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Value Chain Financing in Agriculture: Condition, Strategies and Practices of Lao PDR

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Value Chain Financing in Agriculture: Condition, Strategies and Practices of Lao PDR

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Preface

The need to share the innovations, practices, lessons learnt, and experiences of the Asia-Pacific Rural and Agricultural Credit Association (APRACA) member institutions is a continuous process within the rural finance and development network in the region. This is done through several means which enables every institutional member including its officers, partners and most especially the clientele to be technically equipped, financially secured and developmentally prepared and sustainable.

With the support of the technical experts and practitioners across the region, APRACA has boosted its programs and activities in improving the institutional development and capacities of its members in research and development and knowledge management.

One of the important aspects being supported by APRACA in rural finance and development is the documentation of agricultural value chain finance (AVCF) strategies, innovation, interventions and experiences in the field. For the past years, AVCF experiences from selected countries set the pace in knowledge acquisition and exchange. It has allowed and encouraged intellectual discussion to solicit additional ideas, insights and perspectives.

This year, APRACA through the IFAD FinServAccess Grant Project continues to support the documentation of AVCF to strengthen its knowledge-based system at the regional level. We heartily express our gratitude to IFAD, our institutional members and their clientele for documenting and sharing their work.

This document is part of a series of publication meant to support the AVCF training modules/resource book as a means for teaching-learning tool for key players, practitioners and stakeholders in rural finance and development.

We hope that this document will be useful to enhance and strengthen capacities of those interested to learn further the aspect of agricultural value chain finance within strategic locations in increasing productivity, profitability and sustainability especially in the countryside.

Acknowledgements

As we move towards a more client and development-oriented network, APRACA together with its partners support the increasing voluminous knowledge products coming from its institutional members through acquisition and dissemination.

This publication has been made possible due to the work and support of various partners. We would like to thank the following in enhancing APRACA's knowledge base to implement its programs and activities particularly on institutional development and capacities. Without them, such documentation will be aid in strengthening capabilities and competencies of institutions and officers.

- The Lao PDR research team from the Agriculture Promotion Bank and the Ekphatthana Microfinance Institution with the technical assistance of Mr. Keolabthavong Songsamayong and Mr. Somphone Sisenglath, lead researchers and writers;
- The different local institutions, cooperatives, farmer/fisher groups and communities for sharing their experiences and lessons learnt in rural and agricultural development especially on their involvement in agricultural value chain financing;
- The International Fund for Agricultural Development (IFAD) through the FinServAccess Grant Project for providing the documentation framework and technical guidance in coming up with this output; and
- The readers/users of this document who may find it relevant in providing and delivering dynamic financial service and understanding the importance of AVCF.

We encourage all key players and stakeholders to continue working together to enable all people especially the poor and marginalize to have better access to finance for their respective livelihoods and business operations.

Executive Summary

The rapid change in global agriculture during the recent years is characterized by increased demand for food due to growth in population, income, urbanization and changes in consumer preferences. Collectively, these changes contribute to a paradigm shift in the way food is produced, processed, marketed and consumed. To satisfy this increased demand, food value chains emerged as the most important process to ensure sustainable supply. This has also created opportunities for the primary producers and agribusiness entrepreneurs to transform commodities into products that are demanded by consumers across the globe.

In Lao PDR, while declining as a portion of GDP, agriculture remains central to Laos development, as it contributes to the livelihoods of 80 percent of the population (World Bank, 2012). Agriculture and forestry accounted for 33 percent of GDP, or approximately US$ 2.4 billion in 2010 (World Bank, 2012). The agriculture sector includes crops, livestock, fisheries and forestry which is an indication of the strong relationship of government with the appropriate use of resources and delivery of services for social and economic development in the rural areas.

The strategic shift by the GOL towards development of a market economy has resulted in an environment that is, in general, enabling private sector growth to take root. The degree of success in creating a functioning enabling environment is far from perfect, and can be characterized as work in progress.

Over the recent years, there has been a shift from the subsistence level of production to market oriented production. The development of agriculture value chains in the country is in nascent stage. In late 2000s, some of the agricultural value chain projects/programs were introduced and implemented in Lao PDR by some INGOs in collaboration with MAF and financially supported by donors. The experience of Lao PDR in agriculture and agribusiness reflects some limitations on the access to credit through financial systems with special reference to the commercial banks. In view of this, commercial banks and multinational buyers have experimented with models to provide financing to the weaker players who are tightly integrated into sourcing value chain. These models have been successful in many cases but are still in pilot stage with a reach to small section of the value chain actors.

The specific credit strategy for agricultural development in Lao PDR has not been founded so far, however the Rural and Microfinance (RMF) policy has been drafted and approved by the Bank of Lao PDR in 2003. The policy is perceived to as one of the effective tools for poverty reduction. The GOL reform program in rural and microfinance will enable the sector to expand significantly, with diversity, security and future sustainability.

The research study on the agricultural value chain financing is one effective tool of presenting and describing the status of the financial system of Lao PDR which is very relevant nowadays. The document include the policy, objective, strategy, current situation and key challenges of rural finance in Lao PDR in general because of the limitation of literatures on AVCF. The research study utilized primary and secondary data which were consolidated, synthesized and analyzed to describe the strategic interventions and processes of VCF in the country.

Innovative and applied cases on the implementation of agricultural value chain finance particularly by the Agricultural Promotion Bank (APB) were selected with one of the fastest growing MFIs in the country supporting agriculture and rural development. The cases focusing on rice and cassava were selected based on their discrete character, importance to small holder farmers and acceptability by the financial institutions which are considered to be very popular among the smallholder producers and have the potential to develop further with the support of financial services.

With this new development in Lao PDR, the agricultural value chain finance is a fast growing subsector which needs a lot of government and non-government support especially in the development of its products and services. Key players from all sector must join forces to work together and addressing the challenges and systematically engage to have more cases and experiences to be shared between and among institutions and individuals willing to work for a common good of providing access to finance in agriculture, fisheries and forestry especially to the marginalized and poor farmers, fishers, producers and traders and other agricultural related workers.

Acronyms

AfDB	African Development Bank
ANR	Agriculture, Natural Resources and Rural Development
APB	Agricultural Promotion Bank
AVCF	Agricultural Value Chain Finance
BCEL	Lao Foreign Commercial Bank
DTMFI	Deposit-Taking Microfinance Institution
EMI	Ekphatthana Microfinance Institution
EU	European Union
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
GOL	Government of Lao PDR
INGOs	International Non-Governmental Organizations
JICA	Japan International Cooperation Agency
LAK	Lao Kip (Lao Currency)
LDB	Lao Development Bank
LDC	Least Developed Country
LXML	Lane Xang Mineral Company Ltd.
MAF	Ministry of Agriculture and Forestry
MDG	Millennium Development Goal
MFI	Microfinance Institution
MOIC	Ministry of Industry and Commerce
MOF	Ministry of Finance
NDTMFI	Non-Deposit-Taking Microfinance Institution
NPEP	National Poverty Eradication Plan
PMO	Prime Minister's Office
RMF	Rural and Micro Finance
RMFC	Rural and Microfinance Committee
SCU	Savings and Credit Union
SNV	The Netherlands Development Organization
VC	Value chain
VCF	Value Chain Finance
VDF	Village Development Fund

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CHAPTER 1
Introduction

1.1 Overview

The rapid change in global agriculture during the recent years is characterized by increased demand for food due to growth in population, income, urbanization and changes in consumer preferences. Collectively, these changes contribute to a paradigm shift in the way food is produced, processed, marketed and consumed. To satisfy this increased demand, food value chains emerged as the most important process to ensure sustainable supply. This has also created opportunities for the primary producers and agribusiness entrepreneurs to transform commodities into products that are demanded by consumers across the globe.

Asian continent is not an exception to these global phenomena. While the supply side (both quantity and quality of production) and agriculture value chain[1] development has not been able to keep pace with time, the demand side trends in the emerging and developing economies of the Asia have been quite attractive (in some cases catching up with those of the developed economies). There is thus a significant gap between the supply and demand sides of food in the value chains. This gap again observed to be wider due to the non-competitiveness in the upstream of the value chains[2] (mainly the smallholder farmers). According to the Thapa and Gaiha [1], 87 percent of the world's 500 million small farms[3] [2] are in Asia and the Pacific region. China and India alone account for 193 million and 93 million small farms, respectively. The other Asian countries with a large number of small farms for example Indonesia (17 million), Bangladesh (17 million) and Vietnam (10 million) occupy an important segment of Asian food market. They present a compelling opportunity for buyers, lenders and other actors in the value chain to enhance their activities; however, in real sense they are facing many obstacles which hinder their competitiveness. The main obstacle is perhaps the unmet demand for formal finance and tailor made financial products and services to cater their needs.

In Lao PDR, while declining as a portion of GDP, agriculture remains central to Laos' development, as it contributes to the livelihoods of 80 percent of the population (World Bank, 2012). Agriculture and forestry accounted for 33 percent of GDP, or approximately US$ 2.4 billion in 2010 (World Bank, 2012). This is down from 61 percent in 1990 and 52 percent in 2000 and reflects the growing importance of other sectors such as mining, hydropower and services (World Bank, 2012).

The agriculture sector includes crops, livestock, fisheries and forestry. Agriculture is sometimes more broadly referred to in government documents as the agriculture, natural resource and rural development sector, or ANR (MAF, 2010a). This is an indication of the strong relationship the government sees between agriculture and development.

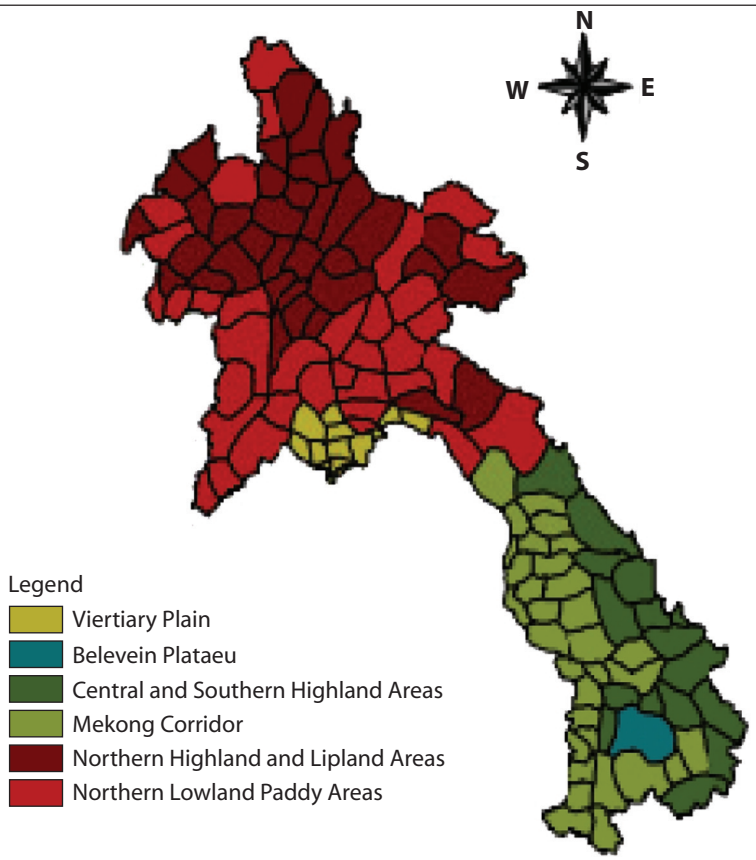
Agriculture is broadly divided into lowlands and uplands systems (FAO, 2011). This reflects the geography of Laos, with a land area of approximately 240,000 square kilometres, of which around 80 percent is mountainous (FAO, 2011). Approximately 25 percent (or 60,000 square kilometres) of the

[1] Food and Agriculture Organization of the UN (FAO) defined 'Agriculture Value Chain' as a series of activities that add value to a final product, beginning with the production, continuing with the processing or elaborating of the final product, and ending with the marketing and scale to the consumer or end user.

[2] Upstream is defined as the first set of the activities in a value chain (e.g. production), as juxtaposed with downstream (e.g., marketing and export) activities.

[3] According to IFPRI (2007), definitions of small farms vary from country to country based on the land holding pattern. The most obvious measure is farm size, and several sources define small farm as those with less than 2 hectares of cropland. In a similar but less precise vein, others describe small farms as those with "limited resources," a definition that includes land as well as capital, skill, and labour.

Figure 1. Map of Lao PDR



land area of Laos is used for crops, livestock or forestry. In 2009, 10 percent of Laos land area was considered agricultural land. Of this, approximately 6 percent is arable, used for temporary crops or fallow, while approximately 4 percent would be used for perennial crops and livestock grazing (World Bank, 2012). Further, 15 percent of the land area is estimated to be potential production forest, (Tong, 2009)[4]. The areas of arable and agricultural land show an increasing trend due to land-use change.

The strategic shift by the GOL towards development of a market economy has resulted in an environment that is, in general, enabling private sector growth to take root. The degree of success in creating a functioning enabling environment is far from perfect, and can be characterized as work in progress. Nevertheless, in comparison with the pre-reform period, the private sector has significant room for engaging in wealth creation, as government-run monopolies have been largely dismantled (be it in terms of producing or marketing products). Furthermore, other measures such as private ownership with defined and protected property rights, privatization of state-owned enterprises, as well as opening up of the country to international trade and foreign investment, have all contributed to increased opportunities for the private sector.

Over the recent years, there has been a shift from the subsistence level of production to market oriented production. The development of agriculture value chains in the country is in nascent stage. In late 2000s, some of the agricultural value chain projects/programs were introduced and implemented in Lao PDR by some INGOs in collaboration with MAF and financially supported by donors[5].

[4] Tong estimates that 3.5 million hectares or 35,000 square kilometres (approximately 15 percent of the total land area of Laos) will be deemed potential production forest areas.

[5] Some examples, Animal raising value chain projects in the North of Laos under the RDMA program supported by GIZ; Fodder Maize Value Chain Projects in the South of Laos supported by SNV; Rice Value Chain Project in Savannakhet province, implemented by SNV with financial support from EU; and Cassava Value Chain Project in South of Laos, implemented by SNV, financially supported by IFAD, etc.

1.2 Background

The experiences across the globe with special reference to the Asian continent however reinforced the fact that the large size players in agriculture and agribusiness do not face much difficulty in access to credit through financial systems with special reference to the commercial banks. On the other hand, many small holder producers and small and medium-sized agribusinesses remain under-served probably due to the obstacles mentioned above. Over the past decade, the commercial banks and multinational buyers have experimented with models to provide financing to the weaker players who are tightly integrated into sourcing value chain. These models have been successful in many cases but are still in pilot stage with a reach to small section of the value chain actors.

The specific credit strategy for agricultural development in Lao PDR has not been founded so far, however, the Rural and Microfinance (RMF) policy has been drafted and approved by the Bank of Lao PDR in 2003. The policy stated that sustainable rural and microfinance can be effective tools for poverty reduction, which can help Lao PDR to emerge from LDC status by 2020. The GOL reform program in rural and microfinance will enable the sector to expand significantly, with diversity, security and future sustainability. The RMF reform program is a major contribution into the implementation of the National Socio-Economic Development Plan.

Box 1. Rural and Microfinance (RMF) policy in Lao PDR

Vision for development of the rural and microfinance sector will focus on the four areas of activities as follows:

- The RMF sector will expand significantly: RMF will significantly expand over time to increase outreach to the greater number of poor in Lao PDR. Currently, the sector reaches only a small percentage of the Lao population.
- The sector will include a diversity of independent MFIs: The sector will comprise several new MFIs with a diversity of legal ownership, including private and/or public ownership. It will also develop a variety of methodologies, to reflect the diversity of the Lao people and situation. The MFIs will be managed and governed autonomously. The national laws and legal instruments will support the development of the sector.
- The sector will gradually become sustainable: By 2005, most of the people in RMF will share common understanding of RMF best practice and sustainability. RMF initiative will have a plan to become sustainable. Interest rate will be set by MFIs' management based on full cost recovery, profitability and market demand. The management of MFIs will be fully accountable and skilled.
- The environment will ensure security for depositors: An appropriate legal and regulatory framework will be designed and implemented. Supervision of MFIs, especially large deposit taking MFIs, will be strengthened in order to ensure depositors' protection.

(Source: RMF Policy Statement of Bank of Lao PDR)

It is reported that rural households, 90 percent of which are considered poor, have difficulty accessing financial services; credit demand amounting to several hundred million dollars has not been filled. In a household survey conducted by the Japan International Cooperation Agency (JICA) in 2012, it was reported that credit needs during the 12 months were 6.7 times of available funds[6]. For agricultural credit, there is high demand for short-term microcredit for cultivation and sales of agricultural products and stockbreeding. For larger credit amounts, demand is relatively low because the scale of the rural

[6] JICA (2012), Report on Agricultural Survey in Lao PDR.

household economy is still small despite its potential demand. For the provision of credit, the Agricultural Promotion Bank (APB) plays an important role. In poor districts identified as priority, the Nayobai Bank, a state-owned policy bank also provides financial services.

Many rural financial institutions take into account the nature of agricultural loans in providing credit, such as allowing repayment of credit after harvesting. In addition, many financial institutions, including government-affiliated banks, provide microcredit under the joint liability group scheme without requiring land or other means as collateral. However, some financial institutions require land or assets as collateral for even a small amount of finance because of the difficulty in securing co-signers among joint liability group members. Rural households tend to take into account the certainty that they will be able to obtain credit, access to a credit provider, and flexibility in repayment period, as well as favorable interest rates, when considering whether to seek credit. It was also reported that many rural households use microfinance institutions and village funds, which provide easily accessible credit services in compliance with villagers' needs but have higher interest rates, rather than government-affiliated banks that offer lower interest rates.

In Lao PDR, credit for rural households is provided by various institutions, including government-affiliated banks, commercial banks, microfinance institutions, village funds, private companies engaged in contract farming, and informal sectors.

1.3 Objectives of the Study

Agriculture value chains are organized linkages between groups of producers, traders, processors, and service providers (including non-governmental organizations) that join together to improve productivity and the value added from their activities. In a well-managed value chain, the value of the end-product is often greater than the sum of individual value additions. By joining together, the participants in a value chain increase competitiveness and are better able to maintain competitiveness through innovation. Ensuring financial access to the actors in the upstream of the value chains in general has always been difficult and challenging. The challenges include: (1) Provision of timely and appropriate loan and credit services; (2) high transaction costs for both borrowers and lenders; (3) high risks faced by both borrowers and lenders; (4) lack of reliable financial information about rural households (compounding transaction costs and risks); and (5) financial products ill-suited to the financial flows of the borrowers and lenders[7].

The Agricultural value chain finance (AVCF) are being facilitated to address the challenges mentioned above by different approaches to reduce the ecosystem imbalances and aims to improve the chain efficiency and inclusive growth of the actors in the value chains and reduces the perceived risks of the lending agencies. By doing so, key players and stakeholders in the value chains obtain the best services in rural and agricultural development conducive for individual and collective growth. These approaches are translated as best practices and innovations necessary in delivering the best rural finance and banking services possible. The objective of this paper is: (i) to identify and document the best practices and innovations on value chain financing in Lao PDR and (ii) to discuss the challenges and draw lessons from the findings of the case studies for the future.

1.4 Scope of the Document

This document is unique combination of both primary and secondary study on the best practices to deliver appropriate financial products and services to the small holdergrowers, processors and traders. The paper also highlighted the financial products and services at different levels of the stakeholders responsible for growth and development of agricultural value chains. The information in this document

[7] An APRACA FinServAccess Publication with the Special Sponsorship of the International Fund for Agricultural Development (IFAD): 2013/a, Value Chain Financing in Agriculture: Case Study from India.

has been put together the support of the Agricultural Promotion Bank (APB) and some other financial institutions in Lao PDR in financing some agricultural value chains that have been supported by the international organizations (IFAD, SNV, and EU).

The document is organized as follows: *Chapter 2* an introduction on Agricultural Value Chain Finance – definition, framework for understanding and analyzing the structure and process of agricultural value chain financing. Detailed illustrations on financing mechanism were also made to clarify the importance of both in the agricultural value chain finance or rural finance context. In *Chapter 3,* the high level policy, objective, strategy, current situation and the challenges of the rural finance in Lao PDR were discussed. The *Chapter 4* focuses on cases of agricultural commodity based value chain financing practices, instruments and their economic relevance. Two major commodities (rice and cassava) were dealt in this chapter, while *Chapter 5* describes the case study on microfinance in support to agricultural value chains practiced by Ekphatthana Microfinance Institution (EMI). Finally, the conclusions and few suggested future directions were given in *Chapter 6.*

CHAPTER 2
Introduction to Agricultural Value Chain Finance

2.1 Agricultural Value Chains

Value Chain (VC) involves the sequential linkages through which raw materials and resources are converted into products for the market. *Agricultural Value Chain* (AVC) identifies the set of actors (private, public, including service providers) and a set of activities that bring a basic agricultural product from production in the field to final consumption, where at each stage value is added to the product. It may include production, processing, packaging, storage, transport and distribution or marketing. Each segment of a chain has one or more backward and forward linkages (Figure 2.1). Thus, with AVCs, we move away from a commercial, segmented form of agriculture in which many separate links operate in isolation, out of sync with each other, in which farmers produce in bulk, are exposed to price risks and capital needs and produce independently. The AVC is based on integrated systems, differentiated production, risk management, information needs and interdependent farmers[8].

2.2 Agricultural Value Chain Finance

Agricultural Value Chain Finance (AVCF) is thus, the flows of funds to and among the various links within the AVC in terms of financial services and products and support services that flow to and/or through VC to address and alleviate constraints, and fulfill the needs of those involved in that chain, be it a need for finance, a need to secure sales, procure products, reduce risk and/or improve efficiency within the chain and thereby enhance the growth of the chain (Fries, 2007). VCF is a comprehensive approach which looks beyond the direct borrower to their linkages in order to best structure financing according to those needs (AfDB, 2012).

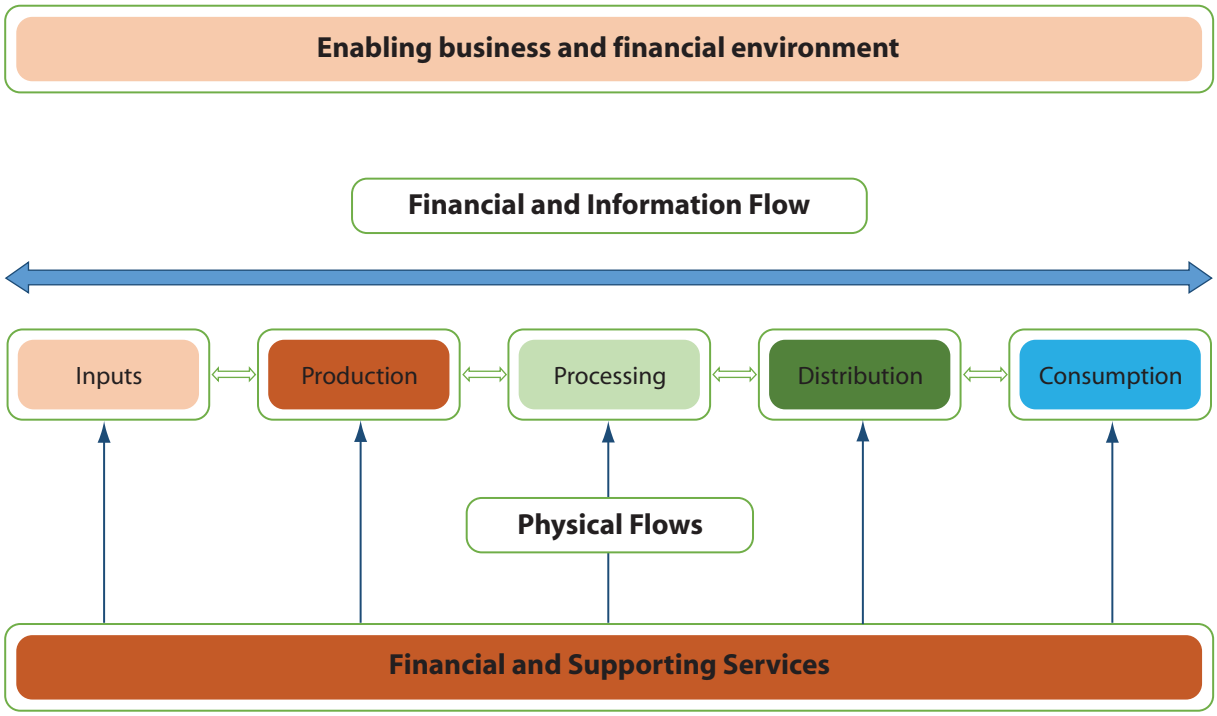
There are five main components to consider in VC analysis, as depicted in Figure 2.1. These are the actors directly providing inputs, producing and distributing the product; the relationships and embedded services between these actors; the markets, the financial, general and specialized services coming from sources external to the production and distribution chain, and the enabling environment, including tax and trade policies and regulations.

Apart from primary producers, several other players drive the AVCF and play important roles; these include dealers in agri-commodities and agri-inputs, food processors, retailers, support service institutions, banks and financial institutions. Each of these players may be operating in the AVCF at varying scales with investments of only a thousand dollars or even less or outlays of more than several million dollars. They operate along the VC, with linkages into one another. Key participants in a VC are: Producers, Agri-Input Dealers, Aggregators, Producers, Wholesalers and Retailers (see Table 2.1).

Primary Producers/Farmers: The primary producers/growers in AVCs are very important actors and their position in the chain becomes the key driver to determine the sustainability of the VCs. Majority of farmers in African countries are single cash crop farmers supported by some food production, or vice versa. However, there are also specialized chain actors, who are able to produce quality cash crops for

[8] African Development Bank Group (2013), Agricultural Value Chain Finance (AVCF) and Development for Enhanced Export Competitiveness.

Figure 2. Finance flows within the value chain



(Source: Madu, Workshop Presentation)

the AVC. Others may be multi-activity chain farmers, who are not only involved in production process but also in other activities of VC like grading, primary processing, and local marketing. The best actors are the market lined producers, who perform multiple activities (in terms of marketing, transport, production and processing), but such farmers are very few in developing economies.

Agri-Input Dealers are crucial to the AVCF as they not only provide seeds, pesticides, fertilizers and farm equipment (machinery) to farmers but also act as extension arms providing technical information to the farmer. This is a crucial input in the VC and its capacities and quality will determine to a large extent the quality and quantity of the end-produce. Just as with any other small trader, this player will be driven by the profit and a desire to increase sales volumes. Capacity building on this tier will ensure that the farmers get the right advice. In case of small holders, this tier may have to be supported by the aggregator (processor) to ensure that the farmer gets the right quantity and quality of inputs. Also, donor initiatives and credit programs can support the farmer in getting the required inputs and can help agri-input dealers to enhance their businesses. In some instances, an agri-input dealer may also become an aggregator, supplying inputs and then procuring the produce. In this case of course, the agri-input dealer plays a major role at the producer end and can corner a larger share of the value leaving a minor share for the primary producer.

Agri-Processing Companies play a major role in adding value to the agri-commodity and in many cases will link up with wholesalers or retailers to market the product. Agri-processing companies can be small scale enterprises or can even be large corporations having multi-country operations. This is another important player in the VC which can spur rural development, ensure off-take of commodities from the producers and at the same time provide employment opportunities. Other roles that can be played by agri-processing companies include acting as a channel to provide market access to producers, providing agri-inputs and/or finance to enable producers to procure inputs, transfer of production methods/ technologies etc. The challenges faced by small agri-processing companies that VCF can help to address include challenging policy environment, lack of availability of input material, cost of input and price fluctuations, lack of technology for processing, competition from multinationals and lack of credit availability.

Table 1. Impact of lack of access to finance on the value chain (VC)

	Impact on the processor	Impact on the producer	Impact on the input provider
Lack of credit for the processor	• Cannot secure sufficient volumes. • Cannot hold stocks in order to operate most efficiently.	• Delays in milling and processing, resulting in storage costs and potential sales losses.	• Producers cannot create high quality goods, so lack incentives to utilize inputs.
Lack of credit for the producer	• Volume shortfalls, resulting in running factory inefficiently. • Lack of economies of scale. • Difficulty in obtaining standard grades. • High cost of capital per production unit. • Limited capacity to absorb fixed costs Associated with processing.	• Suboptimal production mix. • Adopts low risk, low yield production pattern. • Asymmetric price information causes producers to be price takers at the farm gate. • Limited use of inputs lowering yield and quality.	• Reduced demand for inputs by producers.
Lack of credit for the input provider	• Volume shortfalls resulting in running factory inefficiently. • Lack of economies of scale. • Difficulty in obtaining standard grades. • High cost of capital per production unit.	• Has to buy inputs expensively due to the high costs of inputs, uncertainty regarding sales volume, and high risk associated with selling on credit	• Provide inputs expensively due to the high costs of inputs. • Difficulty maintaining adequate stock, uncertainty regarding quantity to be sold.

(Source: Rural Finance Innovations; Topics and Case Studies, 2005, World Bank)

Box 2 below highlights brief definitions of three interrelated value chain concepts. While the concept and approach of value chain finance may be quite new, the key components are not. The concept and practice of value chains or supply chains have been present for millennia, but in today's world of heightened market requirements and just-in-time delivery, the chains become ever more important. Similarly value chain analysis is a successor to the term subsector analysis and remains an important way of diagnosing a chain for determination of areas of weakness and intervention. It can also be noted that value chain finance and its increasing importance builds from the combination of value chain analysis, tailor designed financing, increased market integration in agriculture and the application of improved financial instruments and information technologies. It commonly involves multiple parties, each of which have a vested interest in the success of the others in the chain – the more each have to gain or lose from the partnership, the stronger the value chain. These relationships can be formal or informal. They can involve simple financing agreements such as with the traditional 'farming on shares' where costs, inputs and returns are shared. In this case, through informal or contractual arrangements, a farmer typically receives inputs such as seeds, fertilizer and technical guidance, in exchange for a share in the product with a business partner – who may be a neighbor or an agribusiness wanting to secure produce for their mill or business[9].

[9] Miller and Jones (2010), Agricultural Value Chain Finance, Tools and Lessons, FAO and Practical Action Publishing.

Box 2. Value chain definitions

A useful starting point for understanding value chain financing in agriculture is with three general definitions:

1. Value chain – the set of actors (private, public, and including service providers) and the sequence of value-adding activities involved in bringing a product from production to the final consumer. In agriculture they can be thought of as a 'farm to fork' set of processes and flows (Miller and da Silva, 2007).
2. Value chain analysis – assessment of the actors and factors influencing the performance of an industry, and relationships among participants to identify the driving constraints to increased efficiency, productivity and competitiveness of an industry and how these constraints can be overcome (Fries, 2007).
3. Value chain finance – financial services and products flowing to and/or through value chain participants to address and alleviate driving constraints to growth (Fries, 2007).

To summarize, the key aspects of the value chain definitions for agriculture are:

- Value chains – multiple, linked actors and sequential, value-adding activities.
- Value chain analysis – assessment of actors, relationships, constraints and opportunities.
- Value chain finance – finance to address the constraints and opportunities, both through the value chain, and to and/or because of the value chain.

2.3 Business Models

The strategy for developing or strengthening value chains depends on the business model. The term "business model" in value chains refers to the way value is added within a network of producers, suppliers and consumers. The business model includes the drivers, processes and resources of the entire value chain system, even if the system is composed of multiple enterprises. The business model concept is linked to business strategy (the process of business model design) and business operations. If value chain finance is to be successful, the value chain must be viewed as a single structure, with the model of this structure providing a framework for further analysis.

A value chain is not an entire sector or subsector. It involves a specific group of interrelated producers and other actors who supply **a particular end market**.

The relationship between buyers and sellers can be described through various types of linkages along a continuum:

- An instant or spot market, where producers come to sell their commodities and where prices fluctuate; this is the most risky in terms of setting market price;
- A contract to produce and buy, known more generally as contract farming;
- A long-term, often informal, relationship characterized by trust or interdependency;
- A capital investment by one of the buyers for the benefit of the producer, characterized by high levels of producer credibility and dependence; and
- Full vertical integration.

Hence, moving from an uncontrolled buyer-seller relationship model towards a more integrated model improves the prospects for financing both within and into the chain.

Smallholders account for a large proportion of rural poor people in developing countries and produce much of the countries' food. As such, they are an important target group, offering opportunities to increase the socio-economic welfare of a large number of people, improve food security and drive the

economic development of the country. Special emphasis must therefore be placed on models that allow the full participation of smallholders in value chains.

Table 2 illustrates the typical organization of smallholder production and marketing – that is, the relationship of farmers to the market and/or the wider value chain. This analysis provides a basis for value chain business models and the accompanying financing approaches and is expanded upon in the sections that follow.

Table 2. Typical organizational models of smallholder production

Business Models	Driver of Organization	Rationale
1. Producer-driven (Association Model)	• Small-scale producers, when formed into groups such as association or cooperatives; • Large-scale farmers.	• Access to new market; • Obtain higher market price; • Stabilize and secure market position.
2. Buyer-driven	• Processors and Exporters; • Retailers and Traders; • Wholesalers and other traditional market actors.	• Assure supply and Increase supply volume; • Supply more discerning customers – meeting market niches.
3. Facilitator-driven	• NGOs and other support agencies; • National and local governments.	• 'Make markets work for the poor'; • Regional and local development.
4. Integrated	• Lead firms; • Supermarket.	• New and higher value markets; • Right price for right quality.

(Adapted from Miller and Jones, 2010)

2.4 Instruments to Promote Agricultural Value Chain Finance

First and foremost, AVCF is an approach to financing. It uses an understanding of production, value-added and marketing processes to determine the financial needs of actors in the chain and how best to provide financing to those involved. Many diverse and innovative financial instruments may be applied or adapted to meet specific financial needs. Commodities and cash-flow projections can be used to secure financing and reduce risk.

The various financial instruments often used in AVCF fall into five categories (Table 3).

Table 3. Categories of financial instruments used in Agricultural Value Chain Finance

Category	Instruments
Product financing	• Trader credit • Input supplier finance • Marketing and wholesale company finance • Lead-firm financing
Receivables financing	• Trade-receivables finance • Factoring • Forfaiting
Physical-asset collateralization	• Warehouse receipts finance • Repurchase agreements (repos) • Financial leasing (lease-purchase)
Risk mitigation products	• Insurance • Forward contracts • Futures
Financial enhancements	• Securitization instruments • Loan guarantees • Joint-venture finance

(Adapted from Miller and Jones, 2010)

These instruments can be used alone, but it is more common to use several of them within a value chain. Most of them are used in many types of finance; they are not exclusive to AVCF. However, while such instruments as factoring may be common in commerce or manufacturing, their application to agricultural financing is often new and unfamiliar. It is important to note that the use of one or more of these financial instruments does not in itself constitute value chain finance; rather, value chain finance is an approach that applies instruments appropriate to the value chain.

2.5 Demand and Supply of Agricultural Value Chain Finance

The demand in agriculture finance starts with the primary producers' need for finance for inputs such as fertilizers, seeds, agrochemicals, fuel, tools and equipment, adoption of improved technology and the labor used to plant, harvest and transport their crops to market. For some, only short term working capital is needed, while for others, investment capital is important to carry out the production at a sustainable scale. Financial services such as short and longer-term loans, line of credit, letters of guarantee, payments and transfers, leasing and insurance can help producers overcome seasonal income fluctuations and adopt more competitive technologies such as irrigation systems, farm mechanization, etc. Other value chain actors (e.g. input suppliers, agro processors, aggregators and traders) also require access to financial products and services to support their short and longer term capital needs. Table 4 below provides an indicative list of demand and supply side of the value chain finance in agriculture and allied activities.

Table 4. Demand and Supply of finance to in agricultural value chain in Laos

No.	Value Chain Actors	Demand side	Supply side	
		Need for finance	Financial Intermediaries	Non-financial Intermediaries
1	Input Suppliers	To stock seeds, fertilizers, pesticides, livestock feed, medicines, farm equipment	Agricultural Promotion Bank (APB), Commercial Banks, Microfinance Institutions (MFI), Village Development Funds (VDF)	Input marketing companies, farm equipment suppliers
2	Primary producers	To produce crops, dairy products, fisheries and other livestock	Agricultural Promotion Bank (APB), Commercial Banks	Input and equipment suppliers, marketing companies
3	Local Aggregators	For grading, sorting and primary storage of local produces and payment to producers	Agricultural Promotion Bank (APB),	Large traders, wholesalers, processors, exporters
4	Large Aggregators	To aggregate and store large amount of produces and payment to the small aggregators	Agricultural Promotion Bank (APB), Commercial Banks	Large traders, wholesalers, processors, exporters
5	Storage & Warehouse	To create storage facilities for grains, fruit, vegetable, milk, fish, etc.	Agricultural Promotion Bank (APB), Commercial Banks	Processors, exporters, producers, companies
6	Primary processors	Creating primary processing facilities at the local level for supply to the end processors	Agricultural Promotion Bank (APB), Commercial Banks	Famers' organization, Large processors, trading and marketing companies
7	Final Processors	Creating large facilities for processing plants, packaging facilities, etc.	Commercial Banks, Agricultural Promotion Bank (APB)	Wholesalers, exporters

Table 4. *(continued)*

No.	Value Chain Actors	Demand side	Supply side	
		Need for finance	Financial Intermediaries	Non-financial Intermediaries
8	Wholesalers	Trading and branding	Commercial Banks, Private companies	Exporters, Corporate sector
9	Exporters	Pre-shipment and post-shipment credit facilities	Commercial Bank, Private companies	Corporate sector
10	Retailers	Retailing of produces	Agricultural Promotion Bank, Microfinance Institution, Village Development Fund (VDF)	Families and Friends

(Adapted from Demand and Supply of finance to in agriculture value chains in India)

CHAPTER 3

Rural Finance in Lao PDR: AVCF High Level Policy, Objective, Strategy, Current Situation and Key Challenges

3.1 A High Level Policy

Since the information related to the specific agricultural value chain finance (AVCF) in Lao PDR has not been found, the author of this paper uses the information of rural finance in Lao PDR instead of agricultural value chain finance. On the other hand, the rural finance sector can somehow represents the agricultural value chain finance since about 90 percent of the activities financed by the rural finance service providers is the agricultural production related activities.

The Government of Lao PDR aims to graduate from Least Developed Country (LDC) status by 2020. It aims to eradicate poverty through a combination of strategies for economic growth, social and cultural development, and conservation of resources as set out in the Millennium Development Goals and the National Poverty Eradication Plan (NPEP).

Financial sector deepening is a priority for Lao PDR if target GDP growth of around 7 percent per year is to be achieved. The Government's vision is that the financial sector will have the depth to support broad-based sustainable economic growth, poverty reduction and macroeconomic stability through diverse and strong banks and non-bank financial institutions that efficiently allocate resources providing wide access to financial services.

To encourage development of a sustainable, market-oriented rural and micro finance sector, in 2003 the Government formulated high level policies consistent with its vision for the financial sector and documented these in a high level *"Policy Statement for the Development of Sustainable Rural and Microfinance"* (Policy Statement)[10].

The formulation of the Policy Statement was managed and coordinated by an inter-ministerial Rural and Microfinance Committee (RMFC) chaired by the Bank of Lao PDR (BOL), vice-chaired by the Ministry of Finance (MOF), and with membership from BOL, the Ministry of Agriculture and Forestry (MAF), the National Economic Research Institute (NERI) of the Committee for Planning and Cooperation (CPC), the Prime Minister Office (PMO), and the Agricultural Promotion Bank (APB).

In November 2003, the PMO endorsed the Policy Statement, which builds a common understanding and consensus on the Government's vision and policy reforms for rural and micro finance, and provides the basis for: (i) putting in place an enabling policy, legal and regulatory environment for the emergence of new sustainable private rural and micro finance institutions; and (ii) strengthening existing rural and micro finance initiatives and institutions to ensure that the industry as a whole will become sustainable and market-oriented[11].

[10] In the Government's definitions, "microfinance" means the provision of a broad range of financial services (credit, deposits, insurance, etc.) to the poor and low income households. "Rural finance" means the provision of those same services to people and enterprises located in rural areas. "Sustainability" refers to the ability of a microfinance institution (MFI) to cover all of its costs and generate a reasonable margin of profit through interest and other income from clients.

[11] First Initiative (2004), Development of a Rural and Micro Finance Strategy and Legal and Regulatory Framework in Lao PDR.

3.2 Objective and Strategy

Guided by the Policy Statement (Box 1: Rural & Micro Finance Policy in Lao PDR), the Government has conducted an in depth analysis of the problems and issues associated with rural and microfinance development in Lao PDR in order to identify the strategies for how to implement the Policy Statement and the practical actions that are needed to carry through the strategies. From mid-2003, in parallel with the formulation of the Policy Statement, an inter-ministerial consultative process and public consultation with rural and microfinance industry stakeholders, managed by RMFC, have led to the formulation of this Strategy and Action Plan.

The process established the objectives and strategies to achieve the overall vision in the Policy Statement as the following.

- Objective 1: to create an enabling policy framework for public and private provision of rural and microfinance, using three strategies:
  - implementing specific financial sector policy changes,
  - formalising a consultative and regulatory impact assessment regime, and
  - integrating the rural and microfinance strategies with the overall strategy for the financial sector;
- Objective 2: to create a sound prudential regulatory and supervisory environment for public and private rural and microfinance institutions, using three main strategies:
  - enhancing existing regulations,
  - introducing a regulatory and supervisory regime for the Agricultural Promotion Bank (APB), and
  - introducing a regulatory and supervisory regime for the private sector in rural and microfinance;
- Objective 3: to create a financially self-sustainable, market-oriented APB sector, using two main strategies:
  - financial restructuring of APB, and
  - improving governance, management autonomy and operational capacity in APB;
- Objective 4: to create a diverse and competitive private rural and microfinance sector using two main strategies:
  - allowing pilot testing and providing start-up support to private rural and microfinance institutions;
  - fostering the development of full-scale private institutions; and
- Objective 5: to create a supportive non-prudential regulatory environment, using two main strategies:
  - clarifying and incentivising the investment environment; and
  - Improving the operating environment.

3.3 Current Situation

In Lao PDR, credit for rural households is provided by various institutions, including government-affiliated banks, commercial banks, microfinance institutions, village funds, private companies engaged in contract farming, and informal sectors, as detailed below[12].

[12] JICA (2012), Report on Data Collection Survey on Agricultural Finance in Lao PDR.

3.3.1 Government-affiliated Banks

Government-affiliated banks include the APB mentioned above, the Policy Bank (or Nayobai Bank), BCEL Bank, and the Lao Development Bank (LDB). The APB in particular provides a wide range of credit for rural households, including joint liability group microcredit and larger credit amounts for individuals and businesses. Nayobai Bank, which was established in 2007 to provide finance in poor districts based on government policy, provides credit only in the poor districts identified as priority.

3.3.2 Commercial Banks

Among commercial banks, the ACLEDA Bank and Pongsavanh Bank have been working toward provision of financial services for rural households. The ACLEDA Bank, a Cambodian bank that branched out into Laos, is increasing its branches in Laos with the assistance of international organizations based on its success in microfinance services in the rural areas of Cambodia. It is expected that the ACLEDA Bank will expand its presence in the rural microfinance market.6

3.3.3 Microfinance Institutions

The Central Bank of Laos classified microfinance institutions (MFIs) into the following three types—(1) Non-Deposit-Taking Microfinance Institutions (NDTMFI), (2) Deposit-Taking Micro Finance Institutions (DTMFI), and (3) Savings and Credit Unions (SCU)—and issued restrictions on each institution in 2008. Furthermore, the Central Bank has been preparing a Prime Minister's Decree that encompasses all these regulations. The summary of each institution is detailed below (see Appendix 4-1 for the list of MFIs).

3.3.4 Village Development Funds (VDFs)

Village Development Funds (VDFs) are available in the rural areas of Laos. Village funds provide accessible micro-deposit and microcredit services for villagers. Because there is no law or regulation regarding village development funds, the funds, which are established with the support of aid agencies, the Lao Women's Union, and government programs, have been managed in accordance with each institution's policy. It is difficult to grasp the extent of the use of village development funds because it is not mandatory for any of the fund providers to register with or report to the Lao Central Bank or in their respective provinces and districts. It is unclear who in the provinces and districts is responsible for village development funds, and there appears to be no system in place to monitor village funds systematically; if there is such system, it is not functioning effectively.

3.3.5 Private Companies Engaged in Contract Farming

In Laos, a contract farming practice called the "2 + 3 system" is expanding rapidly; under this system, private businesses provide indirect financial services to farmers. Farmers provide land and labor, and businesses provide (1) necessary investments such as seeds, seedlings, and fertilizer; (2) technology; and (3) market (by purchasing the crops). The primary crops cultivated through this system include cassava, rubber, sugarcane, eucalyptus, and banana. There are many overseas companies from neighboring countries, including China and Thailand, investing in contract farming. The system appears to be attractive for farmers because businesses provide necessary investments for cultivation and to secure the sale of crops.

3.3.6 Informal Sector

In the rural areas of Laos, people still practice informal and traditional financing through their families, friends, and moneylenders. One report reveals that 33 percent of total households borrow money from their friends and families and from moneylenders who charge 100 to 200 percent annual interest. A number of cases were identified in the survey, such as loans from moneylenders at monthly interest

rates as high as 30 percent, and there are increasing numbers of moneylenders from neighboring countries with the opening of the border bridge. Meanwhile, many interviewed farmers reported that after the establishment of the village fund, they could obtain credit easily and did not need to rely on money lenders. This finding indicates that village funds facilitate finance to rural households and reduce the cost of financing.

3.4 Key Challenges

There is high demand for rural credit, particularly for short-term and flexible microfinance used as operating capital in agricultural production. As traditional agriculture shifts to modern agriculture that requires capital investment for fertilizers, agricultural chemicals, agricultural machinery, labor force, and so on, it is considered that demand for rural credit will increase further. Rural households prefer accessible services that can be used conveniently despite a relatively high interest rate and are also interested in deposits. On the other hand, because the supply side shows problems with low institutional and organizational capacity, it is considered important to strengthen the financial system at the lower-end level in order to expand financial services for rural households. It is also important to be careful of an oversupply of loans in areas where aid agencies and the government provide sufficient funds.

Although potential demand for increased amounts of agricultural credit is high because of the modernization of agriculture and its growth in scale, demand for amounts larger than microfinance amounts is still not very high among rural households; the economic scale of these households is small and they have strong concerns about debt[13].

3.4.1 Mechanism for Providing Rural Credit Effectively and Efficiently

Although the APB and Nayobai Bank provide credit at a relatively low interest rate, they do not fully meet the credit demand of rural households. Meanwhile, although the coverage of the banking service in rural areas is still limited, microfinance institutions (MFIs) have developed and provided financial services that meet the needs of rural households. Microfinance Institutions (MFIs) have the potential to fill the gap between the demand and supply of funds in rural areas. In particular, SCUs, which locally provide services under authorization by the Central Bank of Laos, have the potential to play an important role in providing financial services for rural households. Village funds provide accessible microcredit at the village level, although they have not filled the demand for credit because of the shortage of management skill and capital as well as technical problems. It can be said that microfinance institutions and village funds have the mechanism to provide credit to rural households, but do not have sufficient capital.

Under these circumstances, it may be effective to establish a mechanism to channel the financial resources of the APB and the Policy Bank through microfinance institutions and village funds to improve access to credit by rural households.

3.4.2 Improvement of the Organizational Capacity of Village Funds and Support System at the District Level

Laos has a wide range of village funds supported by aid agencies, the Lao Women's Union, the government, and other stakeholders. These village finds have greatly contributed to providing credit to farming households. However, because many funds are managed with relatively simple systems by village leaders with only basic knowledge of financial management, they do not have adequate financing and organizational management capacity. It is considered effective to establish a mechanism

[13] JICA (2012), Report on Data Collection Survey on Agricultural Finance in Lao PDR.

for providing information and support to village funds at the district level in order to improve their capacity. However, according to this survey, either there is no such institutional set-up, and where there is such a set-up, it does not function well. It is considered that rural development offices and agricultural and forestry offices at the district level can take initiative to support village funds and strengthen their organizational capacity by establishing mechanisms by which village finds can voluntarily join them and offering incentives to do so. The incentives may include opportunities for training and wholesale lending from government-affiliated banks to village funds through participation in the supporting mechanism.

3.4.3 Risk in Agricultural Credit

Because there is no system for alleviating the effect of income reduction caused by unavoidable risks such as natural disasters and price declines, agricultural credit has high risk for both financial institutions as lenders and farmers as borrowers. Although it may be difficult to take immediate action on this issue, the government could consider introducing risk-reduction programs, including casualty insurance for agricultural products and price assurance, from the long-term perspective.

3.4.4 Contract Farming

In Laos, the practice of contract farming with the private sector is rapidly increasing. Contract farming is considered a mode of agriculture with low risk and is attractive in financial terms for farmers because the businesses provide necessary investments to farmers and purchase their crops. However, as the expansion of contract farming potentially challenges the nation's long-term agricultural development strategies as well as its social and environment aspects, it is considered necessary to monitor the practice of contract farming and design policy intervention.

4.4.5 Position of SCUs

Although the government is promoting the development of agricultural cooperatives, the position of SCUs, which can be categorized as financial cooperatives but are under the supervision of the Central Bank, has not been clarified yet. In addition, relevant issues such as SCU provision of wholesale lending and fee-based technical services for village funds are not stipulated in the regulations of the Central Bank. It may be necessary to review the position of SCUs so that they can provide flexible service in accordance with their role in rural areas.

3.5 Rationale of selection of the Case Studies

The case studies were selected based on their discrete character, importance to small holder farmers and acceptability by the financial institutions, especially the Agricultural Promotion Bank (APB which is the main financial service provider for the agriculture sector. There are two commodities namely Rice and Cassava were selected as these commodities are very popular among the small holder producers and have the potential to develop further with the support of financial services. In case of Ekphatthana Microfinance Institution (EMI), it is noteworthy that the products and services offered by them to agriculture sector are quite innovative and they consider their financial services for organic vegetable value chain as their best practice for agricultural value chain finance.

CHAPTER 4

Case Studies of Value Chain Finance on Agricultural Commodities in Lao PDR

4.1 Value Chain Finance to Rice Production in Vilabouly District of Savannakhet Province, Lao PDR

4.1.1 Overview of Rice Production in Lao PDR

Rice production in the Lao PDR is an essential part of the livelihoods of around 724,000 producers. As an illustration of the importance of rice, the second most popular crop, maize, is only produced by around 187,000 farmers. While the total number of farm households in the Lao PDR has increased by 17 percent between 1998/99 and 2010/11, the share of farm households growing rice has actually decreased, possibly indicating a shift in production to other types of crops. From about 77 percent of all farm households growing rice in 1998/99, the share was down to around 71 percent in 2010/11, according to the latest census data (2012).

Farming systems in the Lao PDR can be broadly categorized into two types: the lowland rainfed and/or irrigated farming system, mainly in the central and southern regions; and the upland swidden farming system, predominantly in the northern mountainous region. Subsistence rice cultivation is still dominant but an increasing number of subsistence farmers are marketing some rice, which suggests a rapid transformation of the rice sector from one of pure subsistence to one with a more commercial orientation. According to the latest census data, 71 percent of farm households in the Lao PDR sold some rice in 2010/11 versus 35 percent in 1998/99. In addition, the share of farmers producing rice mainly for sale has risen from only about 6 percent in 1998/99 to 30 percent in 2010/11.

Farmers generally practice small-scale farming but the average size of rice holdings has been increasing over the last 12 years. If one considers all agriculture land, farm households averaged 2.4 ha of landholdings in 2010/11 versus 1.6 ha in 1998/99. In the case of rice landholdings, these have also been increasing in size. From an average of 1.1 ha wet season area in 1998/99, rice landholdings increased to an average of 1.4 ha in 2010/11. In a similar way, dry season rice landholdings increased in the past 12 years from an average of 0.59 ha to 0.65 ha. Glutinous rice accounts for around 92 percent of the rice grown in in the Lao PDR (2010-2011 Lao Agriculture Census data).

Lao rice production only really started to increase significantly in the 1990s and this occurred along with an expansion of irrigated areas and also an increase in yields mainly due to the scaling up of the use of improved Lao glutinous varieties.

Over the last 20 years (1991-2011), Lao rice production has more than doubled (multiplied by a factor of 2.7) to reach around 3.3 million tons of paddy in 2011. This represents an average of 5.1 percent annual growth (in compound terms), which is one of the highest in the region.

Table 5. Historical evolution of rice production and harvested area, 1990-2011

Year	Area (million hectare)	Production (million tons)	Year	Area (million hectare)	Production (million tons)
1990	0.7	1.5	2001	0.7	2.0
1991	0.5	1.2	2002	0.75	2.3
1992	0.5	1.3	2003	0.75	2.3
1993	0.5	1.3	2004	0.75	2.5
1994	0.7	1.5	2005	0.7	2.6
1995	0.5	1.3	2006	0.7	2.7
1996	0.5	1.4	2007	0.7	2.8
1997	0.6	1.5	2008	0.75	2.9
1998	0.6	1.5	2009	0.8	3.1
1999	0.7	2.0	2010	0.8	3.0
2000	0.7	2.0	2011	0.8	3.1

(Source: FAOSTAT data from www.fao.org as of August 2012)

4.1.2 Rice Production and Market in Vilabouly District of Savannakhet Province

Production

Glutinous rice is the main staple crop in Vilabouly district, which has a population of around 30,000. Only ten villages have access to irrigation facilities, hence most farmers only produce rice in the wet season. Total rice produced in 2014 was approximately 16,902 ton from 4,375 ha, with an average yield per hectare of 3.8 ton (Annual report of Vilabouly DAFO 2013-2014).

Farmers primarily use traditional rice varieties such as; Nonsoung, Khitom, Khikhuay, and Hom America, however, many have also started planting high yield varieties such as; KD 8, KD 6 and KD 10, Thasano, Thadomkham and Sanpatong.

Demand

The main trading market for rice in Vilabouly district is LXML/MMG (Mining company), which has 5,800 employees. The Sodexo Company[14] supplies 4,500 meals per day and requires around 180 tons of sticky rice and 80 tons of steam rice per year. With an additional 2,500 employees associated with mining residing outside the mining site and requiring a similar amount of rice, total demand is estimated at 400 tons per annum.

Supply

The Sodexo Company currently purchases 15 tons of sticky rice and 2.5 tons of steamed rice each month from local supplier, the Rice Business Group (RBG)[15], which sources 90 percent of rice from the other districts of the province and Savannakhet town due to limited production and poor eating quality of rice from Vilabouly district. It is estimated that 100 percent of sticky rice and one third of steamed rice is bought locally through RBG, while the remaining two thirds of steamed rice is imported from Thailand.

The supply of local rice decreases from July to October and the demand is usually met by imports from Savannakhet town. During this period, trader numbers increase from 15 to 30 in the local market. However, most traders are reluctant to purchase rice from Vilabouly district due to quality issues. In

[14] Sodexo Company is responsible for supplying food to all employees of LXML/MMG residing on-site.
[15] Private group consisting of 6 members from 3 families (4 members from 2 families are active in the business while the remaining are 'sleeping' partners).

particular, the rice is normally hard with a high percentage of broken rice and mixed varieties. The supply of rice is also irregular; only one local mill, Phonechalern (Kawern) Rice Mill, supplying the local market and buying paddy. The mill can process two tons per day and has a contract with an LXML/MMG subcontractor for seven tons of milled rice per month, with a selling price of approximately 3,800 LAK per kilogram.

Traders in the market noted that customers prefer good quality rice and are willing to pay a higher price. The selling price of good quality sticky rice ranges from 5,000 to 6,000 LAK per kilo and steamed rice is 9,000 to 12,000 LAK per kilo.

Table 6. Buying and selling price of rice at the District Market, Vilabouly District

Description	Buy	Sell	
		Wholesale	Retail
Sticky rice (LAK/Kg)			
Local	3,500-3,600	3,800	4,000
Import from Savannakhet conventional	3,500-3,600	3,800	4,000
Import from Savannakhet good quality	4,500-5,000	5,000	5,500-6,000

(Source: Field survey)

4.1.3 Rice Value Chain in Vilabouly District

In general, the rice value chain in Vilabouly is categorized as having a market-based governance structure with a low degree of open coordination. Since product specifications are relatively simple, most transactions between traders and farmers take place at "arm's length" based on supply and demand.

The market-based governance structure, however, does not reflect equal power relations among stakeholders in the value chain. Local traders and millers possess critical market and price information, and farmers often rely upon them for this data to make decisions.

Prices are fixed based on the market. Traders and millers receive price information from Savannakhet and use this as the basis for the price of paddy. Farmers also make enquiries in Vilabouly market and other neighboring villages for price information.

Transactions between rice farmers and traders/millers are primarily conducted on a "cash and carry" basis. This requires sufficient working capital to remain competitive. Small-holder farmers have a tendency to sell their rice soon after harvest for immediate cash from the miller and traders.

Input Supply

As previously noted, while farmers mainly use traditional rice varieties (Nonsoung, Khitom, and Hom America), they also plant high yield varieties (KD 8, KD 6 and KD 10 Thasano, Thadomkham, Sanpatong). Farmers usually do not change the seed regularly (some use seed more than five to ten years old) and often only change once the eating quality deteriorates. In general, farmers access old seed from neighbors and relatives, which is a key contributor to the poor quality of rice produced. Farmers also use fertilizers in their rice production that usually supplied by the local market.

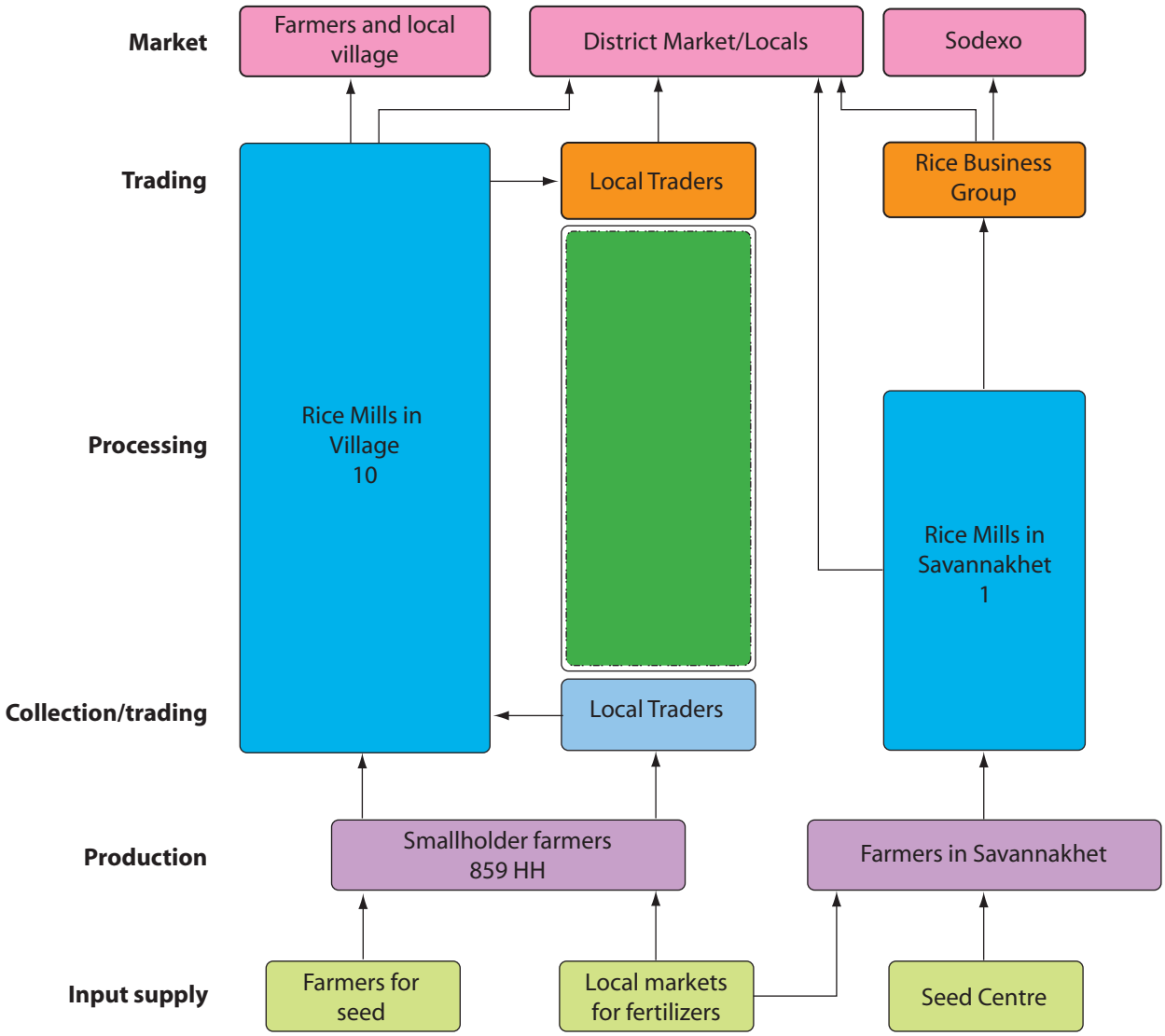
Rice Production

Farmers normally prepare seed beds in April for the traditional variety. Some farmers do direct broadcasting of seed in low land flood prone areas. Farmers prepare seed beds for high yield varieties in May to June. The farming practice is still traditional without a proper cropping calendar, which results in either early or late harvest and affects rice quality. Inadequate weed control and plant maintenance also contribute to low productivity. Farmers have often received no extension support from DAFO due to inadequate resources, thus it is not surprising that many practice outdated and inefficient techniques.

Milling and Processing

There are ten rice mills with two to three friction stones in the District Town, however, none have drying space or a grader to produce good quality rice with minimal broken rice. The main activity of the mills is to provide milling services to local farmers. The millers' set the machine for hard milling in order to satisfy farmers' demand for well-milled rice. While this subsequently increases the percentage of broken rice, it is the farmers' preference as it improves the eating quality. The milling service fee is 300 LAK per kilogram of milled rice if the farmer takes by-products – bran, fines and chips. The milling is free if the farmer leaves the by-products with the miller. The milling capacity of these mills is two tons of milled rice per mill per day.

Figure 3. The Rice Value Chain in Vilabouly District



4.1.4 Major constraints and opportunities identified and market-based solutions for rice value chain in Vilabouly District

The major constraints and opportunities identified for rice value chain in Vilabouly District are at both the farming and processing levels. Based on the key constraints and opportunities identified, a series of market-based solutions have been recommended. These solutions reflect areas that must be upgraded to ensure greater competitiveness of the rice value chain and better integration of small holder farmers, traders and processors in the chain.

Table 7. Market-Based Solutions

Constraints	Market Based Solutions
1. Rice production yield is low, approx. 2 tons/ha and rice quality is low due to use of poor quality input by farmers	• Access to high yield variety of good quality fresh seed (R3), including Satpatong and flood resistance varieties • Access to bio and chemical fertilisers for farmers
2. *Farmers using Satpatong variety of seed could get access to higher-end market*	
3. Pest problem reduced production of rice	• Provision of affordable extension and training services to improve rice farm management, including pest control and post-harvest handling
4. Poor production practice without proper cropping calendar and maintenance of rice fields decreased yield and quality	
5. Poor post-harvest handling at the farm level resulting into low rice quality	
6. Lack of commercial orientation of farmers affects rice production	• Provision of awareness raising and training to increase business orientation among farmers
7. The milled rice recovery rate is low and percentage of broken rice is high due to poor milling facilities	• Gaining access to finance to improve milling facilities, including proper drying space and good milling machines to increase recovery rate and rice quality
8. Low profit margin for millers due to low market value of regular rice and high production costs	• Miller access to reliable supply chain for single variety quality paddy rice to increase profitability for both farmers and millers
9. Poor condition of miller warehouses contributing to grain loss	• Provision of training and awareness raising for millers on warehouse, mill operation and business management • Access to finance to improve warehouse and packing materials (jute bags) for millers
10. Limited access to market demotivating millers to do rice trading	• Access to market including LXML/MMG and others for good quality rice for millers with provision of forward buying contract with premium price
11. Difficult for millers to source year round supply of rice	• See second solution to number 6
12. No incentive for farmers producing good quality paddy rice	• See solution to number 10
13. *Availability of financial services from Agricultural Promotion Bank (APB) and Nayobai Bank to producers and millers*	• *Gaining access to training and counselling on access to finance for the millers* • *Gaining access to finance for producers*
14. Policy and regulatory issues	• Access to lobbying service to deal with policy issues by forming operational miller group with clear objectives
15. Inadequate irrigation facilities and poor road conditions	• Access to lobbying services to improve irrigation canal and road conditions

4.1.5 Finance to Rice Value Chain in Vilabouly District

Additional investment in milling facilities and working capital is a must to improve rice processing and to support farmers to increase rice quality and to support input suppliers to access to credit. Agricultural Promotion Bank (APB) and Nayobai Bank have offered loans for rice production in Vilabouly District. The Rice Business Group and millers arealso assisted to access the financial services provided mainly by the Agricultural Promotion Bank (APB). It is estimated that the Rice Business Group, all three rice mills, and 70 percent of farmers participating in rice value chain in the district have access to finance to improve milling facilities, working capital and rice production. This includes the following key activities:

- Support the Rice Business Group and rice mills to develop three year inclusive business plans in order to facilitate access to financial services.
- Facilitate consultation between financial institutions, millers, farmers and other stakeholders.
- Support millers to link farmers with financial institutions to obtain group loans for rice production.
- Support input suppliers to access to financial services.

Table 8. Access to finance by the rice value chain actors in Vilabouly District

Value Chain Actor	Loan Amount (Average – Million LAK)	Duration (Average – month)	Annual Interest Rate (%)	Main Source of Loans
Input Suppliers	15	12	15	APB
Producers	5	6	8-13	APB and Nayobai Bank
	2.5	6	36	Village Dev. Fund (VDF)
Processors	50	12	15	APB
Traders	50	12	15	APB

(Source: Field survey)

It is calculated that the rice producers who are involving in rice value chain and get credit from the banks have quite good profit from their rice production. Table 9 below provides an estimation of the average income of one rice producer for 1 hectare of land.

Table 9. Estimated income for rice producer from 1 Hectare of Land

Item	Unit	Cost/Unit (LAK)	Amount	Total
Rice seed	LAK/Kg	6,000	60	360,000
Manure	LAK/T	150,000	3	450,000
Chemical fertilizers (for nursery)	LAK/Kg	5,000	5	50,000
Bio-Extract	Liter	100,000	1	100,000
Nursery preparation	LAK/Unit	50,000	1	50,000
Rice seed broadcasting	LAK/Unit	20,000	1	20,000
Nursery monitoring	LAK/Ha	30,000	1	30,000
Land preparation	LAK/Ha	600,000	1	600,000
Pulling seedlings	LAK/Ha	150,000	1	150,000
Transplanting	LAK/Ha	600,000	1	600,000
Rice field monitoring	LAK/Crop	300,000	1	300,000
Harvesting, bunding and collecting	LAK/Ha	600,000	1	600,000
Threshing and transportation	LAK/Ha	250,000	1	250,000
Total cost of production				**3,560,000**
Estimated income before loan interest and tax				**1,440,000**
APB loan interest at 8% p.a.	months	8%	6	142,000
Land tax				35,000
Net income				**1,263,000**
Return on Investment (RoI) %				**35**

The Rice Business Group has access to the LXML/MMG market and has already gained experience in dealing with and managing a rice supply contract with Sodexo. Currently, the group is making a comfortable profit, however the group is interested to develop the local supply chain in order to ensure a regular supply of uniform variety of rice. Developing the local supply chain will take at least two cropping seasons in order to meet the quality and quantity demands of LXML/MMG.

Table 10. Estimated income for rice processor from 1 ton of rice

Estimated income from 1 ton of rice			
Product	**Price (LAK/Kg)**	**Amount (Kg)**	**Total (LAK)**
Rice (60%)	4,500	1,000	4,500,000
Bran (15%)	1,500	250	375,075
Fines (2%)	2,500	33	83,350
Total income			**4,958,425**
Fixed Assets and Depreciation			
Description	**Cost (LAK)**	**Life (Year)**	**Depreciation**
Warehouse	25,000,000	15	1,666,667
Truck	46,800,000	10	4,680,000
Scale	350,000	3	166,667
Total depreciation for 100 tons of rice			6,463,333
Depreciation cost per ton			**64,633**
Estimated processing cost (LAK)			
Description	**Price/Unit (LAK/…)**	**Amount**	**Total (LAK)**
Paddy sack (Re-use one more time)	1,300	21	27,089
String/Rope for stitching	3,500	0.42	1,459
Paddy buying	2,083	1,667	3,472,917
Paddy loading	20	1,667	33,340
Paddy transport	150	1,667	250,050
Rice sack	1,300	20	26,000
Milling expenses	300	1,000	300,000
Rice loading	20	1,000	20,000
Rice transportation	150	1,000	150,000
Cost of farmer support	80	1,667	133,360
Total processing cost			**4,414,214**
Total cost per ton including depreciation			**544,211**
Net income per ton before loan interest and tax			**479,578**
APB loan interest for one month	15%	1	55,178
Income tax (10%)			42,440
Net income			**381,960**
Return on Investment (RoI) %			**70**

4.1.6 Lessons Learned

The major lessons learned after detailed study of the rice value chain and access to finance by the main actors of the chain can be summarized as follows:

- The most efficient financing in the rice value chain in Vilabouly District is the financial services of the state-own banks, i.e. Agricultural Promotion Bank (APB) and Nayobai Bank.
- The other alternative source of loan, especially for the rice producers (or farmers) is the small-scale financial services provided by the Village Development Fund which is an initiative of the Rural Microfinance Institution.

- Low level of farmer's financial literacy exacerbates the risk to the financial service providers; the farmer may improperly utilize the loan or sometimes fear that credit could lead to expropriation of their asset.
- Interrelationship between the value chain's actors and financial service providers is not so strong. There is a need to build a concrete bridge between the value chain actors and financial service providers at the grass-root level.

The following points emerged as the way forward for smooth flow of products and finance along the rice value chain:

Inclusive supply chain development

Developing an equitable partnership between the Rice Business Group, rice mills and farmers to ensure a sustainable supply chain of good quality rice is recommended. The Rice Business Group should work with at least three millers and engage in equitable trading relations with at least 500 farmers. This will contribute to increased income for farmers. This includes the following actions:

- Selection of promising entrepreneurial rice mills;
- Develop agreement of cooperation between Rice Business Group and rice mills;
- Facilitate Rice Business Group and rice mills on farmer groups formation and strengthening;
- Collect baseline information of farmer groups;
- Facilitate rice mills to develop rice production plans with farmer groups;
- Extension training to network of rice mills;
- Support RBG and rice mills to provide good quality input and extension to farmers;
- Organise reflection meeting among farmer groups;
- Support the Rice Business Group to organise study visits for farmers and millers to successful cases elsewhere.

Mill operation and management capacity building

Millers need to improve their technical skills in mill operation to increase the quality of rice for trading. Additionally, the Rice Business Group and millers also require better business management skills to graduate from a milling service business to a rice processing and trading business. Mill operation technical training and tailor made management training and counselling will contribute to production of 300 tons of good quality milled rice. The following key activities are recommended:

- Technical and management capacity assessment of Rice Business Group and millers;
- Develop a training and advisory plan based on the assessment results;
- Support mill operation technical training;
- Support needs-based management training;
- Organize study/exposure visits to successful case study sites;
- Organize periodic reflection meetings to stimulate learning and exchange experiences

Improved access to market for good quality rice

The major market for good quality rice will remain LXML/MMG while the mine continues operations in Vilabouly District. Continuation of the supply of rice to this market will depend upon the ability to meet quality standards at a competitive price. Access to the local market for good quality rice needs to be improved by penetrating to this market, being competitive, and creating a positive image for local rice through regular interaction and an appropriate promotional strategy. The Rice Business Group and rice mills will have access to market for 300 tons of locally produced good quality milled rice. This includes the following key activities:

- Organise business match-making with potential rice buyers;
- Facilitate the Rice Business Group and millers to develop a Paddy Standard and premium price for good quality paddy;
- Support a promotional campaign through appropriate media to attract farmers to join the project and to create a positive image of rice from Vilabouly.

Improved Governance and access to finance

The current relationship between the value chain actors and the financial service provider is not so strong, so it is necessary to have a mechanism on building a strong relationship between the value chain actors and the financial service providers at grass-root level. To do this, it is necessary to have a good facilitator. Some key activities are foreseen under this area as follows:

- Set up a specific committee for agricultural value chain finance at National, Provincial and District Levels. The committee should include the relevant ministries (MAF, MOF, MOIC) and their provincial Departments and district offices, relevant financial institutions (Banks, Microfinance Institutions and SCUs), National Chamber of Commerce and Industry and its provincial offices, and relevant private companies. The secretariat of the committee should play a main role as facilitator to facilitate access to financial services for the agricultural value chains' actors.
- Develop new financial instruments to improve access to finance by the value chain actors with special reference to the small holder producers.
- Financial literacy amongst the small holders and micro-entrepreneurs will improve the accessibility of the available financial facilities.
- Development of new business models especially the producers driven business model so that the growers could be in a position to take greater part in the value chain governance.
- Adequacy of lending will improve the position of the small holders in respect to their holding capacity of the produce.

4.2 Cassava Value Chain Finance in Pathoumphone District of Champasack Province

4.2.1 Overview of Cassava Production in Lao PDR

Cassava (*Manihot esculenta Crantz*) is becoming an economically important crop for smallholder farmers in Laos. This crop not only provides poor farmers with food, feed, and income, but also act as catalysts that can transform subsistence farming into income generating farming, allowing smallholder farmers to join the market economy. In Laos, major constraints in cassava production systems are the lack of improved varieties and appropriate agronomic practices, degraded soils, and poor access to markets[16].

Table 11. Cassava area, yield and production in Lao PDR

	Harvested Area (ha)	Yield (ton/ha)	Production (ton)
2011	31,135	24	743,192
2012	43,975	24	1,060,677
2013	45,185	28	1,254,366

[16] Tin Maung Aye and Reinhardt Howeler (2014), Technology Development to Improve the Sustainability of Cassava Production Systems in Laos, CIAT.

4.2.2 Cassava Production in Pathoumphone District of Champasack Province

Cassava production is the main cash income for the farmers in Pathoumphone District of Champasack Province during the dry season; due to farmers in this district have a lot of fallow and empty lands, but they don't have irrigation system or not enough water for other crop productions. Commercialization of cassava production hasrecently been introduced to the farmers in the district in order to facilitate the increased cash income for the farmers during the dry season.

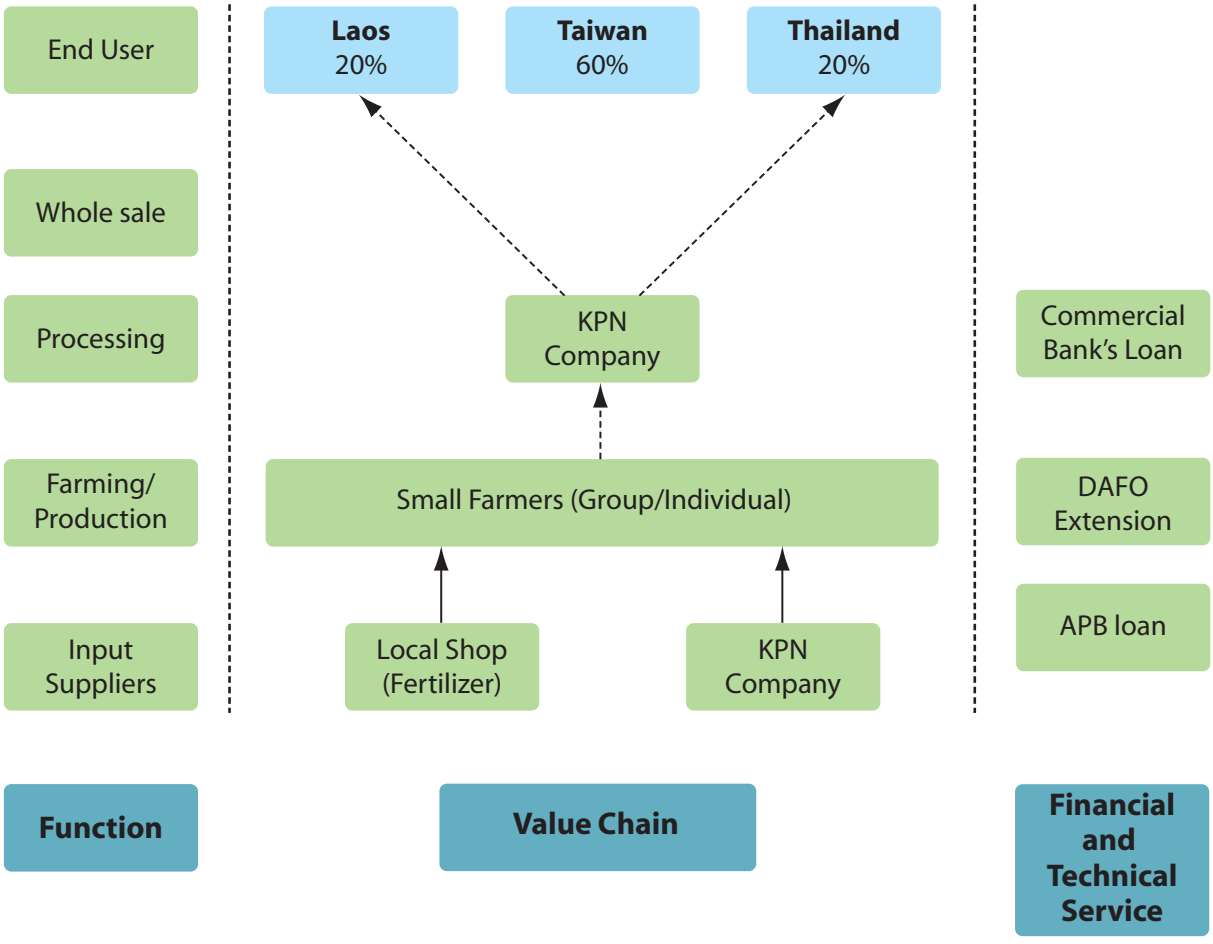
Before the introduction of the commercial cassava production, the farmers in the district had not many income generating activities during the dry season, except some activities such as handicraft, small gardening, fishing, small trading.

Most of the cassava producers were planting cassava in their fallow and empty lands. Land size for cassava plantation per household is 0.5-2.0 ha and most of the cassava producers were planting cassava in their own land.

4.2.3 Cassava Value Chain in Pathoumphone District of Champasack Province

Figure 4 below illustrates all actors involved and their functions in the cassava value chain in Pathoumphone Disrict of Champasack Province. Along-side the cassava value chain are the supporting services that play a crucial role in cassava production and improvement.

Figure 4. Cassava Value Chain Map



Input supplies

At the moment, KPN-Cassava production promotion project and Tapioca factory Ltd. (hereafter called KPN Company), which is a Lao company and acts as the cassava starch supplier. The company started it operations in 2009 and registered with Department of Planning and Investment and Department of Industrial and commerce of Champasack Province. The company has the total value of the fixed assets of 79 billion LAK and working capital of 10 billion LAK. About 60 percent of the company' working capital comes from the commercial banks' loans. There are 52 paid workers and 4 unpaid family workers who are currently working in the company.

The company has applied the 1+4 model of contractual engagement with the farmers since the company believes that this contract farming model will help to motivate farmers to continue cassava production. With this contract farming model, the farmers work in their own land and the company provides inputs, extension, market and pays for the farmer's labor as well.

At the moment, the company is working with 541 farmer's households that are growing cassava in 1,412 hectares of land.

Regarding the cassava stem, KPN is the only provider, whereas the farmers can obtain fertilizer from the local shops in their village or in the nearby one.

Planting: Small farmer groups/individuals

During the rainy season, which is from June to November, farmers in the district plant low-land rice while during the dry season, which is from January to May, they plant cassava in their fallow land. There about 15 villages in the district where the farmers have started to grow cassava for commercial purpose due to the extension of the KPN Company. The cassava farmers in a village mainly join a group, either forming a new group specifically for cassava or joining an existing group for other agriculture production.

Cassava does not require a complicated planting method. Farmer have grown cassava withan on the job training or technical adviceprovided by the local government staff (DAFO) and the technical staff of the KPN Company.

Processing

The KPN Company has purchased cassava from the farmers from 15 villages in Pathoumphone District. The company has provided trucks to transport the fresh cassava roots from the farmer's gardens with 70,000 LAK/ton.

The company has two starch production plants. The capacity of the 1st plant is 90 tons/day and the 2nd plant is 120 tons/day. Four tons of the fresh cassava roots can produce about one ton of the cassava starch.

Trading

The KPN Company usually buy the fresh root of cassava from the farmer and process to produce the cassava starch and then wholesale to the following markets:

- Taiwan market = 60 percent of the total products;
- Thailand's market = 20 percent of the total products;
- Lao market = 20 percent of the total products.

The table 12 below shows the estimated calculation of the cassava trading of the KPN Company.

Table 12. Estimated calculations of cassava trading of the company are as below

Description	2012	2013
Purchased		
Average purchased price (LAK/ton)	450,000	450,000
Amount (ton)	18,000	15,308
Total purchased (LAK)	8,100,000,000	6,888,600,000
Sale		
Average sold price (LAK/ton)	3,920,000	3,920,000
Amount (ton)	4,500	3,827
Total sale (LAK)	17,640,000,000	15,000,000,000
Gross Profit	**9,540,000,000**	**8,111,400,000**

4.2.4 Finance to the Cassava Value Chain

The Agriculture Promotion Bank (APB) provides loans to the shop keepers who supply the fertilizers to the farmers. In addition, APB also provides loans to the farmers' group for cassava production in Pathoumphone District. The loan have been used to buy fertilizers and land preparation. The group usually consists of at least 7 members and be certified by the village head. No physical collateral is required by the bank. The service is perceived to be very good and fast. The processing of the loan application takes only a day to a week. The Bank's annual interest rate is 8 percent, which is much lower than that of the Village Credit Scheme (approx. 3-4 percent per month), and therefore, considered affordable. Some additional inputs have been provided by the KPN Company. The other source of loans for the shop keepers and farmers is the financial services provided by the village development funds (VDFs) and Savings and Credit Unions (SCUs).

The KPN Company which plays the role as processor and trader also received loans from commercial banks. The loan interest rate is ranging from 15 percent to 18 percent per annum.

Table 13. Access to finance by the Cassava Value Chain Actors in Pathoumphone District

Value Chain Actor	Loan Amount (Average – million LAK)	Duration (Average – month)	Annual Interest Rate (%)	Main Source of Loans
Input Suppliers	15	12	15	APB
Producers	5 2.5	6 6	8-13 36-48	APB Village Development Funds (VDFs) and Savings and Credit Union (SCUs)
Processors	600	12	15-18	Commercial Banks
Traders	50	12	15-18	Commercial Banks

(Source: Field survey)

4.2.5 Lessons Learned

- Agricultural Promotion Bank (APB) is very active in providing small-scale financial services to the cassava value chain actors, especially the input suppliers and farmers. While the commercial banks have mainly provided the large-scale financial service to the processors and traders.
- The other alternative source of loan, especially for the farmers is the small-scale financial services provided by the Village Development Fund which is an initiative of the Rural Microfinance Institution and Savings and Credit Unions (SCUs).

- Interrelationship between the value chain's actors and financial service providers is not so strong. There is a need to build a concrete bridge between the value chain actors and financial service providers at the grass-root level.
- One shortcoming encountered was a lack of cassava seedlings for farmers. To address this issue, farmers were better trained on cassava seedling selection, storage, and stem cutting for growth. Farmers were also encouraged to share and take seedlings from nearby farmers.
- A lack of land preparation from service providers was also encountered, and thus service providers were linked from nearby villages and districts. Farmers were encouraged to use their hand tractors.
- As in other areas, disease also became a limiting factor in cassava production in Lao PDR, and some study was done on cassava diseases, with subsequent farmer training on possible counteractions, including application of hormones/fertilizer and proper seedling selection and storage.
- Some new farmers did not have enough working capital for cassava production. Thus actions were taken to facilitate and support farmer access to loans from banks (especially APB) for cassava production. This is an initiative to help building a bridge between the new cassava farmers and financial service providers.

CHAPTER 5

Microfinance in Support to Agricultural Value Chain Finance in Lao PDR: Case Study on Microfinancial Services of Ekphatthana Microfinance Institution (EMI)

5.1 Overview of the Microfinance Sector in Lao PDR

The development of microfinance in Laos dates back to the early 1990s when the country opened up and began evolving towards a market economy. The process started with support by multilateral and bilateral organizations for the establishment of village-based credit schemes and revolving funds. Between 1994 and 1996 NGOs followed suit. With donor support the number of credit schemes and revolving funds grew rapidly. By the end of 2011, this non-formal, unregulated sector comprised roughly 4,400 "Village Funds" with a total of about 430,000 members (6 percent of the total population) and an aggregated loan portfolio of approx. US$ 37 million.

One remarkable feature of village funds has been the relatively recent emergence of service networks of village funds or so called network support organizations (NSOs) which are built on principles such as self-financing, self-management and self-governance and provide technical assistance and financial services to their member village funds.

As to the regulated microfinance sector, it is younger and much smaller than the informal or semi-formal sector. Only in 2008, the Bank of the Lao PDR (BOL), the regulatory and supervisory authority of the sector, promulgated regulations for 3 categories of MFIs: Deposit-Taking MFIs (DTMFIs), Non-Deposit-Taking MFIs (NDTMFIs) and Savings and Credit Unions (SCUs).

By the end of 2011, 42 MFIs (9 DTMFIs, 15 NDTMFIs and 18 SCUs) had been licensed or registered by BOL under these 3 categories. As of the end of 2011, these regulated MFIs served about 68,000 clients in approximately 2,500 villages (29 percent of total Lao villages) and had roughly 19,000 borrowers and a total loan portfolio of about US$ 10 million.

Despite some growth in the microfinance sector over the last years, there is still a large unmet demand for financial services in the Lao PDR as the outreach of the existing microfinance providers is still very limited and scattered. It is estimated that only 25 percent of Lao households have access to some kind of financial services. Moreover, the sector is still weak and faces multiple challenges: Many MFIs deal with high portfolio at risk levels and the capacity of staff as well as the governance level is low. Most MFIs are small in size with limited outreach. Several MFIs haven't reached profitability yet and still depend on donor support. Furthermore, the level of transparency is still weak. There is not enough reliable performance data available which could serve as a benchmark for institutions. Even though there are a few providers of meso-level services (in areas like accounting, auditing, MIS support, training, education, consulting and coaching), the demand for such services still outstrips supply in both quantitative and qualitative terms. And despite the existence of a solid regulatory and supervisory framework, BOL's capacity to effectively regulate and supervise the growing number of MFIs is still

limited. In addition, a lack of awareness on microfinance good practice combined with challenges in improving stakeholder cooperation and coordination are all hampering sector development[17].

5.2 About Ekphatthana Microfinance Institution (EMI)

5.2.1 Background of EMI

Ekphatthana Microfinance Institution (EMI) is the first licensed microfinance institution to operate in Lao PDR under the government's Microfinance regulations that was issued in 2005 and then updated in 2008.

EMI was created as a private Lao company with a start-up capital of $ 100,000 USD from ten shareholders. It disbursed its first loan in April 2006. Preparation, licensing and staff recruitment took place between October 2005 and April 2006.

EMI has been established in the time when Lao PDR has been striking to progress from the status of Least Developing Country (LDC) and is currently working hard to achieve the Millennium Development Goal (MDG) and poverty eradication. With this regards, microfinance sector has been considered as a mean to move country forward a market oriented economy and to encourage the transformation of subsistence farming to market oriented farming.

As numerous studies have shown that there is a strong unmet need for sustainable financial services throughout the Lao PDR, EMI's purpose is to respond to this demand and strives to achieve this by offering suitable and innovative financial products to its clients. The organization's core priorities focus on complying in the international good practices and principles for microfinance institutions. Throughout its Nine (9) years of establishment, EMI remains committed and focused on servicing the poor and middle income households without access to financial services.

As of December 31, 2014, EMI has over 61,355 savers, 11,083 active borrowers and an accumulated loan disbursement of 198 billion kip (approximately 24 Million USD).

5.2.2 Vision and Mission of EMI

Vision

EMI is one of the leading microfinance provider of quality and innovative financial and non-financial services towards economic empowerment of poor families in Lao PDR.

Mission Statement

For the Clients and Community

To empower low and medium income households through the delivery of quality financial and non-financial services (i.e. develop savings behavior and responsible borrowing).

For the Employees

To develop competent staff that embrace core values of the institution.

For the Shareholders

To partner with shareholders/partners which uphold the social mission of the institution.

[17] Source: Microfinance Association for Lao PDR (MFA).

5.2.3 EMI's Products and Services

EMI offers two main products:

- Savings (Passbook Savings and Time Deposit)
- Loans

The EMI's products have been designed to serve its clients' financial needs according to their occupation and income sources. EMI offers thus a wide range of saving (Passbook Saving, Term Deposit, Smartkid Savings and Contract Savings) and for loan products customized for a specific client needs, may it be for small and medium business, education, family needs, handicrafts and even for agricultural production and livestock purpose. Clients can have access to different loans products available for their choice and suitability based on their occupation and or income sources. And it is important for both EMI and its clients to maintain a mutual trust. This is being achieved through continuous promotion, and furthering EMI's image and reputation.

SAVINGS PRODUCTS

1. Passbook Savings
2. Smartkid Savings
3. Time Deposit

LOAN PRODUCTS

1. Development Loan for Group Center Meeting Approach
2. Development Loan Individual Approach
3. Educational Loan
4. Multi-Purpose Loan
5. Salary Loan
6. Whole Sale Loan for Village Development Fund

5.3 EMI's Microfinance Services for Agricultural Production

5.3.1 Overview of the EMI's loans for Agricultural Purposes

The Ekphatthana Microfinance Institution (EMI) has currently eight branches in the city of Vientiane Capital and three branches in the suburbs of Vientiane (Toulakhom District, Phonghong District, and Naxaythong District),and one branch in Xayabouly Province, in addition to the head office which is located in the Vientiane capital. EMI has deposits of 13.4 billion kip, outstanding loans of 12.2 billion kip, and an average loan value of 3.2 million kip.

Although loans used for agricultural purposes were only about 4 percent of EMI's total loans in 2012, the proportion has been increasing. It is reported that loans for agricultural purposes are currently accounted for about 10 percent of the total loan portfolio. Branches were opened in the suburbs of Vientiane in consideration of the potential growth of loans to farmers (particularly vegetable farmers). Although loans to individuals are for the most part provided with collateral, loans to farmers are based on a joint liability group scheme called "center meeting." The center meeting is a system primarily used by female groups under which two members of a group and the husband of one member guarantee repayment of the loan in place of collateral. In the center meeting, which is held every week, farmers can request loans and repay interest and principal. The number of members of the center meeting is increasing.

5.3.2 Case Studies on the EMI's Microfinancing to Support the Agricultural Production

During this survey, the survey team interviewed two clients of EMI who have received loans for the agricultural purposes i.e. mushroom production and organic vegetable production. Both of the interviewed EMI's clients expressed that they highly recognize the benefits created by the EMI's financial services, as a safe place to deposit and accumulate their cash income with interest earnings and a source of loan for investment in their agricultural production. The interviewed clients also showed their high satisfaction with the financial services provided by EMI.

Mrs. Bounlai from Ban Thongpong, Xaythany District, Vientiane Capital reported that she received the training on mushroom production from the District Agricultural Extension Office in 2011, but she could not start her mushroom production activity due to lack of funding support. In 2014, she was introduced to the microfinance services of EMI and then she decided to become a client of EMI by starting with her small savings with EMI. In January 2015, she decided to borrow money from EMI to invest in mushroom production since she already had the knowledge on how to grow mushroom as she used to receive the training from the District Agricultural Extension Office in 2011. The loan amount was 4 million LAK with the monthly interest rate of 3.5 percent (declining rate) and loan duration of 8 months. Over the eight months period of the mushroom production, she could sell all of her mushroom products out and earned the total value of about 10 million from selling of her mushroom products. After paying her loan principal and interests to EMI which was totally about 4.5 million LAK, she earned a total amount of profit of about 6.5 million LAK from her mushroom production activity as her additional cash income. She mainly used this income in sending her two daughters to study in the National University. The rate of Return on Investment (RoI) for the mushroom production engaged by Mrs. Bounlai can be calculated at **162.5 percent**.

Mr. Phanthong Phengsaysavath, who lives in Ban Nasangphai, Xaysetha District of Vientiane Capital mentioned that he became a client of EMI in 2008. In January 2005, he received a loan from EMI with an amount of 11 million LAK, monthly interest rate of 3.5 percent (declining rate), and 12 months duration. He combined the loan amount of 11 million with his own money and invested in the production of organic vegetable with the total amount of 60 million LAK. This means the share of the loan in the total investment was about 18 percent. After twelve months, he earned a total amount of about 120 million LAK. This mans the total production shared from the investment by loan was about 21.6 million LAK. After paying his loan principal and interests (total amount of 14.5 million LAK), he earned a total amount of profit of about 7.1 million LAK. The rate of Return on Investment (RoI) of loan for the organic vegetable production engaged by Mr. Phanthong can be calculated at **64.5 percent**.

5.4 Lesson learned

- Even though, the proportion of the EMI's financial services to the agricultural production is relatively small at the moment (about 10 percent of the total loan portfolio), it is likely that the proportion of agricultural loans is constantly increasing as EMI is expanding its services to rural areas in which about 80 percent of the agricultural production related income generating activities are existed.
- In addition, EMI is also providing wholesale lending to a number of the Village Development Funds (VDFs). The EMI's wholesale loan product helps the Village Development Funds (VDFs) to reach more villagers who are mostly engaging in agricultural production. This means, through this channel (via VDFs), EMI is providing indirect support to the agricultural production.
- The promising alternative source of finance for the agricultural production in Laos is the small-scale financial services provided by the formal Microfinance Institutions.

CHAPTER 6
Conclusions and Recommendations

6.1 Conclusions

The development of agriculture value chains in Lao PDR is in nascent stage. There have been some agricultural value chain projects/programs, i.e. rice, fodder maize and cassava, etc. implemented by some INGOs in collaboration with MAF and financially supported by donors since late 2000s. The main constraints of the value chains' actors have been identified as three mains areas: 1) Access to Finance, 2) Lack of business management skills including the business plan development, and 3) Lack of market linkages.

The most efficient financing in the agricultural value chains in Lao PDR is the financial services of the state-own banks, i.e. Agricultural Promotion Bank (APB) and Nayobai Bank. The other alternative source of loan, especially for the farmers and micro-entrepreneurs is the small-scale financial services provided by Microfinance Institutions (MFIs), including private MFI, Savings and Credit Unions (SCUs) and Village Development Funds (VDFs).The Commercial Banks also play an important role in providing large-scale financial services to the upstream actors of the value chain.

Nevertheless, the interrelationship between the value chain actors and the financial service providers is an area that needs to be further improved in order to facilitate and provide stronger support access to financial services for the agricultural value chains' actors effectively.

6.2 Recommendations

As mentioned above, there are two state-owned banks, namely the APB and the Nayobai Bank, are active in providing financial services in agricultural value chains. As Nayobai Bank specializes in policy lending for poor districts, the APB is considered suitable as a bridge bank for wider and further support to agricultural value chain finance in Lao PDR.

Because there is a need to strengthen the relationship between the value chains' actors and financial service providers, **the establishment of the value chain finance coordination mechanisms at the National, Provincial and District level is highly recommended** in order to facilitate channel available financial resources efficiently and effectively. The value chain finance committee should include the relevant ministries (MAF, MOF, MOIC) and their provincial Departments and district offices, relevant financial institutions (Banks, Microfinance Institutions and SCUs), National Chamber of Commerce and Industry and its provincial offices, and relevant private companies. The secretariat of the committee should play a main role as facilitator to facilitate access to financial services for the agricultural value chains' actors at both downstream and upstream levels.

In addition, the following support measures are recommended for further improvement of gaining access to finance for value chains' actors.

- Support the Agricultural Promotion Bank in development of the following initiatives:
  - Development of a program for wholesale lending for microfinance institutions and village funds. This support will be effective to channel available financial resources to rural households efficiently;
  - Development and provision of specific credit to increasing agricultural cooperatives may be another challenging task for the APB. Support in the development of loan products that

consider the characteristics of the product as well as the needs of producers or the value chains' actors can also be an effective APB support program.

- Support for Providing Rural Finance Effectively at the Field Level

  In order to improve the agricultural value chain finance or rural credit services, it will be effective to build and strengthen the mechanisms for providing credit through microfinance institutions and village funds that provide accessible services for rural households. In particular, village funds are expected to take an important role with their presence in rural areas. More specifically, the provision of support in the following fields on a pilot basis is recommended:

  – Development of support mechanisms for village funds at the district level.

    Efforts aim to develop support mechanisms for village funds at the district level so that the funds have information and opportunities for institutional provision of funds and improvement of their capacity. By setting participation in the mechanisms as a condition for wholesale lending and participation in training programs, the mechanisms will be incentives that village funds can voluntarily join. Additionally, through such mechanisms, government agencies can monitor village funds in each district efficiently with the limited number of personnel.

  – Capacity Development of Village Funds for the Transition to SCUs

    Because village funds are not authorized by the Bank of Lao PDR, they have low credibility as financial institutions. Accordingly, it is difficult for them to attract funds from the outside. Such support would encourage the shift of village funds to SCUs through personnel development and strengthening of their management capacity. Training in the field of financial management, loan assessment, marketing, and the use of financial software, as well as support for authorization as an SCU, would also be recommended.

- Wholesale-lending programs for SCUs and village funds by the APB

  Although there are ongoing discussions about wholesale lending to SCUs and village funds, this support measure has not been implemented yet. Wholesale lending from the APB is recommended to be developed and conducted as a pilot operation at the district level, together with the above two support measures.

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Annexes

Annex 1: Cassava production cost for 1st year (for 2 million LAK for land preparation and no ploughing)

Item	Unit	Cost/Unit	Amount	Total
Sampling	LAK/stem	300	2,000	600,000
Land preparation	LAK/ha	2,000,000	1	2,000,000
Transplanting	LAK/ha	500,000	1	500,000
Weeding	LAK/ha	500,000	1	500,000
Harvesting and collecting	LAK/ha	70,000	19	1,330,000
Transportation from garden to home	LAK/ton	70,000	19	1,330,000
Chips and dry	LAK/ton	80,000	19	1,520,000
Drying net/Plastic sheet	LAK/set	100,000	1	100,000
Polyethylene sack to put chips for selling	LAK/sack	1,500	63	95,000
Transportation from home to selling place	LAK/ton	50,000	9.5	475,000
Land tax	LAK/ha	45,000	1	45,000
Grand Total				8,495,000
Estimated income (LAK)				
Expected paddy (ton)		Price (LAK)	Total income (LAK)	
10		1,270,000		12,700,000
Estimate income (LAK)				12,700,000
Estimate expenditure/cost				8,495,000
Profit or Loss (LAK)				**3,570,000**
Bank interest rate 12% per year (on average)				
Loan amount (LAK)		Interest rate per month	Number of months	Total interest paid
8,495,000		1%	12	1,019,400
Net profit (LAK)				**2,550,600**
Return on Investment (RoI %)				30.02%

Annex 2: Cassava production cost for 2nd year (for 1.0 million LAK for land preparation and no ploughing)

Item	Unit	Cost/Unit	Amount	Total
Sampling	LAK/stem	300	2,000	600,000
Land preparation	LAK/ha	1,000,000	1	1,000,000
Transplanting	LAK/ha	500,000	1	500,000
Weeding	LAK/ha	600,000	1	600,000
Harvesting and collecting	LAK/ha	70,000	20	1,400,000
Transportation from garden to home	LAK/ton	50,000	20	1,000,000
Chips and dry	LAK/ton	80,000	20	1,600,000
Drying net/Plastic sheet	LAK/set	100,000	1	100,000
Polyethylene sack to put chips for selling	LAK/sack	1,500	67	100,000
Transportation from home to selling place	LAK/ton	50,000	10	500,000
Land tax	LAK/ha	45,000	1	45,000
Grand Total				7,445,000
Estimated income (LAK)				
Expected paddy (ton)		Price (LAK)	Total income (LAK)	
10		1,270,000		12,700,000
Estimate income (LAK)				12,065,000
Estimate expenditure/cost				7,445,000
Profit or Loss (LAK)				**5,255,000**
Bank interest rate 12% per year (on average)				
Loan amount (LAK)		Interest rate per month	Number of months	Total interest paid
7,445,000		1%	12	893,400
Net profit (LAK)				**4,361,600**
Return on Investment (RoI %)				58.58%

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