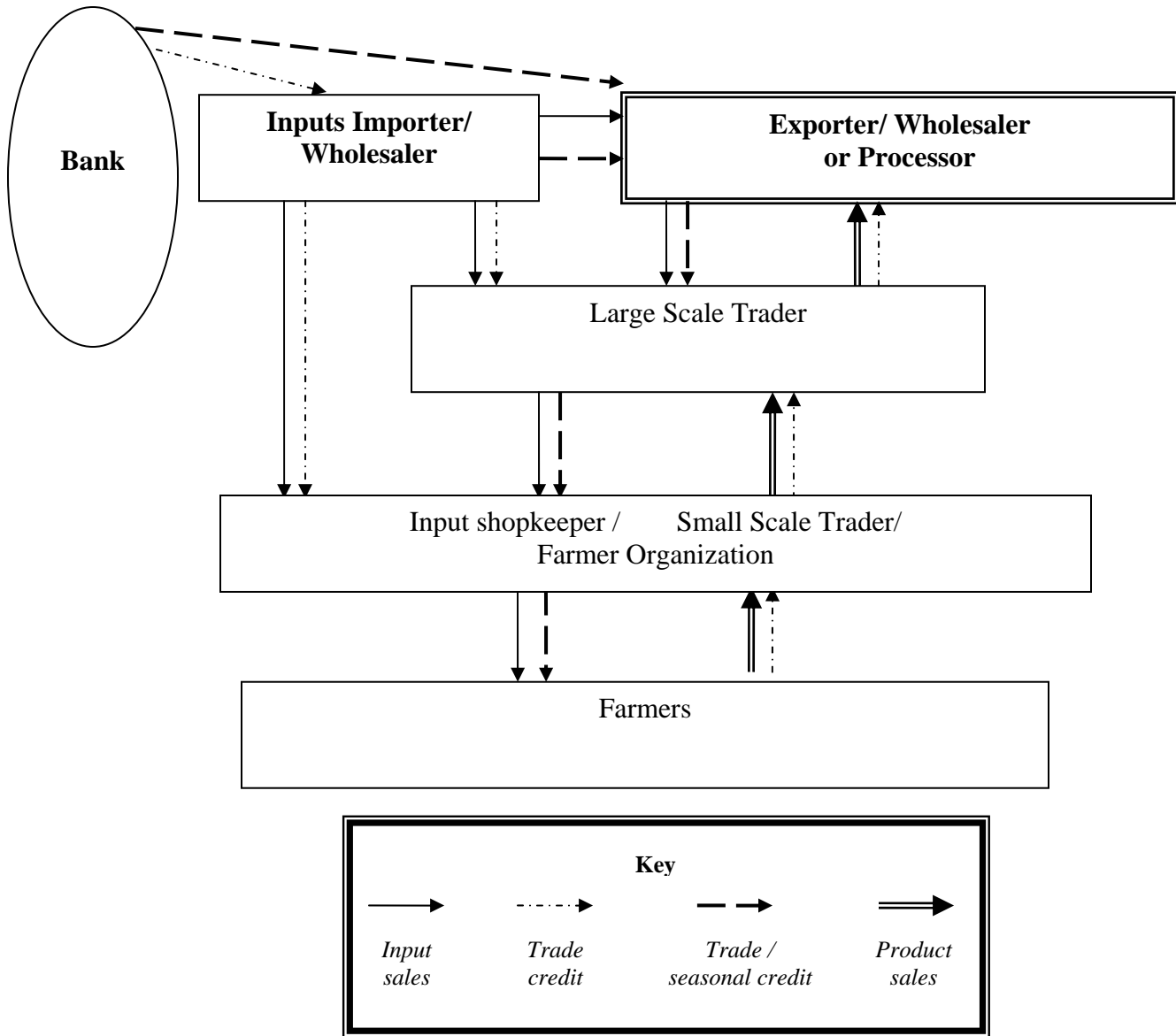
Effective and efficient financial products and services require a sound appreciation of the market actors and dynamics of the economic activities they facilitate. Innovation, which is necessary to expand access to effective and efficient financial services to rural customers, should also build on existing relationships. Non-financial actors within value chains are currently providing significant levels of financial services, often embedded in non-financial services. Therefore, it is important to better understand the *dynamics, limitations and lessons* of the products that these *non-financial institutions* offer. This section of the paper takes a closer look at the mechanics, benefits and limitations of three of these products: 1) Trader Credit, 2) Contract Farming/Outgrower Schemes, and 3) Warehouse Receipts. There are other financial products offered by value-chain actors—leasing, guarantees, and investments in subsidiaries, to name a few. For the purpose of this paper, we selected three products that are relevant to development interventions, have been analyzed in existing literature, involve a range of products (from commodities to niche products), and reflect complementary governance structures and upgrading potential.

3.1. Trader Credit.

3.1.1. Actors and Transactions. Trader credit is provided by one party of a sales transaction to a second party. The loan can be made in *cash or in-kind*, and the terms can be short-term or seasonal. The transaction may involve an input (such as seeds or fertilizer) or product (such as grains or horticultural products), to another party. As Map 1 illustrates, the financial transaction tends to follow the commercial transaction, with transactions moving up and down the value chain. The Exporter/Wholesaler or Processor tends to play a dominant role for this product, as seasonal credit relationships and ultimate demand for product flow from them.

Typically, only the largest actors at either end of the chain (importers and wholesalers on the upstream end and exporters, wholesalers and large processors) have routine access to financing from formal financial institutions. In turn, importers sell inputs on credit to large and small-scale traders, input shops and farmer organizations, usually with short terms sufficient to cover the period of time needed for the borrowers to resell the inputs to their customers. Traders, retailers and farmers may also receive inputs or cash for inputs as a seasonal loan from downstream actors, those who expect to market or purchase the borrowers' product at the end of a growing season. Finally, farmers and traders may also sell their product to downstream actors on credit, receiving payment for their product a few days or weeks after the trader, wholesaler or processor takes possession of it.

Map 1. Trader Credit
Map of Input, Product and Credit Transactions



Cost Recovery, Screening and Contract Enforcement. Like the products of successful financial institutions, cost recovery, effective screening of clients and enforcement mechanisms are built into these loans. Costs may be covered through a transparent interest rate. More often, they are covered through an increased price for inputs, a reduced price for products, or an adjustment on the deferred payment described above. Lenders deal with individuals they know through personal contact or prior business relationships. This often limits the pool of potential customers, based on where they live

or the ethnic ties they have to lenders. Lenders often require new customers to obtain guarantees from existing customers or known guarantors, until farmers or traders are able to earn their own reputation. Processors and wholesalers tend to work through the traders, shopkeepers and cooperatives they know and trust.

This method of screening allows lenders to assess both borrowers' *willingness* to repay a loan, and their *ability*. As the borrower's channel to the market, seasonal loan providers do not wrestle with the same concern over market access that a bank would. Because of their commercial relationships, they are better able to determine the borrower's ability to deliver a marketable product on a reliable basis. They are also more aware of market conditions and price risk.

Enforcement mechanisms and other incentives to repay these loans include:

- **using crop as collateral** for interlinked loans in which credit for inputs are provided by those who will market the output
- **relying on relationships with output marketers** or centralized collection facilities in cases where seasonal credit is not provided by output marketers (for example, shopkeepers in Tanzania rely on the fact that cashew must be marketed through central collection facilities in order to sell inputs to producers on credit) (Dorward et al, 1998)
- **using inventory of inputs as a pledge**, in which lenders do not physically transfer the product until a borrower provides documentation of a sale of that product
- **using producers' desire to maintain reputations** of being reliable, access to future credit and/or marketing transactions, and standing in their communities.

3.1.2. Benefits and Limitations. Trader credit offers a number of benefits for donors interested in expanding financial services to rural customers. It is a source of working capital, an input critical for small enterprise participation in promising value chains. Traders can *expand sales*, and greater numbers of farmers can purchase inputs and increase sales of their product, both through *better yields* and *more secure market channels*. Embedded in, and making possible, input and product sales, the terms and conditions of trader credit reflect the economic activity being financed. There are some instances in which trader credit facilitates access to consumer loans as well. For example, many traders in Asia have incorporated rice into their input loan packages, after noting that a failure to do so increased default risk by encouraging farmers to sell some of the inputs in order to get cash to purchase rice for their families during lean times (Shepherd, 2004).

At the same time, there are limitations to trader credit. Like each of the products profiled in this paper, its short-term and seasonal nature limit its usefulness for investments and the process-related upgrades that require them. Trader credit is also constrained in its ability to deepen and expand outreach for short-term and seasonal loans. Traders often prefer to work with producers with larger volumes (Dorward et al, 1998). However, traders are not unique in this preference. Most lenders will factor scale and the costs of

working with smaller enterprises into their decisions to expand. Traders' reliance on personal knowledge in the screening process is a more fundamental limitation. This reliance constrains lenders from taking on new customers, or from expanding to new locations. It also creates entry barriers for traders and borrowers. Building relationships takes time. A study in Bangladesh found that it took at least two years, and an average of six, before traders were comfortable enough with a business relationship to sell fertilizer on credit (Wieland, 2003). In addition to time, the personal nature of screening new customers can create ethnic barriers. Ethnic networks, especially where processing or exporting functions are dominated by a minority group, can severely constrain access. In Tanzania, for example, access to foreign capital and contacts with Indian importers appeared to be barriers to entry for indigenous entrepreneurs. (Dorward, et al, 1998)

Reliance on personal knowledge also makes a potential customer's place of residence a significant factor. As lenders are unlikely to seek new customers in distant communities, borrower access will be limited to nearby lenders. In remote towns this raises the threat of spatial monopoly, where one or a few traders take advantage of their favorable negotiating position, driving up the cost of loans by driving down prices paid to farmers for their product. Distortions of this nature can produce a range of negative results, from farmers finding themselves in a debt trap brought on by an exploitative relationship, to farmers diverting the use of borrowed inputs for other ends. In Ghana, such a situation led not only to the collapse of trader credit in the cotton value chain, but undermined the cotton value chain itself. Cotton seed buyers fixed prices, pushing them so low that farmers diverted loans to inputs for other products,³ avoided loan repayment, and left buyers without the cotton seed supply that they required (Dorward, 1998).

Conversely, large numbers of traders can encourage side-selling, where farmers sell their financed product to other traders. In Chile, following land reform and a rapid liberalization of the economy in the 1970s, increased competition between buyers of wheat, beans and other basic grains resulted in side-selling. In his analysis of this evolution, Jonathan Conning (2000) argues that this led to the elimination of trader credit for these crops, since small farmers had limited collateral besides the crop, and the risk of default was too large for traders. Conversely, export oriented value chains like sugar beet and fresh fruit—in which competition was less intense and purchase agreements more formal—saw an increase in credit that was secured by crops.

Clearly, reasonable levels of competition are important to trader credit. So is broad access to reliable information, where producers know market prices for their product, where borrowers understand the cost of their loans, and where lenders are aware of the performance of borrowers with competing lenders. Access to this information encourages a more market-driven governance structure and limits the ability of either borrower or lender to take advantage of their favored position.

³ This tendency of borrowers to respond to situations in which interest rates increase faster than prices by diverting their loans to other purposes was also noted in the cotton sector in Mali (Nouve and Nyambane, 2003)

3.2. Outgrower Schemes and Contract Farming.

3.2.1. Actors and Transactions. These services differ from trader credit in a fundamental way—inputs are always financed or provided, and linked to a purchase agreement. In the case of outgrower schemes, services beyond input supply, marketing and credit are provided, such as technology transfer, training and supervision of production.

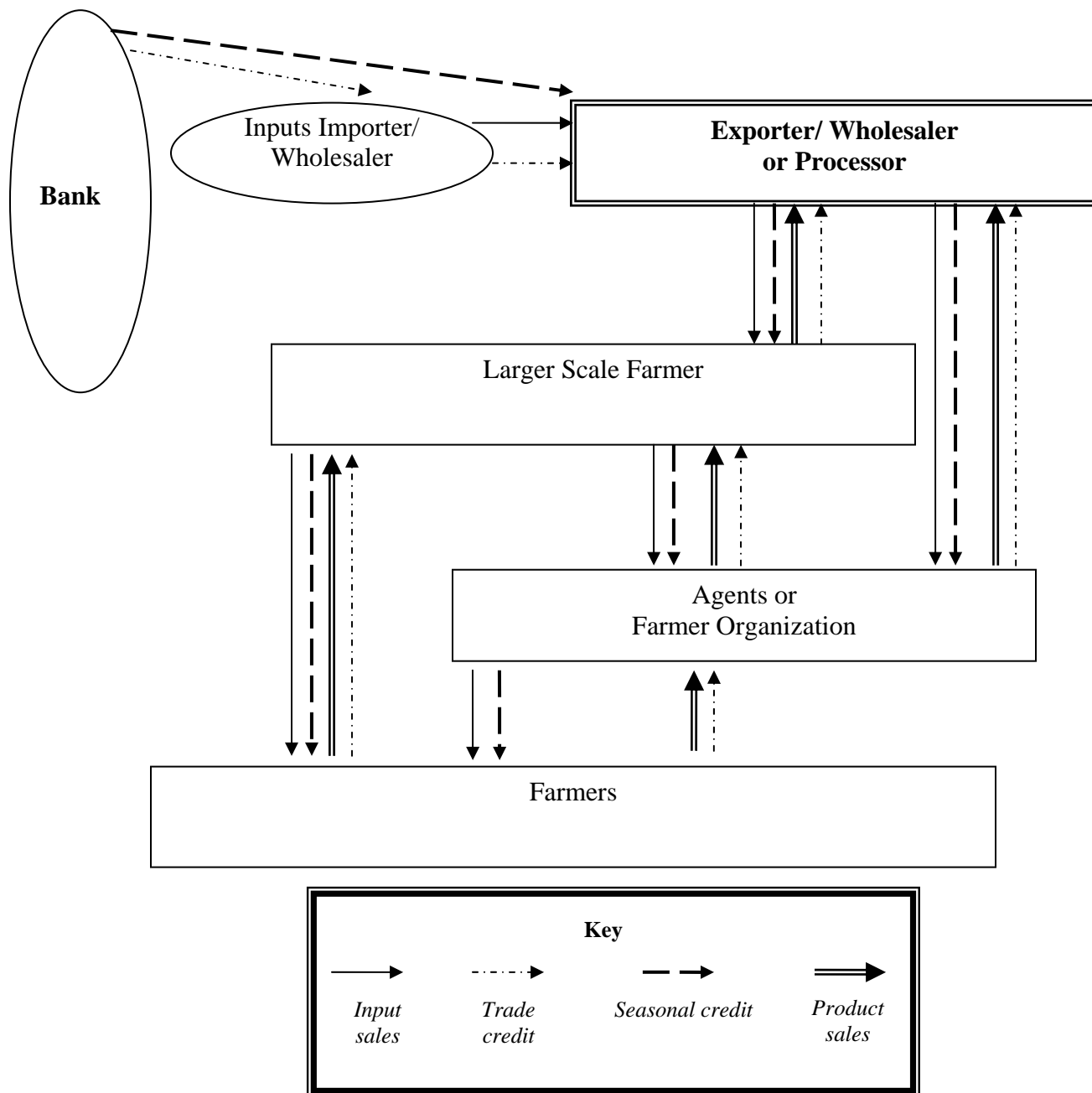
This fundamental distinction is reflected in a number of differences between Maps 1 and 2. Most striking is the fact that the inputs tend to move through the large scale agribusiness. The ultimate buyer (exporter, processor or major wholesaler) plays a more *central role* in the process, as a reliable supply of product with more precise specifications are required. Therefore, it is in their interest that the producers have timely access to the necessary inputs, and monitoring and assistance to ensure that the inputs are used properly. To the extent that it is cost effective, they facilitate the financing, distribution and effective use of these inputs. As a result of this dominant role of the large scale agribusiness within the value chain, credit and input sales are always interlinked with product sales. Input importers, wholesalers and retailers tend not to lend directly to producers. Trade credit between input suppliers and intermediaries also is not prevalent.

A second significant difference is the tendency for *intermediary roles* to be played by others involved with production, such as larger scale farmers or agents and farmer groups that can organize small farmers, rather than independent traders whose channels for sourcing and financing inputs are often separate from the channels through which they move product. This reflects the increased importance that value chains using outgrower schemes and contract farming place on quality standards, the ability to demonstrate or enforce them, and the need for sufficient volume that meets them.

In short, the maps reflect differences in *value chain governance*. Trader credit is more likely to play a significant role with commodities, including basic grains, in value chains with a more market-driven governance structure. The added costs to agribusinesses of managing contract farming and outgrower schemes reflect an added value that can be earned by higher-value crops, such as horticultural products and export crops. These value chains tend to operate through captive networks. As Peter Little concluded in a review of contract farming in peri-urban regions of West Africa (Little, 1999), the emergence of contract farming usually reflects one or more of the following conditions:

- High value specialty crops with “niche markets”
- Buyers’ need for consistent, reliable supplies
- A system of input and output markets that cannot be met through open market purchases
- A labor intensive commodity that smallholders can produce efficiently (Little, 2000)

Map 2. Outgrower Schemes/Contract Farming
Map of Input, Product and Credit Transactions



Given the dynamics and market realities in contract farming, credit for inputs is provided on a seasonal basis, and as part of a purchase agreement. The agreement can be formal or informal, written or verbal. The loan can be extended by the buyer, or the buyer can serve as an agent for a financial institution. [See *Critecna* box below] It can be issued in kind or in cash. As in the case of trader credit, farmers and intermediaries may also sell their product to downstream actors on credit, receiving payment for their

Critecnia, Peru

As Map 2 illustrates, farmers can enter into agreements directly with exporters/processors, with larger farmers, or with agents or other intermediaries. An interesting case of an agent that organizes small farmers is featured in Promising Practices in Rural Finance (Alvarado and Galarza, 2003}. Critecnia, a family owned group with close ties to cotton production and trading, was formed to provide general services that would make trading more efficient by organizing supply. The company focused on three critical needs: increasing access to financing, tapping economies of scale in the purchase of inputs, and obtaining better prices from cotton harvest.

Organizing and screening suppliers. Critecnia identified leading farmers in their local region, who in turn explained to neighboring farmers that they could access loans from a commercial bank if they (i) produced a good cotton harvest; (ii) owned at least 4 hectares of land with property titles and no mortgage; (iii) were willing to form a limited liability company controlling at least 100 hectares; and (iv) signed a one-year management contract with Critecnia. Farmers were allowed to commit part or all of their cotton growing land. The lead farmers screened candidates for participation in six small companies that had already been legally established by Critecnia.

Management, purchase and loan agreements. Under the management agreements signed with each of the companies, Critecnia was granted management authority, but agreed to provide a range of accounting, logistical, marketing, and technical services, as well as to facilitate working capital loans. The small production companies signed production contracts with participating farmers.

Implementation. Each company, under Critecnia management, applied for working capital loans. The loans were signed between the bank and individual producers, backed by that producer's land. In the event of default, the bank could seize the collateral of the respective farmer. The bank disburses the loans in bulk to Critecnia, which uses some of these funds to purchase bulk inputs. Critecnia delivers the inputs and remaining funds. The lead farmers acted as agents in loan monitoring and recovery while Critecnia delivered technical services. Lead farmers receive an additional commission based on the yield and delivery of the harvest. After the harvest, Critecnia distributes the net profits to each farmer after deducting loan principal, interest, and a commission for management and technical advice.

Source: Promising Practices in Rural Finance: Experiences from Latin America and the Caribbean

product a few days or weeks after the trader, wholesaler or processor takes possession of it. In this way, they provide short-term loans to their buyers.

Costs for the financial service are covered in a number of ways. One approach is to pass the interest rate charged by a bank onto the producer, as the Critecnia case illustrates. The Kenya Tea Development Agency and tobacco buyers in Zambia also follow this practice. (IFAD 2004) Lenders may also adjust prices, either in the form of higher unit prices for inputs, lower prices for product, or a commission or fee that is assessed. If buyers pass the benefit of bulk purchase prices onto borrowers, even the adjusted price paid by borrowers can be lower than the price paid by their neighbors who lack access to bulk-purchased inputs and buy them at a local shop. Lenders may also charge a stated interest rate on outstanding advances. Because purchase agreements are entered into well

before the harvest, the issue of prices offered for product is more complex under the outgrower and contract farming scenario than was the case in trader credit. A review of contract farming in Southern Africa by IFAD revealed three different ways of establishing prices (IFAD, 2004). In Kenya, tea producers received amounts based on tea auction prices at the time of sale. Zambia cotton producers agreed to a floor price prior to harvest, that could increase if market prices rose above that level. Cotton producers in Mozambique, selling to state-licensed concessionaires, were locked into prices set through negotiations with the government prior to the season. As a result, they tended to receive the lowest prices for seed cotton in the region.

Screening, monitoring and contract enforcement. Screening mechanisms can also vary. As with trader credit, relationships built around product transactions drive the selection of borrowers. Ultimate buyers tend to deal more directly with large producers. Small producers access the value chain, and the financial services, based on their relationships with larger farmers who are trying to increase the volume they bring to their buyers, or through organizers like farmer organizations, such as those organized by CLUSA in Zambia (Parker 2003), or by agents like Critecnia in Peru.

Screening criteria focus on the borrower's ability to reliably deliver the needed quantity and quality of product, as the lender's earnings are much more dependent on product sales than on financial services. Monitoring is often another embedded service provided by the buyer-lenders, again because of their interest in the product for its sales potential even more than for its value as collateral. The product can serve as collateral. The Critecnia case illustrates how, by linking with a bank, land could also be used.

The fact that finance is provided with a range of other services helps to address risks that often intimidate financial institutions. Provided the buyer delivers the agreed upon bundle of embedded services—financial, material and technical—the buyer helps to reduce production risk and increases the likelihood that the borrower will be able to repay the debt.⁴ Monitoring activities can help reduce the risk of side-selling, as can clauses linking future marketing relationships to meeting current supply and loan payment agreements. Provided the producer delivers the agreed-upon product to the buyer, and product prices have not dropped unexpectedly, principal, interest and fees can be deducted from the amount the buy pays the producer. Although price risk remains, a player in the value chain has more detailed knowledge of trends and developments than a financial institution.

3.2.2. Benefits and limits. To a great extent, the benefits mirror those of trader credit. Producers gain access to inputs and finance, higher productivity, and more reliable access to markets. The terms, conditions and timing of the loans are not only appropriate to the product market, they are embedded in it. The added dimension of a wider range of embedded services—such as technical advice, monitoring, and access to bulk purchase

⁴ These inputs might even include some form of consumer credit. CLUSA's program in Zambia (Parker 2003) learned that it was important to provide inputs for both food and cash crops, or else small producers were likely to divert inputs to food production. This conclusion is similar to the one made by the many traders in Asia who include rice for consumption in the input loans they provide (Shepherd 2004)

and sales prices⁵—deepens these potential benefits to producers. This more captive governance structure is more likely to result in product upgrading than is the case with trader credit. Buyers gain access to a more reliable supply of product, and develop mechanisms to cover the costs of the financial services provided while reducing a number of the risks more commonly faced by financial institutions.

At the same time, credit losses can be less intimidating to the buyers. Companies focus on the produce they can buy, not on the money they make through the delivery of input credit. Financed amounts tend to represent a small percentage of the value of the crops produced with those inputs. This fact increases their efforts to avoid side-selling, not so much as to avoid default but to maintain market share and economies of scale. Finally, the scale of operations can be sizeable. More than 400,000 smallholders participate in the KTDA fertilizer credit schemes, with small loans that average less than \$100 per year. Cotton companies in Zambia estimate 150,000 small borrowers, and cotton and tobacco buyers account for most of the loans to smallholders in Mozambique. (IFAD 2004)

There are also a number of limits to credit delivered under outgrower schemes and contract farming. The sustainability of the services remains vulnerable to side-selling, especially in environments with ineffective contract law and business practices. By definition, loans by any lender are concentrated in a single value chain. The use of those loans is generally limited to working capital purposes, usually inputs for cash crop production.

In terms of outreach, there are a number of limitations. One revolves around the ability of innovative programs to scale up. The Critecna case, while innovative in the mechanisms it developed and implemented, drew much of its success from its knowledge of local market conditions and players. It was reaching about 500 farmers at the time of the case study, and the principals were uncertain about their ability to replicate it in additional regions of Peru.

A second limitation to outreach is that smallholders are less likely to participate in these programs, as they fit best with high value crops, and scale is often a factor of competitiveness in these value chains. Smallholders mean higher costs related to loan and input distribution, extension, monitoring, collection and side-selling. Those who do participate may be more likely to drop out first. Over the course of a decade in West Africa, community garden and smallholder participation in horticultural contract farming dropped significantly, replaced by larger producers who were cheaper to contract with and could operate at economies of scale that were more competitive than those of the smallholders. (Little, 1999) Accordingly, Little concluded that contract farming was vital to the development of value chains with niche markets in peri-urban areas, but questioned its usefulness for poverty alleviation.

⁵For example, under the Kenya Tea Development Institute scheme, fertilizer prices are based on international price, plus the cost of transport and interest paid on a commercial bank loan. This results in a price to producers that is consistently lower than the wholesale price in Nairobi, not to mention those charged by local stockists. (IFAD 2004)

Farmer organizations and agents are crucial players to link farmers effectively into contract farming and value chains. Otherwise buyers are tempted to rely on informal agreements in which costs, prices and commitments are unclear. The extensive use of informal contracts with small farmers in Ghana left the producers consistently with inadequate amounts of inputs, which led to insufficient levels of production and a breakdown of the system.

Finally, while a range of regional studies (Shepherd, Little, IFAD) point to very limited instances of unfair pricing practices, market information and competition remain important. As already observed, Mozambique's state-licensed cotton concessionaires succeeded in fixing prices at levels far below those in neighboring countries, while market-pegged pricing reduced the cost of fertilizer for Kenya's tea producers and offered competitive prices for their product.

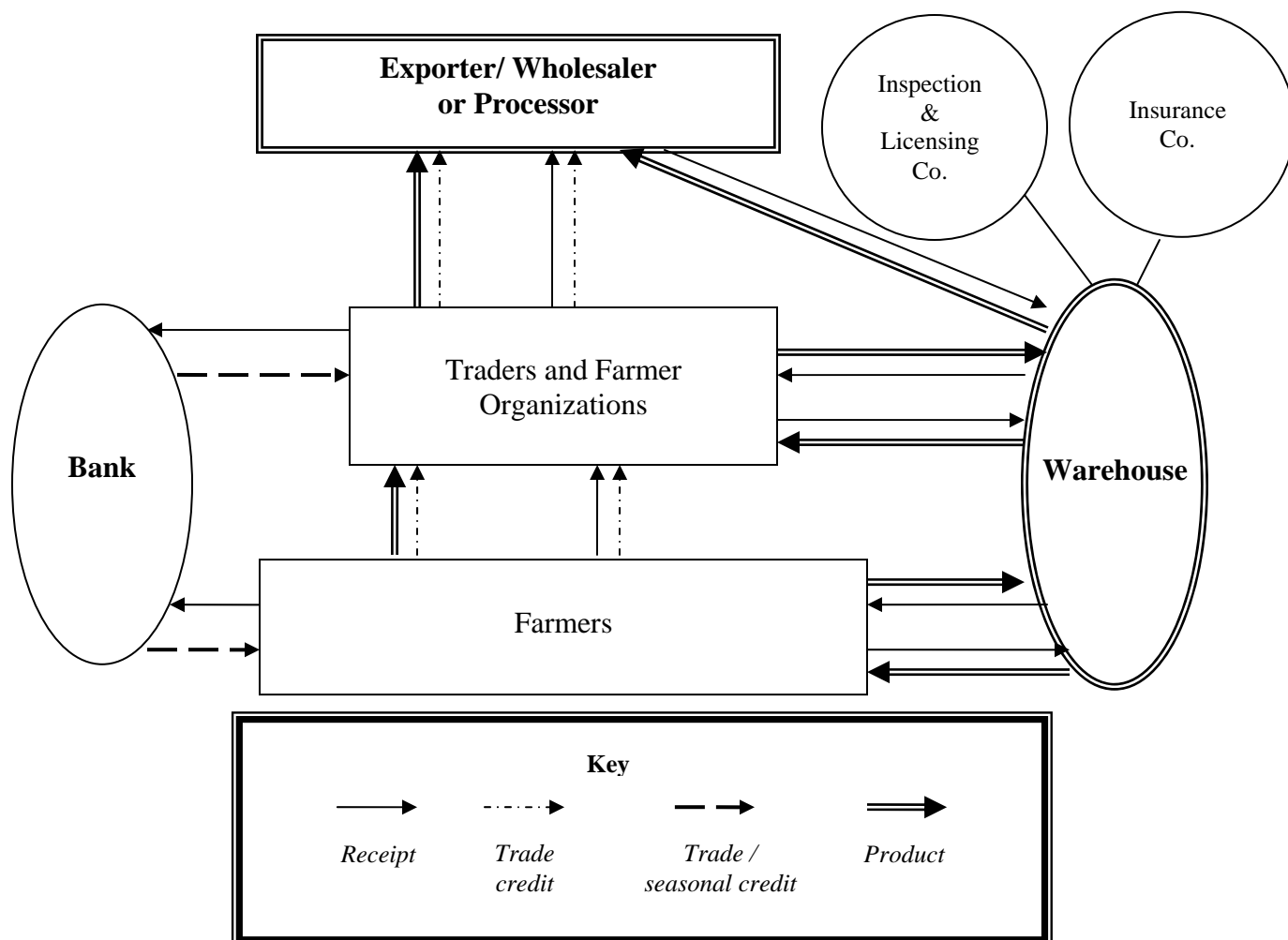
3.3. Warehouse Receipts.

3.3.1 Actors and Transactions. Warehouse receipts systems introduce a number of players and mechanisms not found in trader credit or contract farming/ outgrower schemes. Along the value chain, the *warehouse/commodity manager* is a new and critical player. Producers and traders deposit commodities at the warehouse. The warehouse promises secure and safe storage, and issues a receipt to the producer, certifying that it is in possession of a specified quantity of a particular commodity that meets specified standards. The depositor can then use that receipt as a pledge to secure a loan from a bank or other lender. The lender places a lien on the commodity, so that it cannot be sold without the proceeds first being used to repay the outstanding loan. Under this scenario, the *lender* can dispose of the pledged goods only if the borrower defaults on the loan. Otherwise, title and any changes in the value of the deposited commodity belong to the depositor/borrower (Onumah, 2003). A depositor can also transfer the receipt to a buyer, who in turn can take delivery of the commodity at the warehouse. Taxes, storage fees, loan principal and interest are deducted before delivery is made by the warehouse.

As Map 3 illustrates, warehouse receipts involve two new second-tier service providers, those not involved in the transformation and sale of the agricultural product but providing a critical service to the depositors and commodity managers who are. *Certification and inspection services* provide depositors and lenders with confidence that warehouses meet necessary standards for safe and secure storage. These services can be provided by government-sponsored agencies—as is the case in the United States and countries in Eastern Europe like Bulgaria—or by representatives or international private firms acting as agents of stakeholder groups, as is more frequently the case in Africa (Kiriakov, 2001 and Onumah, 2003). Warehouses are also insured to protect depositors and lenders against losses due to disasters or criminal activity. Warehouses may purchase *insurance* policies or build up an indemnity fund to cover the cost of such losses.

Screening and monitoring are built into the system. Standards are used to define the quality of a product deposited in a warehouse. Each deposit needs to meet these standards, since individual deposits are combined rather than kept in separate lots, so one

Map 3. Warehouse Receipts
Map of Product, Receipt and Credit Transactions



producer's grain must be interchangeable with another's. Licensing, inspection and insurance systems serve to screen safe and reliable warehouses. The records maintained by warehouses on specific producers help to build a third-party history of the performance of these producers, information that may prove useful to financial institutions over time. Finally, banks do not have to carry out this screening process for potential customers. Their possession of a legitimate receipt, issued by a warehouse, serves that purpose.

The system offers clear mechanisms for tapping and protecting the use of deposited grain as collateral. Kiriakov (2001) describes four levels of protection built into the Bulgarian system: a Grain Law that specifies the licensing requirements of warehouses; an

indemnity fund to guarantee their performance; legislation that specifies the legal standing of warehouse receipts and the rights of issuers and holders; and a National Grain Service that certifies and inspects the operations of licensed warehouses. Given these levels of protection, banks have demonstrated their willingness to lend against warehouse receipts. In the first five years of an operating system in Bulgaria, banks issued more than \$27 million in loans against receipts.

3.3.2 Benefits and Limitations. Onumah's analysis of warehouse receipts in the African context identifies a number of potential benefits for both the financial and product markets. Producers and traders gain increased access to reliable storage. This increases both yields (by lowering post-harvest losses), and the average prices they receive for their product, since they can participate in bulk sales and sell their product over time, rather than sell it at harvest time when prices are low. An efficient system also increases their creditworthiness by providing a new source of collateral, and through warehouse records that allow them to build a transaction history. Lenders clearly are able to reduce monitoring and transaction costs, as many of these are built into the receipt system.

Furthermore, the value chain as a whole benefits, making trade of the commodity more efficient. Consistent standards are developed, and their incorporation into receipts allows buyers and sellers more symmetrical knowledge of product quality and quantity. Buyers' doubts about product availability and timely delivery are reduced. Standards allow buyers to purchase commodities without the need to sample the product of individual producers. All of these benefits serve to reduce the costs and risks associated with transactions, and to upgrade the marketing process so that increased value is generated by the chain. To the extent that a more balanced than captive governance structure exists, this value will be distributed to each of the actors in the chain.

There are limits to warehouse receipts, as well. This product does not lend itself to investment capital. Furthermore, operating in a more complex system, warehouse receipts depend more on the enabling environment than the other financial services discussed in this paper. There are legal and regulatory requirements, including laws that clarify the rights and responsibilities of system participants and issues related to ownership of warehoused goods, the transferability of receipts, and the use of receipts as collateral. (See Bulgarian Laws Box below.) Researchers in Africa identify examples of the government as a disabling factor, especially where political decisions (e.g., ad hoc import duty reductions or debt forgiveness measures) or favoritism ended up depressing market prices or creating monopolies that undermine transparent transactions. (Coulter and Onumah, 2001) Similarly, market and price information need to be transparent and available to depositors and lenders.

In addition to governmental issues, there are also information requirements. Commonly used and accepted grades and measures must exist for warehoused commodities. In terms of outreach, warehouse receipts also are subject to issues related to economies of scale. The cost and captive governance structures of European firms involved in commodity management in east Africa favors the participation of larger producers and

Bulgaria's Legal Framework

Warehouse licenses. The Grain Law in Bulgaria authorizes licensed public warehouses to store grain and to issue warehouse receipts. Major licensing requirements include minimum capital amounts, an irrevocable bank guarantee, insurance policy covering stored grain, and publication of information on its operations, including its fee structure. Licenses are issued by the government's National Grain Service.

Warehouse Receipts. The law defines a warehouse receipt as a promissory security issued by a public warehouse, certifying that a specified quantity, quality and kind of grain has been deposited at a specified location, and obligating the issuing warehouse to deliver the grain to the legitimate holder of the receipt. The receipt can consist of two parts, one for the commodity held by the depositor and one for collateral held by a lender accepting the commodity as a pledge for a loan. The holder of a receipt can make claims for immediate delivery of the grain. Deductions for taxes and storage fees are made by the warehouse before those of any other creditors.

Source: Kiriakov, 2001

traders, as storage fees tended to be cost prohibitive for smaller farmers. The firms' strong bargaining position also allowed them to limit their liability for loss and damage. (Onumah 2003)

Smaller producers may still be in a position to derive downstream benefits from trader participation in the system, although Onumah's research did not test this hypothesis. Instead it outlined a pilot effort to license a network of locally owned warehouses structured to accept both larger and smaller deposits of maize, wheat and soybeans.⁶ The warehouses are to be certified and inspected by the Zambian Agricultural Commodity Agency Ltd., a company established and controlled by the system's stakeholders—farmers, traders, processors, bankers and policy makers rather than the government. (Onumah 2003) The decision to use a private rather than a state inspection service reflected stakeholder concern about the ability of a state agency to operate transparently and without corruption. Data on the Bulgaria experience was also unclear as to the relative participation of producers vs. traders in the warehouse receipts system over time.

⁶ According to Jonathan Coulter, in the 2003-04 season, one licensed warehouse received 6,600 tons of grain, and issued receipts against 5,000 tons. This season, there are four licensed operators. Smallholders are making deposits through farmer groups.

Conclusion

4. Conclusions for donors and practitioners

4.1. Promise and Limits of Embedded Financial Services.⁷

As we look to increase access to rural financial services, practices and innovations in the delivery of these services by product market or value chain players offer significant promise.

Realistic expectations and economic focus. Understanding the dynamics and embedded services of a value chain reduces our temptation to expand rural financial services as an end in itself. The value chain perspective allows us to respond to a demand for financial services that is rooted in economic activities and transactions, and to identify and address bottlenecks that block economic opportunities with the potential to increase the incomes of small producers and other rural entrepreneurs.

Embedded financial services facilitate the functioning of product markets, and increase farmer access to markets. These services allow traders to sell more inputs, buyers of high value crops to increase the volume and reliability of their supply, and producers to enter into purchase agreements with buyers. They reduce transaction costs by facilitating bulk purchases and sales, and reinforcing the use of standards. They can even increase yields. Onumah's research found that access to a combination of trader credit and higher prices earned through a warehouse receipts system makes the difference between fertilizer use being profitable and unprofitable for smallholders in Zambia. (Onumah, 2003, p.5)

Cost-effective approaches. Financial services that are linked to other embedded services tap existing market relationships to make more producers credit-worthy, and to expand sources of credit and capital. "For small farmers to be good credit risks, they need the technical services, inputs and sales agreements that form part of the relationships of product market credit." (Pearce, 2003, p.1) Trader credit, contract farming and warehouse receipts system also demonstrate practical ways to broaden the assets that can be used to secure loans: crops, marketing contracts and warehoused commodities. They also demonstrate ways to diversify the sources of funds that can be tapped to finance agriculture. Traders, buyers, and producers all use their assets to provide credit that facilitates the transformation and movement of a product through a value chain. Agribusinesses, farmer organizations, agents and warehouses help to link small farmers to loans at least partially funded by banks, loans that banks would not be able or willing to enter into without these intermediaries' participation. Finally, the literature points to one example of embedded financial services to be funded not by value chain participants or banks, but by the public through the issuance of securities.

⁷ This section summarizes the benefits and limits of value-chain financing, broadly defined. Tables 1 and 2 in the Executive Summary compare and contrast the benefits and limits of each product described in Section 3.

Colombia's National Agricultural and Livestock Exchange

The Exchange screened regions, ranches and cattlemen, identifying those best suited to participate in a securitization program. The program was structured to reduce risk: selected cattlemen agreed to utilize extension and quality control services contracted by a Trust; the extensionists agreed to be liable to the Trust for cattle that do not reach the required weight; the Trust obtained a start-up guarantee of \$150k from a bank, and it purchased insurance against criminal acts. The selected cattlemen transferred ownership of their young cattle to the Trust, which in turn assigned fattening responsibility to them, issued publicly traded securities worth up to 75% of the value of the cattle, and used the proceeds to pay the cattleman. A marketing agent sold the animals, and passed the proceeds back to the Trust. Because the value of the collateral was significantly greater than the value of the securities, they received a high rating. The program provided the cattleman with more financing at better terms, and institutional investors with a new low risk investment tool. Several series of securities had already been successfully issued as of 2001, when the Exchange expected to issue securities worth \$4 to 5 million every 45 days. (Rutten, UNCDT, 2001)

Double-Edged Sword: Motivations of Those Who Are Lending. The fact that value chain actors tend not to look to financial services as their income source, but to margins on the products they are transforming and selling, is a double-edged sword. The *terms and conditions* are well suited to the economic activities being financed; costs and risks associated with selection and market access are reduced; and contracts tend to be secured by future transactions between the parties. At the same time, expanded *outreach* is difficult, often constrained by a business's limited ability to reach new regions, know and trust new customers, expand its processing or purchasing capacity, or further leverage its capital base. These last two constraints require investment capital, and loans provided through value chain actors tend to be for working capital.

While often better than banks at providing financial services to agricultural producers, *economies of scale* in trade, forward contracting and commodity management often makes larger producers more attractive customers for embedded financial services. If competition is limited or *market information* highly asymmetrical, there is a risk that traders and agribusinesses will take advantage of their market power over small producers and charge exploitative prices for their services. However, the existing research finds limited examples of this, and extreme cases of price setting—like that of cotton in Ghana—proved to be unsustainable.

In his presentation at the *Paving the Way Forward for Rural Finance* conference, Doug Pearce pointed out a number of disadvantages non-financial institutions have when compared with financial institutions. (Pearce, 2003) By definition, embedded financial services are *bundled* with other services—inputs, marketing, technical assistance,

commodity management. The financial services themselves often are *not transparently priced*. Borrowers who do not need all of these services pay for more services than they need. Farm families working in more than one value chain will buy these bundled services from more than one provider. Compared to financial institutions, non-financial institutions' *limited accounting, reporting and financial systems*, and their higher tolerance for loan losses than losses due to product sales, can make them less efficient lenders than financial institutions. Finally, their use of a wider range of assets to secure loans, often without a formal loan agreement, makes it more difficult to enforce these agreements in the courts.

A final element of the double-edged sword was expressed succinctly in a quote by Dale Adams cited in the IFAD study of outgrower and contract farming arrangements in East Africa: "Adams et al (1992) summarizes these views: 'I have yet to find a merchant who would not prefer cash transactions over those involving credit. This suggests to me that most merchants view lending as a necessary nuisance rather than as a way to sweat additional profits out of their clients.' " Should a financial institution provide that service efficiently and reliably, it follows that many merchants and agribusinesses would gladly relinquish it.

4.2. Value-Chain Actors vs. Financial Institutions

Non-financial **businesses** have demonstrated their ability to extend credit to smallholders and smaller rural enterprises shirked by formal financial institutions. These businesses bundle loans with *other services* that are highly prized by their borrowers, including access to markets, market information and technology. The terms and conditions of their loans, which mirror the transactions through which they move and transform their products, can provide a *demonstration effect* for formal financial institutions committed to expanding their share of the rural market. Understanding the critical actors, terms and conditions of transactions along the value chain, donors and practitioners are more likely to identify and tap the participation of important champions, and to be better positioned to develop interventions with greater developmental impact.

Formal **financial institutions** already offer financial services to some larger scale rural enterprises, including working capital loans that can mean access to loans and markets for smaller enterprises. This paper has identified numerous cases in which linkages between banks and larger agribusinesses, smallholder organizers and warehouses have been a critical component to expanding rural credit. To the extent that *investment capital* is financed in rural enterprises, formal financial institutions are again critical players. These institutions can offer *savings* and *funds transfer services* to rural customers as well, financial services that are not provided by value chain actors.

By offering unbundled services and developing specialized systems for the delivery and management of financial services, formal financial institutions should also offer these services more efficiently. "While non-financial services are both necessary for agricultural lending to be viable, they should be operationally separated in order to

improve efficiency, transparency, scale, and the range of financial services available to small farmers.” (Pearce, 2003, p.8)

However, this hypothesis remains more theoretical than practical in many developing economies, as it assumes that financial institutions have the same access to borrower, market and price risk information as value chain actors, and a similar view of the rewards inherent in rural financial services. “It can be difficult to completely separate financial and non-financial services to farmers. Financial institutions may, as a result, lose access to the non-financial components of buyer and supplier relationships that improve the farmers’ creditworthiness and make lending feasible (such as access to technical and production advice, sales agreements, and client information held by buyers). Product-market actors, on the other hand, may lose a key mechanism used to “guarantee” a supply of produce from farmers.” (Pearce, 2003, p.9)

*Pursuing a theoretical advantage of unbundled services, through a purely financial market approach, poses a risk that small farmers and rural families could lose access to both the market channels and the financial services they already have. At the same time, inattention to the financial market can be equally damaging. The literature shows that innovations by non-financial institutions are vulnerable to the actions of financial institutions and the policy decisions that impact financial markets.*⁸

Given these realities and those of the double-edged sword elaborated in the last section, *an appreciation of both value chain and financial market approaches is necessary for donors and practitioners who are working to expand access to rural financial services. At the same time, neither approach is sufficient.*

4.3. Implications for Interventions

4.3.1. Program Design and Value Chain Analysis. Because value chain analysis helps to identify key bottlenecks to economic growth, views financial service gaps in terms of these key bottlenecks, and identifies and incorporates key actors and champions in relevant value chains (such as those with the potential both for high growth and small enterprise participation), this tool can be useful in identifying financial services for which there is significant economic demand and interventions that can expand existing supply in efficient and sustainable ways. Testing this premise, ACDI/VOCA carried out a value chain assessment of one region in Mozambique in order to identify critical components that could be considered by the USAID mission in order to expand rural financial services. The analysis was conducted under the AMAP/BDS Knowledge and Practice task order. (Kula and Farmer, 2004)

The analysis included four steps:

⁸ As a few examples, Critecna was negatively impacted when the bank it linked with was liquidated (Wenner, 2003); warehouse receipts systems can be undermined by political interventions that artificially depress commodity prices (Coulter, Onumah 2002); and innovations in input loans using credit card technology in Costa Rica were undermined by a government debt forgiveness decree (Pearce, 2003)

- A *cluster mapping* of the region, starting with the key players in the horticulture and oilseed subsectors, and then layering on those entities providing services to the value chain—such as commercial agents, transporters, machinery repair businesses, insurance companies, and financial institutions;
- An *inventory* of financial service providers—banks, finance companies, NGOs, agribusinesses in the region, and the range and quantity of financial services they are currently providing;
- *Interviews of key stakeholders* identified in the mapping and inventory exercises, focusing on three critical concerns:
 - the opportunities for and constraints to increased growth and competitiveness of the agribusiness sector in the region,
 - the opportunities for and constraints to increased smallholder participation in this growth, their benefit from it, and
 - the role for improved financial services in contributing to this growth.
- Identification of the *critical constraints* to growth and smallholder participation, and of *alternative interventions* that the mission could consider in order to address them.

The exercises demonstrated how producers were constrained by the cost of inputs, as well as limited access to critical inputs and working capital. With access to additional working capital, downstream businesses could expand their marketing and processing services. Upgrading their operations required access to investment capital. Financial institutions were not responding to this demand for services because borrowers had limited collateral, banks' staff and products were not well suited to these loans, and their monopoly on purchasing high-yield T-bills increased the opportunity cost of lending. In the following table drawn from the study, these critical constraints are identified by strata within the value chain, and a range of suitable interventions are identified for each.

The report on this test case identified two critical advantages to a value chain approach in the design of financial service interventions. First, it focuses attention on the most relevant financial services, those demanded because they help enterprises to take advantage of opportunities for growth in growth industries. The emphasis of donor interventions and product development shifts from a financial institution gaining “more market share, to the demand for services by entrepreneurs in high growth markets.” Second, by recognizing that optimal levels of investment in a sector require a range of services from a range of providers, it builds on the records, perspectives and challenges of a range of potential providers (Kula and Farmer, 2004).

TABLE 4: Financial Services Problems and Solutions for Manica Province, Mozambique

CATEGORY	PROBLEMS	SOLUTION(S)	PROVIDER(S)	ACTION STEPS
Institutional	Lack of private sector capital for ag investment Lack of incentives for banks to lend High interest rates	Liberalize government T-Bill and bond market	USAID and other donors lobby GoM	Study to determine revenue impact of this liberalization
		Create ag bank	Donors, GoM, IFC, banks, Rural Finance Project (assistance)	Identify investors/management, create banks
		Create rural banks	Private investor	Review rural bank legislation, identify investors/management, create banks
		Work through existing finance companies/create new ones	Banks, insurance companies, leasing companies, MFIs	Create broker agency
	Lack of commercial focus and capital for MFIs	Establishment of incentives for MFI capacity-building	Donors, NGOs, Rural Finance Project	Assess MFI capacity
		Facilitation of MFI access to commercial credit		Establish MFI action plans and performance-based contracts
	Inadequate financial sector HR capacity	Development of curriculum for technical schools and training programs -- emphasis on ag lending	Financial institutions, technical schools and universities, donors/NGOs	HR capacity assessment, curriculum design, establishment of certification criteria
	Difficulty of company and association registration	Use of commercial agents	Commercial agents and NGO facilitators	Identification of agent, establishment of incentives and cost-bearing mechanisms, awareness-raising.
Donor pressure on GoM				
Service provision/access	Lack of equipment financing	Lease Financing	Leasing Companies	Formalize agreements with incentives
		Equity investments and subordinated debt	Venture Capitalists IFC	Establish broker agent
	Lack of inventory financing	Establishment of overdraft facilities	Commercial banks	Negotiate guarantees Formalize agreements with incentives
	Lack of trade financing	Letter of Credit		
	Inadequate smallholder access to inputs	Intermediation between smallholder associations and financial institutions	NGOs, broker	Create broker agency
Farmer-level	Lack of farmer collateral	Inventory financing (warehouse receipts)	Private investors, insurance companies, inspection services, banks, donor (USAID) as guarantor	Identify interested parties, study tour (Kenya GWR), establish guarantees, establish agreements
		Land tenure reform	Donor / GoM	
	Inadequate smallholder investment	Rural savings mobilization	Solidarity groups, village banks, modified ROSCAs, NGO facilitation	

Source: Mozambique Rural Financial Services Study (Kula and Farmer, 2004)

4.3.2. Program Implementation

As Table 4 illustrates, potential interventions can target improvements in the enabling environment, building the capacity of existing or new institutions and businesses, or promoting the development and provision of new financial services.⁹ These three areas are consistent with interventions identified by a stricter financial market orientation. Value chain analysis, however, encourages consideration of a wider range of service providers, and the product market opportunities and constraints identified in the analysis help to prioritize the types of services and interventions pursued.

Enabling Environment. The literature on financial services provided by non-financial institutions consistently points to the importance of *information* for effectively screening borrowers and discouraging exploitative behavior by either lenders or borrowers, behavior that undermines the sustainability of financial services. Mechanisms, such as credit bureaus or less formal networks for sharing information on borrowers that are accessible to financial and non-financial institutions can help discourage side-selling and

⁹ Table 3 in the Executive Summary presents in capsule form the implications presented in this section,

the resulting losses to lenders. Market information systems that make price information widely available can discourage exploitative pricing practices by traders and agribusinesses facing little or no competition.

Collateral is a second important area. The three products described in this paper illustrate how non-financial institutions are willing to secure their loans with a wider range of assets: inventory, warehoused commodity, crops, and marketing agreements. Financial institutions are constrained by banking regulations, a lack of collateral registries, or codified procedures from accepting these same assets. This limits their willingness and ability to provide working capital loans to agribusinesses. Legal and regulatory changes in such areas as warehoused commodities, receipts, foreclosure, contract enforcement, and the creation of effective collateral registries could lower these barriers.

State-backed monopolies and bad policies (from inconsistent import policies to politically motivated debt forgiveness programs) also limit the expansion and viability of embedded financial services by distorting prices and costs. In the literature we reviewed, Mozambique offered two examples. Cotton concessionaires succeeded in negotiating the lowest prices in the region, undermining the benefits of contract farming for producers. A bank monopoly on T-bills distorted their prices and discouraged banks from on-lending to agribusinesses interested in additional working capital. Addressing such distortions is as critical to a value chain approach to financial services as it is to a financial market orientation.

Donor investments at the institutional and product level may be undermined by deficiencies in the enabling environment. They also run the risk of creating their own distortions—backing inefficient players, or an insufficient number of them, subsidizing products and services, or directing credit to specific sectors and value chains. While such distortions are to be avoided, investing only in the enabling environment will prove both slow and unsatisfying to donors and implementers committed to the expansion of viable, reliable and necessary rural financial services. As Pearce observed, donors should invest in more direct interventions in order to “address market failures that result in the poor being excluded from financial, or a narrow range of credit products and too few providers.”

Institutional Capacity Building. Increasing the number of credit providers is likely to require investments in institutional capacity. One objective in this area is to increase small farmers’ access to value chain financing. Each of the products reviewed featured an advantage of working with larger farmers due to the costs (screening, monitoring, and provision of other embedded services) and risks (side-selling) involved with smaller farmers. *Agribusiness agents, brokers and farmer organizations* can both play critical roles in reducing costs and risks and increasing the bargaining power of small producers by screening and organizing them, disbursing inputs and loans, monitoring, facilitating or delivering extension, collecting product, and disbursing payments. These services help to increase the scale and quality of smallholders operations as well as their market access, while lowering agribusiness’s unit cost of delivering these services. Driven by the private

sector, Critecna is an interesting example of a structure that lowered bank costs and perceived risks enough to provide small farmers with bank loans. To avoid persistent price distortions, program interventions should not subsidize the cost of delivering these services over time. (Pearce, 2003) Instead, subsidies of up-front investments in management capacity or facilities can jump start sustainable services that can provide mutual benefit to agribusinesses, small farmers and intermediaries over time.

As the literature points out, very limited competition can lead to price distortions and exploitative practices by providers of trader credit. While this appears not to be a common occurrence, the case of Ghana cotton (Dorward et al., 1998) demonstrates how exploitative practices can prove to be damaging both to the borrowers and the overall value chain in which they are participating. In Zimbabwe, CARE implemented a program designed *to increase the number of traders*, and the competition between them. Working in more remote communities, the program offered both training and a temporary credit guarantee that allowed traders to acquire inventory on credit. The training and guarantee were phased out as the traders developed experience and working relationships with private sector distributors. Over a seven year period, 580 traders received this assistance, and 60% were absorbed into the private distribute network. (Pearce, 2003)

This difference in costs and risks between small and larger enterprises is even more significant when it comes to services provided by formal financial institutions. Interventions that promote *linkages between formal financial institutions and agribusinesses* address this fact. In another example, Ethiopia's Cooperative Union leveraged a guarantee by USAID's development credit authority to borrow from a commercial bank. The loan was used to increase the volume of member grain it could store in its warehouses, as members received an advance at the time of deposit. Without the guarantee, the Cooperative Union had been unable to obtain a commercial loan. Within one year of receiving the guarantee, the commercial bank was lending to the Union without the guarantee.

Products and Services. Linkages with formal financial institutions can also be facilitated by encouraging a wider range of products and services. This paper looks at three of these products that are provided by *non-financial institutions*. Such services should be incorporated into rural finance projects. Barriers to their expansion can be addressed. For example, where necessary, standards can be identified and interventions implemented to promote pricing policies that are more transparent and distribute market risk between lenders and borrowers. In cases where the private sector is not effectively reaching smallholders with their services, pilot efforts can offer value. It will be interesting to see the results of the effort in Zambia to establish a system of smaller-scale warehouses, designed with a cost structure more appropriate to the scale of smallholders. (Onumah, 2003).

An appreciation of the value chains and their ability to structure and deliver loans under terms and conditions that fit product market transactions calls for donor attention to a more diverse market and wider range of products for financial institutions. Since the nineties, donor efforts to increase access to financial services have focused on the

enabling environment and financial institutions willing and able to directly serve the poor and the micro-entrepreneur. Many dollars have been invested in building the capacity of microfinance institutions. The bulk of these institutions' customers are not rural.

In order to expand rural services, donors must increasingly consider interventions and products that link financial institutions to promising value chains in which smallholders and small-scale rural enterprises grow. As a result, products and services encouraged by donor interventions should include:

- Working capital loans, lines of credit, and overdraft loans to processors, wholesalers and traders who on-lend to small farmers
- Leasing products
- Investment loans
- Warehouse receipts.

4.4. Conclusion: Lessons and remaining questions

This paper grew out of a limited literature review. Its purpose was to further the discussion around one strategic area highlighted at the Paving the Way Forward conference—value-chain financing—by reviewing and responding to existing literature that addresses this topic. Given this context, grand conclusions about best practices are not appropriate. However, in the spirit of furthering discussion, the review surfaced a number of lessons that could prove useful to interested donors and practitioners:

- Financial institutions and donors that are interested in expanding rural financial services, but intimidated by the perceived risks, can identify opportunities and prioritize interventions through value chain analysis.
- Neither a value chain orientation nor a financial market orientation is sufficient for designing and prioritizing interventions to expand sustainable rural financial services.
- Value chain financing is useful in addressing working capital demands, but not investment capital.
- Actors who create linkages between small producers and downstream players are key to expanding the access of small rural enterprises to both markets and financial services.
- Captive governance structures within value chains are not inherently exploitative, as the relationships and embedded services they create can derive mutual benefit to chain leaders and captives alike.
- Competition and access to information are critical deterrents to exploitative relationships.
- Sustainable services and relationships depend on mechanisms that reinforce the mutual benefits to buyer and seller, lender and borrower.

Finally, this exercise has raised a number of interesting questions for which time and resources were insufficient:

- What mechanisms are there to make the costs of embedded financial services more transparent, and is there empirical data that compares these costs within and across markets?
- Is there data that compares warehouse receipts systems in terms of the participation of and benefits to small farmers?
- What are some interesting cases showing the demonstration effect of rural financial services offered by non-financial institutions on financial institutions?
- Is there data, either comparative or aggregate, showing the sources of funds for rural value chain financing?
- Is there data comparing and analyzing borrower satisfaction with existing value-chain financial products and mechanisms?

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