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Red Productiva

VALUE CHAIN FINANCE STRATEGIES

USAID'S PRODUCTIVE NETWORK PROJECT EXPERIENCE IN ECUADOR

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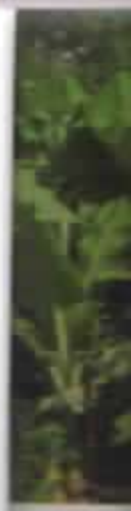

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SUMMARY

Value chain finance is a methodology that provides financial institutions with the technical and operational tools to be able to offer services to actors within value chains who have limited access to credit and other financial services.

Working with all the activities within a value chain in an integrated fashion is a strategy utilized by many economic development actors. Governments, international donor agencies, non-governmental organizations, regional development agencies and in recent years, private companies looking to improve production, have all developed activities with this principle in mind.

In many cases in Ecuador, efforts to improve value chains' productive dynamic have generated important and positive results. Applying the vision of working within a value chain in all areas of productive development (such as management, production, logistics, harvest and post-harvest management) has led many economic subsectors to improve their levels of competitiveness.

However, producers and financial institutions remain weakly connected. Companies or productive units, in particular small and medium enterprises (SMEs), continue to seek financing options, while financial institutions are focused on serving traditional clients without considering the opportunities to move towards sectors like microfinance, which in aggregate is a high growth segment and has been proven a lucrative activity for financial institutions.

Over the course of three years, the Productive Network Project, an initiative of the United States Agency for International Development's

Ecuador mission (USAID/ Ecuador), implemented value chain methodologies using an anchor firm approach and networks of small producers.

Ten pilot programs implemented by Productive Network in 2009 left behind a substantial body of knowledge, lessons and best practices related to how to improve business transactions between anchor firms and their supplier networks to improve efficiencies and growth along the entire chain.

This document is the third in a series focused on value chains and Productive Network's experience over three years implementing a support program and providing technical assistance to both the public and private sectors in Ecuador. The documents, *Productive Innovation in Ecuador: an in-depth look at results and lessons learned from ten value chains*[1], and *Value Chain Development Operations Manual: The Anchor Firm Focus*[2], were written primarily for producers, productive development experts, business consultants and regional economic development agencies. Their shared objective was to illustrate how to improve productivity throughout an entire value chain.

The implementation of Productive Network's value chain/anchor firm methodology, together with the support it provided to USAID's Development Credit Authority (DCA) program in Ecuador, generated great interest among multiple stakeholders to develop this new document. This document is geared primarily towards financial institutions in an effort to improve lenders' understanding of producers, and value chain finance to support them.

Ecuador's DCA program began in 2007 and was evaluated in 2009. Its two participating banks, Credifé and ProCredit, awarded 1,228 loans to micro, small and medium enterprises (MSMEs) worth US $9 million. The DCA guaranteed loans were made to the manufacturing (50.7%), agriculture (36.8%) and tourism sectors (9.5%). Of the total loans made, 46% were made to women, and 54% went to men.[3]

This document outlines new aspects that financial institutions –in particular their credit officers– should consider when seeking to make loans to small producers who, due to lack of collateral, might be considered high credit risks or might not qualify for a loan. However, when evaluated as part of a value chain, these small producers generate a sufficient volume of business to be considered potential clients of acceptable risk.

1 *Productive Innovation in Ecuador: an in-depth look at results and lessons learned from ten value chains*. IRIS Center/ CARANA Corporation for USAID.
2 *Value Chain Development Operations Manual: The Anchor Firm Focus*. IRIS Center/CARANA Corporation for USAID.
3 DCA evaluation *Expanding financial services to productive clusters in Ecuador*, prepared by IRIS Center/CARANA Corporation for USAID.

INTRODUCTION

In Ecuador's economic development field, a number of productive development methodologies exist, many of which were designed for the agricultural sector. The public sector, international donors and other national and local stakeholders have implemented these methodologies with the goal of improving the quality of life of the country's neediest populations.

In Ecuador, as in other countries, the mechanisms and strategies offered by the financial sector to finance micro, small and medium enterprises (MSMEs) and in particular agricultural production, remain limited. Costs, perceived risk, lack of market information, limited collateral, and lack of infrastructure remain the primary reasons for the financial sector's limited supply of financial services to these actors.[1] Most financial institutions are uninterested in financing these economic sectors because they represent an unfamiliar market with untraditional business models, and are seen as riskier and less profitable than more traditional clients.

The situation is aggravated by the fact that most productive sectors in Ecuador, even the most dynamic, have limited access to markets, and also do not produce the most competitive products, making it even less likely they will receive financing. In most cases, SMEs have a difficult time meeting collateral requirements, increasing the perception among bankers of their high risk.

Within this context, USAID implemented a new program in Ecuador to finance productive development called Development Credit Authority (DCA). The DCA program provided select banks with a partial credit guarantee to facilitate

[1] Reviving Agriculture Value Chains in Central America, Technical Notes No. IDB-TN-146, Inter-American Development Bank

loans to sectors of the economy underserved by financial institutions. The objective of the guarantee fund created by USAID/Ecuador was to increase the level of credit available for micro, small and medium enterprises in the agriculture, agro-industry, eco-tourism and industrial sectors.

To ensure an efficient use of DCA funds, USAID/Ecuador asked one of its local contractors –Productive Network through IRIS Center/ CARANA Corporation– to train bank staff in innovative strategies to provide finance to productive sectors. Productive Network had already launched a value chain pilot program to support competitive improvements in ten local value chains in various provinces. Using the same focus, IRIS/CARANA designed a training program for Ecuadorean banks Credifé and ProCredit, introducing the banks to the dynamics of existing value chains, with the goal of improving access to finance for the actors within these value chains.

During the implementation of Productive Network's ten value chain pilot projects, it became evident that anchor firms[1] were financing– through capital or supplies –the MSMEs within their value chains. This lending was taking place at the same time public and private financial institutions were insisting that there was limited demand for loans among productive sector actors.

Detecting this disconnect between financial institutions and the productive sector, in particular MSMEs, Productive Network decided to support a strategic training program to expand the scope of Credifé's and ProCredit's lending programs. The training presented new credit analysis strategies to improve the evaluation of small, productive actors meriting a second look by loan officers.

USAID asked Productive Network to consolidate these learning processes, methodologies and related concepts into a document to be shared with other actors, including those within the public sector, the financial sector, productive development experts, and large, medium and small firms. The idea behind developing this manual was to provide these actors with a guide to improve credit access.

This document has two objectives: 1) Describe value chain finance models implemented by USAID/Ecuador's Product Network Project, and; 2) Serve as a guide for those who work in productive development or in financial institutions interested in the subject of value chain finance.

1 An anchor firm is a firm with forward and backward linkages within a value chain and with access to end markets. It plays a catalytic role in strengthening the value chain. The anchor firm does not refer necessarily to the size of the business, rather the role the firm plays within the chain. Productive Network worked with SME anchor firms as well as large anchor firms. For more detail, please see *Productive Innovation in Ecuador: 10 successful experiences of value chain development with an anchor firm focus* (in Spanish), IRIS/CARANA for USAID/ECUADOR at www.redproductiva.org and www.iris.edu

CONCEPTUAL FRAMEWORK

Productive Network's value chain work was based on the theory that the development of a value chain actor –whether a micro-producer or a large firm– can be best analyzed and strengthened when there is a full understanding of all participating actors' roles in producing a product or service. A value chain approach connects MSMEs to end markets and strengthens their relationships and negotiating power within the chain, improving their positioning and revenue.

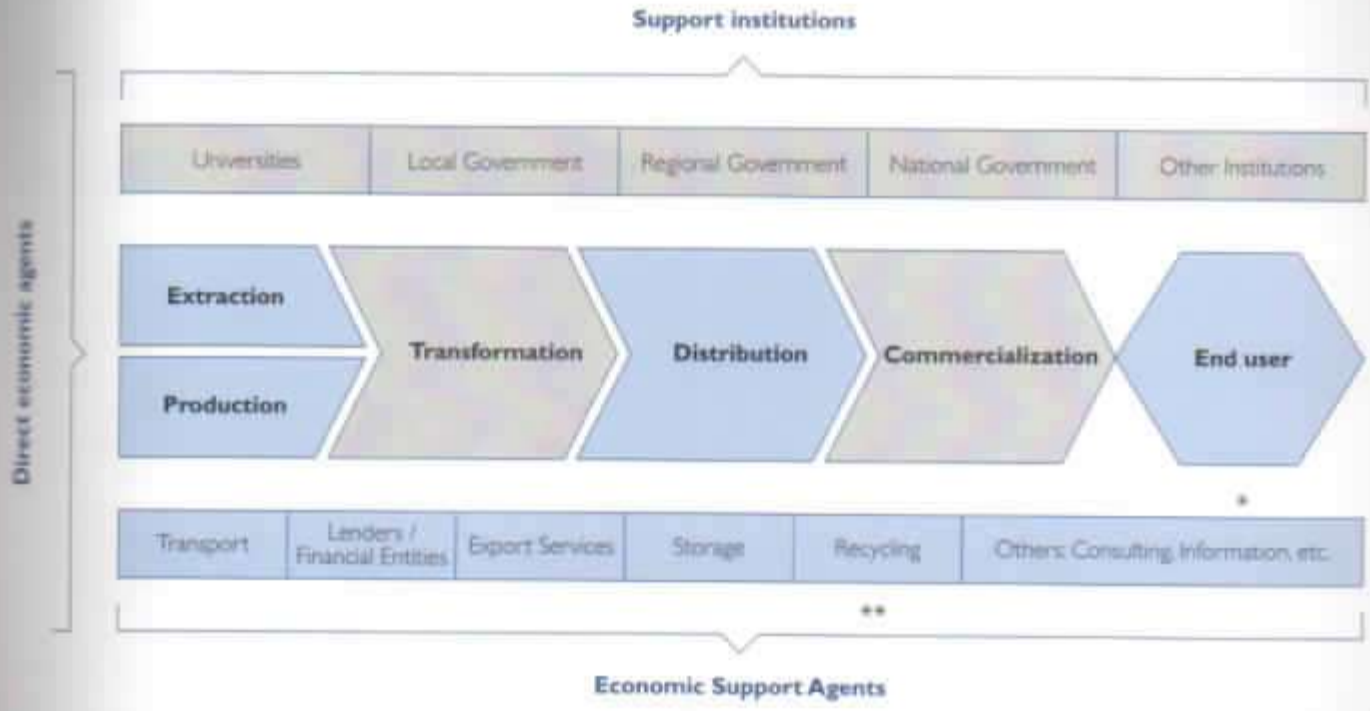
Regional studies mentioned throughout this document and Productive Network's experience demonstrate that the supply of credit to the productive sector is still determined for the most part by traditional assessment tools. Little attention is paid to the situation, needs, preferred terms and other demand characteristics of value chain finance from the perspective of the potential borrowers. The situation is even more critical where MSMEs represent the weakest links within value chains while representing the majority of the value chain's actors.

VALUE CHAINS: AN OVERVIEW

In a value chain, different actors participate in the creation of a product. They interact with one another throughout a series of activities that transform a product or service from raw material or idea to a final product, leading to its distribution and sale. These actors, transactions, relationships, transformations and products make up a value chain.

Productive Network worked with value chains comprised of one or more anchor firms and MSMEs supplying services or producing products. The value chain actors had internal or external commercial ties with the anchor companies, which, in turn, had a greater understanding of the markets they were supplying.

GRAPH 1. BASIC STRUCTURE OF A VALUE CHAIN



Source: Anna Loewenthal, proprietary research.
* End user as end consumer.
** Recycling includes transformation services for waste as a by-product of the value chain's dynamic.

THE GOAL OF INTEGRATED FINANCIAL SERVICES

Financial services are a commercial activity focused on creating value through monetary transactions. Basically, they connect credit supply with credit demand. Integrated financial services refers to a convergence of traditional financial services with financial products working towards a common objective, in this case, financing for specific value chains and their distinct links.

One of the most common errors in designing and implementing financial services is addressing credit only from a supply perspective and losing sight of the financial needs on the demand side. A supply-driven strategy credit minimizes the primary advantage of value chain finance: reducing costs through improved understanding of the demand characteristics of productive sector loans.

VALUE CHAIN FINANCE COURSES OF ACTION

Indirect value chain finance:
Indirect value chain finance is provided from outside the value chain (usually by a financial institution). Traditionally, financial institutions analyze the creditworthiness of each client. With indirect value chain finance, financial institutions evaluate loans based on a borrower's value chain activities (e.g., purchase contracts, advance contracts, promises to buy, or transaction history).[6]

Direct value chain finance:
Direct financing occurs when one actor within a value chain (such as an anchor firm) provides other actors with financial services, which can take many forms (e.g., input supply credit, the lead firm providing a guarantee to a financial institution in order to leverage credit, etc.).

INTERNATIONAL EXPERIENCES IN VALUE CHAIN FINANCE

A number of entities have implemented value chain finance programs for MSMEs within a value chain as well as for entire value chains. A few regional "best practice" examples in Latin America include:

WOCCU Value Chain Finance Methodology-Peru[7]

This methodology was developed and implemented in Peru by the World Council of Credit Unions (WOCCU) and USAID/Peru, in collaboration with the Peruvian national credit union association –Federación Nacional de Cooperativas de Ahorro y Crédito de Perú (FENACREP).

The program's primary innovation has been the creation of a value chain lending methodology to help financial institutions reluctant to finance rural activities successfully break into that market. The WOCCU methodology builds on best practices in value chain analysis. It is designed to enable financial institutions to mitigate the risks associated with rural finance by:

- Evaluating financing opportunities' viability;
- Bringing together value chain actors to forge market linkages;
- Designing products based on producers' needs for finance;
- Ensuring that the process is beneficial for all value chain actors.

Value Chain Finance in Rural Bolivia[8]

An innovative value chain finance program using a venture capital fund was developed by USAID/Bolivia under its Rural Competitiveness Activity program (ARCo for its acronym in Spanish). Focusing on two rural areas in Bolivia, the program's primary objective was to provide small producers with more sustainable access to financial services. This objective was achieved by adapting an innovative financing tool called Purchase Order Finance (POF).

Producers can use the purchase orders (POFs) to buy raw materials, labor or

6 *Financing Agriculture Value Chains in Central America*, Technical notes, No. IDB-TN-148, Inter-American Development Bank.
7 *Value Chain Finance Implementation Manual: Increasing Profitability of Small Producers*, USAID Enterprise Development Implementation Grant Program Learning Network facilitated by The SEEP Network, WOCCU.
8 *Value Chain Financing in Rural Bolivia: Introducing Purchase Order Financing*, USAID/Bolivia's Rural Competitiveness Activity (ARCo).

other supplies to cover production costs (if production timing permits and delivery schedules agreed to with the buyer are met). Under the POF model, a buyer issues the producer(s) a purchase order based on a supply contract and the lender advances sufficient funds for the producer(s) to deliver the order. The model's viability requires a value chain scenario with anchor firm buyers that can commit to purchasing the small and medium producers' products. Purchase order finance was a successful tool for financing operations in the coffee value chain.

A NEW WAY OF VIEWING VALUE CHAINS

The methodology outlined in this document is directed towards the operational strengths of some financial institutions that allow these entities to incorporate new concepts within their business practices. One of these strengths is credit risk analysis. Based on traditional risk analysis, many value chain actors would not be creditworthy. This is particularly true for micro and small producers who traditionally lack collateral to guarantee loans, face difficulties meeting bank loan requirements, often lack historical business records demonstrating cash flow, remain within the informal economy (for lack of registering with the tax and other authorities), and have weak histories with financial institutions and weak credit histories with suppliers.

Viewed individually, many value chain actors would demonstrate the abovementioned shortcomings. However, when the credit risk analysis is extended to an entire value chain –to small producers as suppliers of an anchor firm or as part of a cluster of producers– the situation changes substantially. The reason being that a value chain actor's strength comes from its integrated relationship to the rest of the value chain actors, not from its individual role. This is the main concept promoted by the work undertaken Productive Network within value chains and with the DCA Program.

Productive Network's DCA training program for bank staff involved in risk analysis was designed with the above concept in mind; to demonstrate how to expand their analysis to include an assessment of the entire value chain and not just one MSME as an independent unit.

VALUE CHAIN FINANCE IN ECUADOR

DCA GUARANTEE FUND EXPERIENCE

In 2007, USAID signed agreements with two local microfinance banks –Credifé, a subsidiary of the country's largest bank Banco Pichincha, and Banco ProCredit– in an effort to stimulate MSME lending. USAID made available to these entities US $5.6 million to serve as partial collateral (of up to 50% of the total guarantee) for MSME loans in agriculture, agroindustry, industry and eco-tourism sectors.

A guarantee fund is a simply-designed and low-cost tool which can have a profound impact on lending to the productive sector. The fund was administered by USAID from its headquarters in Washington D.C. Both banks paid an upfront fee to USAID based on percentage of the guarantee fund ceiling. In addition, banks paid a utilization fee for new loans issued with DCA guarantees.

When a bank uses DCA funds to guarantee up to 50% of a new loan (for a maximum amount of US $50,000 at market interest rates), the loan is registered with the administrator (in this case USAID) and the bank pays a utilization fee. The DCA guarantee takes place on paper; there is no movement of funds to the bank. If the bank customer pays the issued loan on time, the operation is complete. However, if a DCA guaranteed loan goes into arrears for more than 90 days, the bank files a claim and USAID transfers the DCA funds representing 50% of the guarantee to the lender. The bank continues with its loan recovery processes and turns over to USAID a percentage of the recuperated funds, together with an arrears fee. Based on the DCA fund use, USAID has the right to re-assess the fees related to accessing the DCA guarantee fund.

TRAINING IN VALUE CHAIN ANALYSIS AND USE OF THE DCA GUARANTEE FUND

To ensure a high utilization rate of the DCA guarantee fund, USAID/Ecuador asked IRIS Center/CARANA Corporation through the Productive Network Project, to design a training program for the participating banks. Together with the banks, Productive Network conducted market research on the supply of available financial products and the demand for financial services within seven value chains in different regions of the country: Cuenca (leather, dairy, palmetto straw hats); Imbabura:

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garment production, handwoven products); Guayaquil: (cacao); and Esmeraldas: (eco-tourism and tourism).

The banks evaluated and selected value chains with the best prospects and those that were aligned with each bank's strategy and expertise. One hundred and seventy loan officers, regional branch representatives and bank employees were trained in value chain analysis and design of value chain finance strategies.

The goal of the training was for bank staff to gain first-hand experience analyzing the businesses of different players within a number of value chains and have an integrated vision of the value chain and therefore, better understand their financing needs.

Specifically, the training program was designed to: a) Provide branch mangers and loan officers with the knowledge to conduct integrated value chain analyses to identify opportunities for financial services, and: b) Identify the real financing needs of the companies in the selected value chains.[9]

During the training process, ProCredit bank staff studied the leather footwear, leather goods, palmetto straw hat, hand-woven products, textiles and dairy value chains. Credifé bank studied the flowers, aromatic herbs, wood handcrafts, dairy, leather goods and tannery value chains.

The training course covered the following topics:

- An introduction to DCA objectives.
- Methodology for value chain analysis.
- Workshop to analyze the value chains selected by the bank.
- Analysis of case studies from the selected value chains.
- Field visits to companies within the selected value chains.
- Workshop to study the companies visited and to develop financing models.

Two-week long training sessions were held in Cuenca, Ibarra, Ambato, Esmeraldas and Quevedo, with bank representatives from all over the country. The training was designed for branch managers, SME loan officers, microfinance officers, agricultural loan officers and producers within value chains. Training sessions were conducted separately with staff of each bank to generate trust in information management and to adjust the training to address each bank's interests, capabilities and dynamics.

[9] Methodology for Financing Clusters Training program for branch managers and loan officers. Prepared by IRIS Center/ Development Alternatives Corporation for USAID.

Following through with a recommendation made by the DCA program evaluation in March 2010, USAID/Ecuador's Productive Network Project conducted a second round of training for Credifé, ProCredit and other financial sector actors from throughout the country, both public and private. The new training program was designed to introduce the value chain analysis methodology and the opportunities the DCA program presented for these actors. Over 100 participants from 32 public and private financial institutions, non-governmental organizations and economic development actors were trained in the following subjects:

- Value chain structure and value chain finance.
- Value chain analysis methodology and design of financial models to support value chains.
- Demand for loans and and the commercial reality of value chain actors in the dairy, leather, cacao, garment making, tourism and palmetto straw hat sectors.

TABLE 1. CONSOLIDATED REPORT OF DCA RESULTS IN ECUADOR

2007 - 2009		
Number of Loans		1,228
Total value of loans		$9,144,269.88
Average loan amount		$ 7,448.47
Gender	Men	54.40%
	Women	45.60%
Utilization rate outside Quito and Guayaquil		68.70%
% of guarantee funds used		57.22%
DESTINATION / SECTORS		
Production/Industry/Manufacturing		50.70%
Agriculture		36.80%
Trade		9.50%
Services		3.00%
DCA Loans in Arrears (%)		7.60%
DCA funds used for operating costs		74.80%
DCA funds used for working capital		21.30%

Sources: Credife and ProCredit, as reported in the DCA Program's 2009 evaluation in Ecuador

IMPLEMENTATION AND RESULTS

In 2008, the effects of the global financial crisis began to hit Ecuador. Bank loan portfolios serving the MSME sectors suffered as many bank clients, particularly those involved in exports, could not make their loan payments. Savings levels in national banks also plummeted as clients withdrew funds to invest elsewhere.

In 2009, USAID/Ecuador commissioned a mid-term evaluation of the use of the DCA instrument in Ecuador. The goal was to determine to what extent the guarantee program was allowing banks to expand loans to the priority sectors and geographic areas. As can be seen in Tables 1 & 2, the evaluation revealed that the banks had used 57% of the guarantee fund between 2007-2009, issuing 1,228 loans worth US $9,144,270 to MSMEs in agriculture, agroindustry, industry and eco-tourism sectors. Fifty-four percent of the DCA guaranteed loans were made to men, 46% were made to women, and 68% of the loans were made to businesses located outside

of Ecuador's largest cities (Quito and Guayaquil).

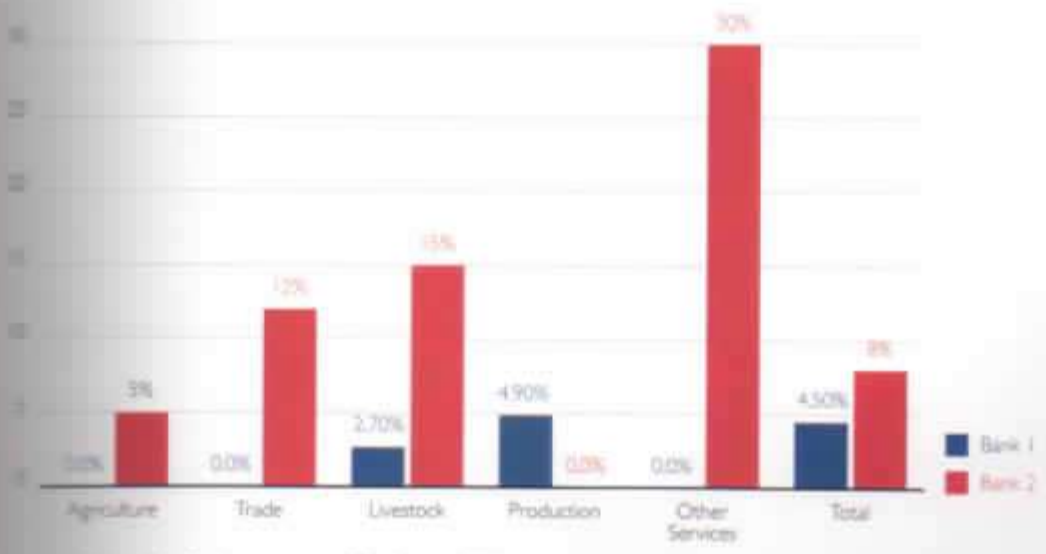
As seen in Table 1, the percentage of DCA loans in arrears was reported at 7.6%. Using the value chain finance methodology imparted, almost 40% of the loans issued under the DCA program went to the agricultural sector and those loans registered an arrears rate of 5% (see Graph 2). In contrast, 9.5% of the program's loans were made to the trade sector, but these loans registered an arrears rate of 12%, contradicting the theory that agricultural loans are by nature riskier than commercial loans. The Ecuadorian DCA experience echoes the findings of a recent study by the Inter-American Development Bank (IDB) titled *Financing Agricultural Value Chains in Central America*. IDB's report on value chain finance experiences in Honduras and Nicaragua states, "Contrary to the prevailing conventional wisdom that all agricultural lending is higher risk than say housing or commercial lending, this study found evidence to the contrary albeit there may be unmeasured self-selection bias..."[10] Overall, the findings of the DCA program evaluation illustrate that value chain finance can be a lucrative activity for Ecuadorean financial institutions when prior market research is conducted.

TABLE 2. USE OF GUARANTEE FUND BY PARTICIPATING BANKS

Bank	Start year	Guarantee Ceiling	Number of Awarded Loans	Total Value of DCA-backed Loans	Utilization Rate	Average Loan Size
Credife	2007	$ 3,625,000	1,018	$ 8,565,964	100%	$ 8,194
ProCredit	2007	$ 2,000,000	210	$ 578,306	14.45%	$ 2,516
Total		**$ 5,625,000**	**1,228**	**$ 9,144,270**	**57.22%**	**$ 7,448**

Source: Credife and ProCredit, as reported in the 2009 evaluation of the DCA Program in Ecuador.

GRAPH 2. % ARREARS BY ECONOMIC SECTOR OF THE DCA PROGRAM 2007-2009



Source: Credife and ProCredit, as reported in DCA Program's 2009 evaluation in Ecuador.

[10] "Financing Agriculture Value Chains in Central America: Technical notes No. IDB-TN-146, Inter-American Development Bank.

POST-IMPLEMENTATION PERSPECTIVES

Applying the value chain finance methodology, analyzing MSMEs as integrated actors within a value chain was a positive experience for both Credifé and ProCredit. Each bank has decided to continue applying this methodology to make new loans utilizing each bank's own resources. Implementing market-based strategies designed to guarantee profitability within the banks' expected margins was key to the program's success, as it generated a real incentive for the banks to continue utilizing this methodology.

> ...The findings of the DCA program evaluation illustrate that value chain finance can be a lucrative activity for Ecuadorean financial institutions when prior market research is conducted.

The methodology allowed banks to identify profitable opportunities within what traditionally had been considered the weak links in a value chain. Implementing this strategy also partially helped counter the drop in loans to the microfinance sector reported by the Central Bank of Ecuador in 2008 and 2009.

For the perspective of the financial institutions' directors, another positive outcome has been the improvement in the abilities of bank staff to analyze new value chains in addition to those selected originally for study, guaranteeing the future use of this tool. Higher quality loan analysis of actors within value chains results in more MSMEs receiving finance without necessarily using instruments like the DCA guarantee fund, an ideal scenario for productive sector finance.

OPPORTUNITIES FOR THE FINANCIAL SECTOR: DYNAMIC VALUE CHAINS

In addition to providing value chain finance tools to Credifé and ProCredit, USAID/Ecuador's Productive Network Project supported an innovative pilot program to strengthen ten value chains using an anchor firm approach. While this program did not include a specific financial focus, it demonstrated that dynanamic value chains in need of further integration represent an important opportunity for the financial sector.

In a number of cases anchor firms assumed the role of financial institution within the value chain, providing its suppliers with financial services and representing a window of opportunity for financial sector actors. In addition to Productive Network's experience, there are many other experiences in Ecuador where anchor firms finance small producers in production, harvesting and post-harvest activities. This situation is inefficient given that anchor firms are simply unable to meet the entire demand for finance among a value chain's MSMEs or small and medium producers. Given their experience, financial institutions are better positioned to meet this demand for credit, both contributing to improved competitiveness of value chains and allowing anchor firms to invest their resources elsewhere in the value chain.

Multiple opportunities exist for innovative value chain finance. The methodology outlined later in this document allows financial institutions to identify and analyze these opportunities based on the dynamics of each value chain so these entities can offer customized financial products to productive sector actors.

Over three years, Productive Network acquired firsthand knowledge of the financial, business and marketing needs of the subsectors the project was supporting in 20 of the country's provinces (dairy, leather products, leather shoes, aromatic herbs, ceramics, hot pepper, heart of palm, palmetto straw hats and dehydrated mushrooms). The project provided technical assistance to the actors in these value chains through Ecuadorean consulting firms.[1]

The sustainability of these value chains is determined by the actors' perception of their business as part of a group with each one depending on the other to be successful. Within this framework, the obstacles a value chain faces in the marketplace are reduced. Market information –traditionally the domain of large and/or established companies– becomes available to micro and small producers. The technical assistance anchor firms share with small or medium producers is highly-effective and based on concrete aspects related to production. Producers can then improve production based on demand specifications.

[1] For a detailed account of these chains, their actors, factors and characteristics see *Productive innovation in Ecuador: 10 strategic development experiences with an anchor firm*. Ecuador: USAID/ECUADOR, www.redproductiva.org or www.cedet.ec

An outline of the financing model applied to some of the value chains Productive Network supported follows below. As previously mentioned, this model illustrates the windows of opportunity for financial institutions to provide credit to MSMEs and small producers linked to anchor firms.

1. Financing opportunities in the hot pepper value chain.

Productive Network supported the hot pepper value chain which included the anchor firm Proaji and a network of 210 small and medium producers who sold an average of 50,000 kilos of hot pepper each month, mainly for export. Production levels grew by almost 50% in 2009 over 2008 levels.

Productive Network provided technical assistance to producers to implement good agricultural practices and increase exports. The anchor firm created a model to improve and increase production levels by financing producers' seed inputs. The anchor firm provided financing to 210 producers worth an estimated US $ 70,000 per year. Rising international demand for its products, combined with the agreements and contracts between Proaji and its suppliers made it possible for the anchor firm to finance key aspects to production and recover loaned amounts through discounts on its purchases, minimizing risk.

In this case, the anchor firm financed inputs and other production costs in the absence of a financial institution to provide producers with credit. The existence of a strong business relationship between small producers and the anchor firm based on trust and short and medium term agreements illustrates an ideal scenario for financial institution intervention within this value chain.

For small producers, building trust with a business partner through complying with pre-established standards and procedures, represents a skill set that could be built upon in the near future with other actors, such as financial institutions.

In 2009, hot pepper was produced on 281 planted hectares, up 178% from the 101 hectares under production in 2007. This value chain's potential represents an important opportunity for actors within the public and private financial system, given how there are few hot pepper producers who maintain ongoing relationships with financial institutions.

2. Financing opportunities in the heart of palm value chain.

Productive Network helped to create a similar scenario for anchor firm Tropical Foods and 13 of its suppliers in the northwestern province of Pichincha. This firm was experiencing an increased demand from its existing clients, while it also identified new market opportunities.

Productive Network helped Tropical Food and its suppliers obtain the product certifications needed to access new markets in the United States, Mexico, Israel and France, and contributed to positive impacts among suppliers.

In order to guarantee the quality of the export product, Tropical Foods required producers to plant certified seeds and follow production procedures that met sanitary-phytosanitary standards. The anchor firm financed inputs and materials as well as technical assistance. Tropical Foods financed production costs based on product orders. Loan repayments were deducted from product sales.

In the absence of an actor willing to finance loans to producers, the anchor firm undertook the role of financial institution. The estimated value of loans to finance the costs of seeds and other inputs for the 13 producers involved is US $30,000/ year.

The heart of palm value chain is connected to a growing international market for this product. Within it, medium and long-term relationships have been established, in addition to a business culture based on trust and high production standards. Producer-anchor firm relationships within this value chain have improved and, as a result, the value chain is positioned to access other sources of credit.

It merits mentioning that in 2008, the Ecuadorean heart of palm industry reported annual sales of over US $60 million, producing heart of palm on more than 15,000 hectares of land. Over the past seven years, the surface area where heart of palm is cultivated increased by 90.11%. This value chain employs approximately 3,500 people.

3. Financing opportunities in the dairy value chain. In the Carchi and Imbabura provinces, Productive Network worked with a value chain project with the anchor firms Floralp and Industria Lechera Carchi. Both long-standing companies, they were well recognized in the local market and worked with over 300 small dairy farmers. The objective of this intervention was to increase the value chain's competitiveness and increase sales for all the actors within the chain through improved production processes, higher quality inputs, increased capacity, improved relationships between actors and incorporating new technologies.

The anchor firms provided financial support to the dairy farmers who had been unable to access loans through the formal financial system, and had opted to create their own cooperative to finance their activities.

Having a network of producers working together who had achieved high quality product standards and met volume requirements were key factors in the decision among Floralp and Industria Lechera Carchi to provide direct finance to multiple processes within the value chain.

The anchor firms financed pasture improvements and improved animal care through technical assistance programs. They also financed equipment purchases and transport vehicles. The anchor firms recovered all funds loaned through discounts on the products purchased. The anchor firms provided an estimated US $60,000 in finance to over 300 dairy farmers.

Direct financing by the anchor firms motivated the dairy farmers to create a cooperative so they could self-finance production costs among value chain members. These financing activities were made possible by having a guaranteed buyer, pre-established purchase prices and technical support to ensure market standards were met. The anchor firms, on the other hand, were assured a supply of high quality product and stable supplier relationships, improving the overall competitiveness of the value chain.

This value chain, in particular the participating small producers, registered important improvements in maturity that should be considered by the financial sector. At the time of this document's publication, the dairy farmers involved in this value chain remained without access to formal financial products.

Productive Network, through its work supporting Ecuador's regional economic development agencies (ADETs), also assisted in the design of over 20 new development projects based on the value chain with anchor firm methodology. Many of these projects involve key value chains and recognized anchor firms, assuring markets for MSMEs and small producers.

Some of the most representative projects demonstrate the strength of the relationships built between producers and anchor firms, and constitute additional, important financing opportunities for public and private Ecuadorean financial institutions.

4. **Financing opportunities in the cacao value chain.** This project consists of improving the income and employment for small cacao producers in Quinindé, Esmeraldas, in collaboration with the anchor firm Nestlé. The project also seeks to improve sustainable forest management with the additional anchor firm Endesa Botrosa. The Forest Foundation of Juan Manuel Dunni, a private, non-profit organization, is spearheading the project with the support of local government, the private sector and international donors. Anchor firms Nestlé and Endresa Botrosa, USAID through its Productive Network Project, the Fundación Forestal Juan Manuel Dunni, the Andean Development Corporation (CAF), the Consortium of Provincial Councils of Ecuador (CONCOPE) and the provincial council of Esmeraldas are providing 500 local families with technical assistance (through radio transmissions and agricultural extension agents) and technology transfer (through genetically modified plants) to meet the anchor firms' production goals and eventually process the cacao into paste for export.

The technical assistance will be financed by a grant from the Andean Develoment Corporation over two years. Productive Network, through a Project Specialist, conducted a credit demand analysis among local producers, and proposed that CAF designate a financial consultant to provide producers with technical assistance so they can successfully access loans from local financial institutions, including cooperatives and private and public banks.

The financial consultant will play the role of an *"honest broker"*, bringing together producers and financial institutions and demonstrating to financial institutions how the agreements between anchor firms and producers can mitigate financial risk.

5. Financing opportunities in the plantain value chain in Yasuni. This project brings together local government, the private sector and international donors to provide indigenous, small producers in the Amazon with greater market access through a fixed-volume, fixed-price agreement with the anchor firm Exotic Blends over two years. Exotic Blends, USAID through Productive Network Project, United Nations Food and Agriculture Organization (FAO), CAF, CONCOPE and Orellana's provincial council are providing technical assistance and technology transfer to 200 indigenous families in the Yasuni to meet Exotic Blends' production goals. The plantains will be processed to make plantain chips for export to a supermarket chain in France, a longstanding client of Exotic Blends interested in fair trade. The technical assistance is being provided through radio broadcasts and extension agents.

As with the previous case, Productive Network, through a Project Specialist, conducted research related to credit demand among local producers and proposed to CAF that this entity assign a financial consultant to conduct assist local producers access finance from local financial institutions. The consultant will mediate between producers and financial institutions, using the guaranteed technical and commercial assistance as leverage to minimize the risk related to loan provision.

6. Financing opportunities in the plantain value chain in El Carmen, Manabi. This project is designed for small producers in the El Carmen canton in the province of Manabí. The anchor firm Pepsico/Fritolay has agreed to buy fixed volumes of plantain at pre-established prices over one year and a half. Pepsico/FritoLay, USAID through its Productive Network Project, CONCOPE and the provincial council of Manabí are providing 100 families with technical assistance (through extension agents and other technologies) and technology transfer (agricultural inputs) to meet Pepsico/FritoLay's production goals. The plaintains produced will be processed into plantain chips for export. The financing component of this new project is under development. One possibility being considered is bringing in an additional anchor firm into the value chain –an agricultural inputs supplier– to finance the purchase of supplies, partially guaranteed by Pepsico/FritoLay. A similar project for 100 additional beneficiaries is being developed in the Santo Domingo province.

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1. **Financing opportunities in the cacao value chain in Manabi.** This project brings together provincial authorities, the private sector and international donor agencies to provide small producers in Manabi with the opportunity to sell fixed volumes of cacao at pre-established prices to the multinational anchor firm Nestlé over the course of one year with the possibility of an extension. Nestlé in its role as anchor firm, USAID through its Productive Network Project and the provincial council of Manabi are providing 200 local families with technical assistance to meet Nestlé's production goals. The cacao produced is processed into paste for export to markets where Nestlé already operates. In terms of financing, as part of the agreement the anchor firm is covering the insurance costs of the goods stored in its warehouses. This cost is deducted from the product's purchase price.

The abovementioned examples illustrate some of the value chains that were supported through USAID's Productive Network Project in Ecuador which constitute an important window of opportunities for Ecuadorean financial institutions. The strengthened relationships between producers and anchor firms based on trust, the provision of technical assistance, higher production standards, stable purchase prices and guaranteed purchases of products produced all represent favorable conditions for financial institutions willing to enter into the area of indirect value chain finance.

METHODOLOGY FOR DESIGNING

A VALUE CHAIN FINANCE STRATEGY

One of the premises behind USAID's work is that knowledge and learning should be consolidated into tools that can be shared and will allow all the countries where the agency works to benefit from successfully-implemented development strategies.

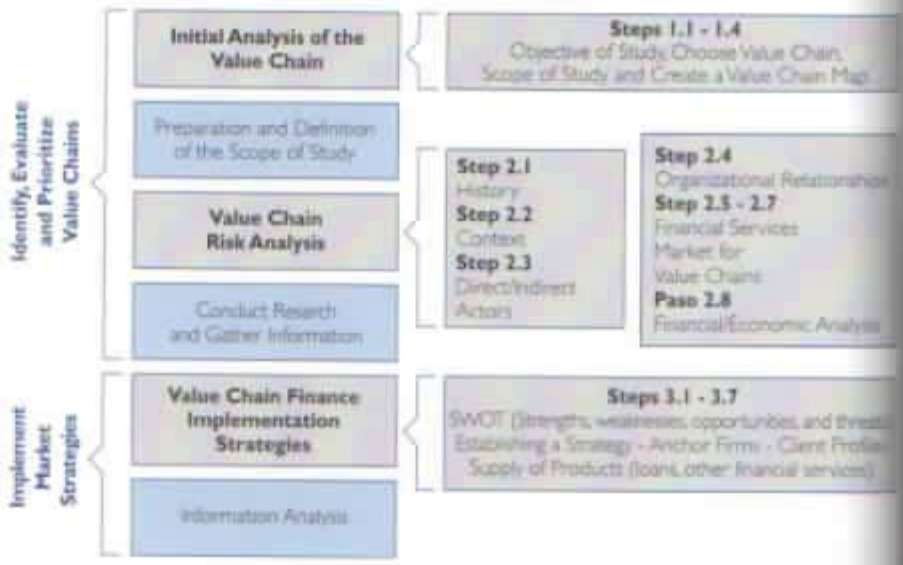
In support of this mandate, Productive Network presents in this chapter a step-by-step process of how to design, build and implement a value chain finance strategy. The tools in this chapter are based on those utilized in the training programs conducted for the financial institutions participating in the DCA program in Ecuador.

A. INITIAL ANALYSIS OF THE VALUE CHAIN

This section includes a series of tables that outline the methodology proposed in an effort to simplify the steps for the reader. The remainder of the chapter is dedicated to explaining each step in detail.

Ecuadorean financial institutions, based on their experience and placement within the financial sector, can adapt the entire methodology, or adapt part of this based on the specialized needs of the financial institution.

GRAPH 3. STUDY METHODOLOGY: STEP BY STEP



Source: USAID/Productive Network's training program in Ecuador

TABLE 3. STAGE 1: INITIAL ANALYSIS OF THE VALUE CHAIN

The objective of this preparatory stage is to define the principles, methodology, criteria and parameters to be applied to the value chain study.

Steps	Main activities	Estimated timeframe
1.1	Outline and define the study objective.	2 days
1.2	Choose value chain.	3 days
1.3	Define scope of the study.	2 days
1.4	Create a value chain map.	5 days
Referential timeframe		**12 days**

TABLE 4. STAGE 2: CONDUCT VALUE CHAIN RISK ANALYSIS

The objective of this stage is to gather and organize the necessary data to conduct a value chain risk analysis based on an evaluation of the value chain's conditions. An eight step process is used to order the information collected.

Steps	Main activities	Estimated timeframe
2.1	Establish value chain history.	2 days
2.2	Analyze the value chain context.	3 days
2.3	Identify the direct and indirect value chain actors.	3 days
2.4	Outline the organizational relationships between the value chain actors.	2 days
2.5	Research the financial service market (supply and demand).	6 days
2.6	Study the value chain actors' perception of financial services.	15 days
2.7	Research demand characteristics for financial services.	24 days
2.8	Conduct economic and financial analysis of the value chain.	10 days
Referential timeframe		**65 days**

TABLE 5. STAGE 3: DESIGN VALUE CHAIN FINANCE IMPLEMENTATION STRATEGIES

The objective is to identify the main strategies to offer financial products for value chains.

Steps	Main activities	Estimated timeframe
3.1	Conduct a SWOT analysis of the value chain.	2 days
3.2	Establish a strategy for financial services models.	5 days
3.3	Identify anchor firm(s).	4 days
3.4	Conduct client segmentation.	3 days
3.5	Develop the supply of financial services & products.	32 days
Referential timeframe		**46 days**

Data Collection and Organization Methodology

We suggest five methods for collecting and analyzing information:

1. Secondary data collection.
2. Focus groups with diverse actors representing different links within the chain (e.g., producers, processors, traders, exporters, wholesalers).
3. In-depth interviews with experts and main value chain actors to collect additional data and to clarify and validate the information analyzed and collected.
4. Workshops to present staff with the information collected and its analysis in order to validate the value chain finance strategies proposed.
5. Application of the methodology and tables in this document to organize the data collected.[12]

[12] Many of the tables within this document use examples from the cacao value chain in the Dominican Republic.

B. CONDUCTING A VALUE CHAIN RISK ANALYSIS

STAGE 1: Initial Analysis of the Value Chain

Step 1.1: Outline and define the study objective(s)

Outlining with clarity the objective of the study is a key first step. The potential objectives may vary but in general, they will include:

- Expanding financial services.
- Expanding the market for productive sector financial services.
- Improving risk management.
- Improving cost management.
- Improving institutional image.

Depending on a financial institution's objectives and financial resources, different dimensions of the study may be prioritized. Avoiding overextending the study objectives is important for cost considerations. Once identified, the study objectives should be shared with the financial institution's management to validate the study scope presented.

Step 1.2: Choose the value chain

A value chain or a specific product within a value chain must be selected by:

a. Selecting the value chain to be studied.
b. Further defining the value chain or the value chain product(s) to be analyzed. The financial institution's value chain finance work group should decide which value chain or product to analyze based on the existence of value chains or products with great market potential.

In order to choose which value chain or value chain product to study, the financial institution may consider the following criteria:

- Market potential of value chain/product.
- Level of development/integration of the value chain.
- Value chain's financial services history.
- Levels of government regulation within the value chain or within the financial services sector; prices and value chain markets.
- Historic risk analysis of the value chain/product: product losses, loss of market share, debt forgiveness, etc.
- Arrears within the value chain/product.
- Whether the value chain/product is in a strategic geographic area or growth market for the financial institution.

- whether anchor firms exist and if SMEs can be potential suppliers.

The financial institution should weigh criteria based on the bank's interests and priorities.

Once this step is completed, the value chain work group of the financial institution should prepare a table based on the above criteria to present to the financial institution's management team. The work group should be able to explain why the choice to study and develop a financial services strategy was made in favor of one value chain over another. This exercise may result in a list of value chains for future analysis. Before conducting this evaluation, the weight assigned to each criterion should be agreed upon. Matrices A and B and Graph 5 included in the document's annex use an example of the cacao value chain in the Dominican Republic, an example used throughout the document.

Step 1.3: Define scope of study

In order to establish the study's scope, one must identify the initial and final links within the value chain. The initial link generally corresponds to production and the final link to the end consumer. However, it may be challenging to study the value chain through the end consumer, since from the perspective of the financial service provider, the final market is the in-country exporter. In this case, an analysis of the exporter's portfolio of clients should be conducted. The reason being that that financial services should be tailored to the risks inherent within international trade, and there may be collateral implications for the entire value chain.

The financial institution's staff should be aware of the fact that problems in one link within a value chain may affect the other links within the chain. Because of this dynamic, the value chain should be analyzed in its entirety to understand the relationships between the actors. To define the study's scope, all the links that value chain products pass through--from production to end market --must be identified.

Experience demonstrates that a full analysis –in which all of the recommended steps are taken– may take two to six months to complete. However, it could take longer depending on the study scope and availability of staff time to dedicate to this work. The methodology recommended is that financial institutions assign human resources with sufficient time available to conduct the entire study.

Although the study length may seem excessively long, one must consider the many financial service options for the different actors within each value chain, and consider the opportunities to serve these. Completing the study and identifying potential market niches provides an action plan for the financial service provider over the medium and long terms, and improves the capacity of its staff to identify new market niches and value chains.

Step 1.4: Create a value chain map

The initial value chain map consists of creating a graphic representation of the entire value chain structure, identifying the main links, the actors within each link and their roles, and the volume of product flow between them.

One must identify the main of actors within each link, highlighting the differences between the actors within the same link. For example, identifying a value chain actor as a producer is not sufficient. Value chain actors should be described in terms of their role within the chain, their size, their production volumes, the area they produce, and whether they are associated or not. This same process is then repeated with the other value chain actors: collectors, processors, traders/wholesalers and exporters.

STAGE 2: Conducting a value chain risk analysis

While this is an important stage, it is recommended that only the necessary information be analyzed in order to address the study objectives and associated risk. The stage includes eight steps to assist the financial institution collect and organize the information it needs to complete this stage in the value chain analysis.

Step 2.1: Establish the value chain history

This step is useful for identifying the most important changes and events which have affected the value chain's evolution over a period of time (ten years maximum). These changes may be related to direct or indirect actors or external factors (policies, environment,

economy, markets, technology, prices, quality, volume, regulations, etc.). To better understand a value chain's current situation, one must research what has changed within the value chain over time.

The information mentioned above, collected through focus groups and in-depth interviews with key actors, should be transferred to a historic matrix. The information should attempt to reflect information gathered from the different links within the value chain as there may be diverse viewpoints on the changes. Information about the role of financial services throughout the value chain's history should also collected, including the financial institutions which entered the market, political offers of support to the value chain, debt forgiveness, presence of state-owned financial institutions offering subsidies, arrears, delinquency, etc.

TABLE 6. EXAMPLE OF STEP 2.1: HISTORICAL MATRIX OF THE CACAO VALUE CHAIN IN THE DOMINICAN REPUBLIC

Year	Event	Description	Impact
2000	Hurricane Juan	Destroyed production and cacao fields	Recovery took eight months to a year
2001	Government launched debt relief program and incentives for the cacao sector's recovery	Banco Agrícola purchased producers' debts and offered subsidized credit to rebuild the sector	
2003	CONACADO created Cooperativa el Progreso	COAC Cacao producers in the DR	CONACADO's members have a monopoly on financial services although their prices and fees are above market
2005			

Situation and trends: The cacao value chain is a growing business sector with future prospects of increased export volumes.

Source: Cacao sector focus groups conducted in the Dominican Republic

Step 2.2: Analyze the value chain context

This step analyzes how a value chain's context can have a positive or negative impact on its development. Environmental factors may include political, physical, economic, social, environmental, legal and cultural aspects, among others. One should also distinguish between the local, regional, national or international contexts. A number of matrices are suggested for organizing the information within this step.

Regulatory frameworks can either promote or limit value chain development. One should consider conducting research and reflecting upon the following: trade agreements between countries, rules of origin, customs policies, pricing policies, technical, sanitary and phytosanitary controls, tax regulations, tariffs, export quotas, subsidies and grants, sector development policies, property legislation, quality standards, policies to promote gender equality, and environmental aspects. (See Matrix C in the Annex for an example).

Likewise, regulatory frameworks exist that promote the development of value chain finance, and others that inhibit it. Again, one must research and reflect upon policies such as: interest rates, prices and fees for financial products and services, subsidized loan programs or subsidies available through public financial institutions or others, defining target clients or directing financial services to specific geographic areas, etc. (Refer to Matrix D in the Annex).

Value chains require physical infrastructure to develop. An evaluation of the chain's infrastructure conditions is recommended, including transportation, energy, communications, storage and processing centers and irrigation, as each are factors that may represent risk for the entire value chain. (See Matrix E in the Annex).

Basic infrastructure is required for financial institutions to expand financial services to value chains, such as offices, phone service, internet access and security services. Matrix F in the Annex presents a tool to organize this information.

Value chains use natural resources and therefore impact the environment. This next element in the study corresponds to the need to understand how value chain development affects the environment. From the perspective

of financial services, this is of interest because new environmental regulations for an economic sector can affect the development of value chains, and therefore the risk these represent to financial entities. For the purposes of this document, the cacao value chain has been used as a model, but similar conditions exist in other value chains, such as coffee and other agro-industrial chains. To simplify the exercise, we propose a single Matrix including the environmental conditions affecting a value chain and the risks they represent for financial services to be offered. (Refer to Matrix G in the Annex).

Step 2.3: Identify the direct and indirect value chain actors

This is a fundamental step in the study. It serves to deepen the knowledge obtained during the mapping exercise (Step 1.4). This step seeks to establish who the main actors are within each link of the value chain, their characteristics, interests and impact within the value chain. This information can be obtained by holding focus groups with direct actors in the value chain studied.

- **Direct actors**
  These are the actors directly involved in the different value chain links, who act and interact within the same value chain. Different characteristics exist among direct actors within the same link and direct actors between value chain links. Within the same value chain link, different criteria may be used to establish differences among the actors. Technical criteria (size, volume, technology, access, distance) is just one area to consider. The analysis of direct actors should also consider operational criteria (e.g., processes, available equipment, transportation), as well as criteria to understand the rationale of the actors (e.g., logic, strategy) their motivations and reasons why they perform their activities, and also their use of resources (e.g., financial, land, water, infrastructure, technology). This information is important for the overall value chain study as well as for the analysis of financial services risk.

The key elements to characterize direct actors include: gender, age, ethnicity, activities and functions within the value chain and their link to other economic subsectors. An analysis of the services these direct actors could provide (e.g., loans, market linkages, technical assistance) as part of a global strategy for their business should also be conducted.

- **Identify anchor firm(s)**
  Productive Network's value chain methodology is based on integrating various actors within a value chain. Anchor firms are companies with at least three suppliers and perform a value-added activity within the chain. The anchor firm should be financially and commercially stable and willing to enter mutually beneficial agreements or strategic alliances with its suppliers.

  Horizontal integration within value chains reflects the levels of linkages between its direct actors. However, the degree of integration relies in large part on the roles that large and medium-sized businesses play to facilitate integration.

  A power assessment (the influence one actor has on others) is another way to identify a value chain's anchor firms. The anchor firm's willingness and capacity to act as a connector between other direct actors is an important aspect to study. By identifying the anchor firm(s), the financial institution will identify a possible strategic ally with whom to carry out its financial services strategies. To identify these anchor firms, financial institution staff should assess the following elements for each potential candidate: ability to generate real-time financial statements, integrated financial and accounting systems, secure data transfer and storage to ensure contract compliance.

TABLE 7. STEP 2.3: EXAMPLE OF AN ANCHOR FIRM'S IDENTIFICATION CHART

Name of the Anchor Firm Identified: Bloque 2/CONACADO/Cooperative "El Progreso"			
Name of the Responsible Party: Isidro de la Rosa			
Name of the Contact Person of the Firm: Angel Castro, Manager of the Cooperative "El Progreso"			
Type of Enterprise: Producer Cooperative and Savings and Loan			
Financial Statements Available: 2005-2009		Agreement/Date	
Strategic Alliances Formed:	Client References: X	Fees Charged: X	Technical Assistance Provided: X
Point of Services for Banks: X		Conditions for the Anchor Firm:	
Payment of Checks: Above 10,000 RD		Lines of Credit	
Service Payments: Cable, Cell phones, Electricity	Money Exchange Services:	Working Capital Loans: > 5MUS$, 7% Mortgage Loans and Leasing	
Deposits Above: 15,000 RD		Savings Terms: 2% over balance	

Source: Anna Lowenthal, value chain finance research in the Dominican Republic.

- **Indirect actors**
  Indirect actors provide support services to direct actors. They supply inputs or services to a value chain, such as technical assistance, research, loans, transportation, communications, etc.). Their role is crucial to value chain development. The strength of linkages between a value chain's indirect actors indicates its level of vertical integration. Simple questions can be asked to evaluate these actors, such as:

  - Who are they?
  - Are they a public or private company, nonprofit or government support agency?
  - Where do they operate?
  - Where within in the value chain do they intervene?
  - What services do they offer within the value chain?
  - What other services or benefits do they gain?
  - Is there a seasonal component to their work?
  - How do they conduct their work, and what sort of technology and level of investment is required?
  - What is the risk involved?
  - What is the quality of service provided?
  - What are the costs?

By studying the indirect actors' characteristics, the conditions to offer financial services within the value chain can be assessed. The information collected is used in a later stage of developing a value chain finance strategy: analyzing the financial institution's products.

Step 2.4: Outline the organizational relationships between the value chain actors

To determine the power relationships between actors within the same value chain link and between other links, one can study the following:

a) Buyer/seller relationships and transactions.
b) Social relationships.
c) Organization and coordination.

If the linkage is analyzed from the perspective of a business transaction –the foundation of the value chain approach– an efficient transaction reduces the costs associated with the purchase/sale of a product. In this section, the transactions a product undergoes from production to its end market are identified to create a value chain flow chart.

To define the sales relationship, the following information is collected and analyzed: the nature of the transactions, volumes, frequency of transactions, terms of payment, formality, who benefits the most from the transaction, power relationships within transactions, and product characteristics, among others.

TABLE 8. STEP 2.4: EXAMPLE OF A RELATIONSHIP MATRIX

Criteria	Description of relationship
Payment method	Cash or a week's credit. Generally a local processor works with capital provided by an intermediary, particularly when demand is high for the product
Who obtains the greatest benefits?	If sales prices are increasing, the intermediary benefits. If prices drop, the processor benefits. If the sale is based on credit extended, then the intermediary loses
Volume	Up to 500 kilograms
Product characteristics	The product is sorted by color, size and purity
Frequency	Once a week
Formality	Verbal agreements that are not always respected
Socio-cultural relationships	Friendship and kinship-identified by birthplace
Negotiation power	The intermediary determines price. The local processors establish delivery commitments with the intermediaries based on pre-established prices. When demand rises, the intermediary raises prices

Source: Arno Lowenthal, value chain finance research in the Dominican Republic

Improved relationships between actors can make a value chain more efficient by reducing risk, ensuring access to resources and raw materials, and improving the flow of information. Sometimes improved linkages can reduce value chain flexibility and increase actors' dependency on each other. On the other hand, alliances that bring together different direct and indirect value chain actors with the goal of improving the value chain's competitiveness can also serve as areas for improved coordination.

For a consistent value chain analysis, the vertical and horizontal linkages between actors should be evaluated.

Horizontal linkages:

- How long has the linkage existed?
- What roles do the partners or members play within the linkage?
- How solid or sustainable are the linkages?
- What types of services do they offer their members or partners?

Vertical linkages (alliances):

- Coordinating mechanisms for alliances.
- Benefits perceived by actors as a result of these alliances.

For tools to conduct the above analyses, please refer to Graph 6 and the Matrices H, I, and J in the Annex.

Step 2.5: Research the financial service market (supply and demand)

Analysis of value chain demand

This step aims to describe how, when and where the value chain's buyers participate in the production, transformation, sale or export of a product. Buyers' demand specifications (e.g., size, color, uniformity) for products and services in line with market demand need to be established. The historical evolution and trends –volume, price, features, even packaging, branding and labeling preferences– are also assessed at this stage.

The above information is important for risk management. One of the key elements to measure the risk of a value chain is its level of integration with the end market. To fully understand risk, we suggest including the following information into a matrix: Who are the main competitors? Where are they located? What are the value chain actors' strategies compared to its main competitors? What are the supply side characteristics of product quality, volume, pricing, presentation and packaging? Please refer to the Matrices K, L and M in the Annex to collect and organize financial services demand information.

Value chain supply analysis

Financial institutions will most likely implement their value chain finance strategies in markets where others actors are already offering financial services. It is therefore necessary to understand these in order to evaluate the products with which they may be competing. Under Step 2.5, in the Annex section, the Matrices N1 through N6 include forms for collecting and sorting information related to the supply of financial services for value chains. When possible, information about the financial institutions themselves should be collected (their number, age, number of branch offices, etc.) as well as information about the products they offer (interest rates, fees, terms and conditions, collateral requirements, etc.). To minimize cost, this information should be limited to the institutions that already compete with the financial institution in similar markets.

Analysis of financial products available

This analysis aims to reveal the previous experience value chain actors may have had with the public or private financial institutions operating in their geographic area. Gathering this information is important for the financial institution, because it will be easier for an institution to serve value chain actors who have prior knowledge of, and corresponding levels of trust in, the financial products or services offered.

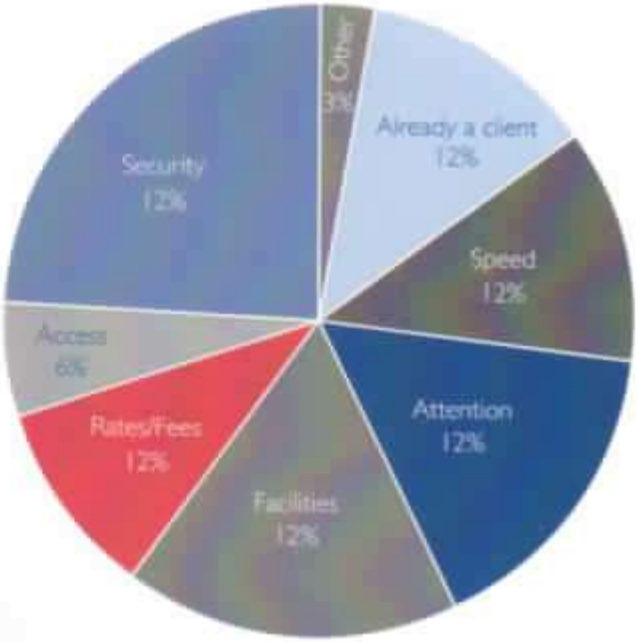
Step 2.6: Study the value chain actors' perception of financial services

Value chain actors' perception about financial institution products determines how they behave. We recommend conducting a survey to determine the value chain actors' perceptions so the financial institution can design a value chain finance strategy that responds to their demands and reflects their expectations. Matrix O in this document's Annex, is a two-page form that can be used as a model to conduct a survey of value chain actors' perceptions regarding financial services and products. In Graph 7 of the Annex, the results of the survey are shown.

The experience in developing countries such as Ecuador shows that when value chain actors have a higher degree of information and knowledge about the supply of financial products, they demand higher quality, better conditions and more competitive pricing for financial services. When a financial institution evaluates a new market, it is essential that they evaluate the level of knowledge the value chains' actors have regarding who these financial actors are and what services they offer. The level of value chain actors' knowledge about financial products can help project their potential level of demand for quality services, loan terms and financial service product pricing.

In the case where there is a high degree of diversity in the supply of products, the financial institution should evaluate whether the diversity is the result of a fragmented vision, and not market segmentation. To ensure the success of the financial institution's value chain finance strategy, it should focus on responding to market demand rather than offering a wide range of products and services. Graphs 8 and 9 in the Annex demonstrate the knowledge cacao value chain actors have of different financial products in the Dominican Republic.

GRAPH 4: REASONS FOR CHOOSING A FINANCIAL INSTITUTION



Source: Arno Löwenthal, value chain finance research conducted in the Dominican Republic

Step 2.7: Research demand characteristics for financial services

Defining the client profile

In this step, a segmented approach is taken to define each type of actor (small, medium, large) for each link within the value chain:

- Number of producers/suppliers/processors/intermediaries/exporters;
- Production volume, sales volume, area under production for each segment and actor;
- Average age for each segment and actor;
- Average number of years of experience in the sector by segment and actor.

Some of this information was previously collected in Step 2.3, while identifying value chain direct actors. However in this step, the analysis is done from the perspective of segmented demand. Filling in the matrices below will assist in collecting this information.

TABLE 9. STEP 2.7: EXAMPLE OF SEGMENTATION OF CACAO PRODUCERS

	Number	Age	Production area	Production volume	Experience in segment
Small	1680	89% are 45 years old and above	Under 35 hectares		More than 10 years
Medium	840	89% are 45 years old and above	Under 35 hectares		More than 10 years
Large	840	89% are 45 years old and above	Under 2001 hectares		More than 10 years

Source: Anna Lowenthal, value chain finance research in the Dominican Republic

Establishing the demand for financial services

The focus groups can assist in determining the value chain segments by type of actor (small, medium, large) and for each link within the value chain (producers/suppliers/processors/intermediaries/exporters) the following:

- Demand for segmented financial products.
- Volume of demand for financial services.
- Calendar of demand for financial services.

Loan products are generally for two main purposes: to provide working capital for business operations or investment capital for purchasing assets.

In the example provided, information was gathered from focus groups representing each link in the cacao value chain. The table illustrates the types of value chain finance issued and opportunities for growth: 50% of the potential demand was met for working capital, 25% of the total demand was addressed with investment capital, and only 10% of the demand for renovation was met.

TABLE 10. ESTABLISHING DEMAND FOR LOANS AMONG CACAO PRODUCERS

Value chain	Link	Number of potential clients	Working capital (coverage 50%)	Investment capital
CACAO	Producers	1,680	1,500 x T x Year = 22,680	Rehabilitation (25%)
	Small(<35 tons)	840	1,500 x T x Year = 30,870	4,000 x T2 years = 30,240
	Medium(35-160 tons)	280	1,500 x T x Year = 33,600	4,000 x T2 years = 29,400
	Large (>160 tons)	2,800		4,000 x T2 years = 44,800
	Total		R$D 87'105 / 35 = US$ 2'489	R$D 104'430 / 35 = $2'984
				Renovation (10%) S M L
				8,500 x T year 1 = 49,980 24,990 38,080
				5,525 x T years 2 = 32,487 16,243 24,752
				4,500 x T years = 26,460 13,230 20,160
				R$D 108,927 54,463 82,992
				R$D 246'382 / 35 = US$ 7039

Source: Arno Lowenthal, value chain finance research in the Dominican Republic

TABLE 11. ESTABLISHING LOAN DEMAND AMONG CACAO COLLECTORS AND PROCESSORS IDENTIFYING THE POTENTIAL DEMAND FOR LOANS (in thousands of Dominican Pesos and US Dollars)

Cluster	Value chain link	Number of potential clients	Working capital (coverage 50%)	Investment capital	Capital for storage (60%)
CACAO Bloque 2	Cacao collector and intermediary chocolate processer	Bloque 2 business collector and intermediary Bloque 2	RD $ 48,836,929.86/35 = US $1,395 US $1,334,289	Expanding infrastructure (60%) Fermentation and drying storage US $5,000	US $5,000 = US $1,334,289

Source: Arno Lowenthal, value chain finance research in the Dominican Republic.

A similar matrix should be developed for services and other financial products. The matrix provides a level of detail for each link broken down by actor, achieving a high degree of precision in determining the marketing strategy for the financial institution. The Annex includes two examples (Matrices L and M), for loans and services.

Step 2.8: Conduct economic and financial analysis of the value chain

The economic and financial analysis of each actor and link is what should determine the costs and margins for financial products offered. This analysis also helps demonstrate the financial capacity of each actor, allowing the financial institution to confirm projected volumes of demand for the products it develops as part of its value chain finance strategy.

The objective of this step is to establish the costs at each stage for each product and every value chain actor. This information is collected through focus groups and can be compared to information provided by other actors in the related links, in particular for the product's production processes and during the transportation, transformation and processing stages. Secondary information can be very useful as well to assist the financial institution develop demand profiles for each actor within every link of the value chain.

In collecting the data for this step, product pricing the different links of the value chain should become clear, based on the margins of each actor in the value chain. This information helps the bank determine the demand for loans, debt capacity, repayment capacity, payment schedules and payment rates.

This step also helps the bank determine potential client savings capacity and frequency of deposits, as well as the investment capacity of each actor within each value chain link. A continuous mechanism for the financial institution to monitor price fluctuations of the chain's product(s) must be established. Financial institutions will also need to be informed of any seasonal factors contributing to price volatility. The historic evolution of a product's price (minimums, maximums, averages, cycles) also should be tracked, as accurately projecting price trends is important to evaluating risk. For value chains tied to export markets, information about the evolution of prices in terms of quality or quantity is also an important aspect of this step.

Finally, from a risk evaluation perspective, it is also important to gather information regarding market practices or other behavior that could distort the price(s) of the value chain's product(s).

The analysis should be broken down by link, actor and financial service product. A demand assessment should also be carried out to determine demand by each product to meet needs for working or investment capital, savings and/or long-term deposits, and services, such as remittances and other service or utility payments.

Information collected during previous steps should also be included here: frequency or seasonality of demand, types of collateral available and allowed, and the value chain risk analyses considering actors, technology and environment.

C. COMPLETING A STRATEGY TO PROVIDE FINANCIAL SERVICES TO VALUE CHAINS

This is a crucial phase in building a product offering of financial services for value chains. It involves the following steps: conducting a SWOT analysis of the chain from a financial services perspective; compiling a summary of the value chain study highlighting risk and viability issues; prioritizing the chain's links, actors and products. To address the weaknesses and threats identified, a defensive strategy matrix should be created for the financial institution to serve the value chain. Concurrently, the main strengths and opportunities should be used to build an offensive strategy. Finally a proposed matrix of the institution's financial services and products is created.

Step 3.1: Conduct a SWOT analysis of the value chain (from the financial institution's perspective)

A traditional SWOT analysis is conducted of the value chain, and the financial services within the value chain. We suggest that no more than ten factors be analyzed within the SWOT columns, five related to the value chain (based on information obtained through focus groups, later validated and discussed with the bank's work group), and five related to the financial institution, always in relationship to the value chain. Limiting the number of criteria to analyze forces a prioritization of criteria and focus on comparative advantages.

TABLE 12. STEP 3.1. EXAMPLE OF A SWOT MATRIX APPLIED TO THE VALUE CHAIN FROM THE PERSPECTIVE OF FINANCIAL SERVICES

Strengths	Opportunities	Weaknesses	Threats
• High volume of supply • Excellent hybrid seed • High quality product • Historical "know how" • Interest in improving production • High levels of association • Group purchase of inputs • Organizational process initiated • Good relationships and commercial contacts • Good growing conditions	• Growing unsatisfied demand • Recognized regional market • NGO support • Local government initiatives • Technology and seeds available • Predisposition to negotiate with anchor firms	• Lack of organization among actors • Producers unorganized • Lack of linkages between producers and anchor firms • Poor negotiating capacity • Inadequate commercialization channels • Fair transport infrastructure • Poor irrigation infrastructure • Inadequate use of resources • Inadequate use of soil • High dependency on pesticides • Lack of information, training and technical assistance • Limited use of collection centers • No value added offered • Limited use of technology • Undiversified crops • Deforestation • Producers are not landowners	• Environmental decline • Climate change, natural phenomena • Lack of public policies • Lack of support for technological innovation • Lack of credit • Inadequate negotiation of international trade agreements • Emigration • Rising cost of land

Source: Arno Lowenthal, value chain finance research in the Dominican Republic

TABLE 13. STEP 3.1. EXAMPLE OF A DEFENSIVE MATRIX FOR VALUE CHAIN FINANCIAL SERVICES

Weaknesses / Threats	Lack of organization among actors	Lack of business linkages between producers and industry	Limited irrigation infrastructure	Lack of resources	Lack of information, training and technical assistance
Environmental decline	0	0	3	1	0
Climate change	0	0	9	3	0
Lack of support for technological innovation	3	1	3	9	9
Lack of credit	3	1	9	9	3
Inadequate negotiation of international trade agreements	3	9	0	9	3
Total	**9**	**11**	**24**	**31**	**15**

Source: Anna Lowenthal, value chain finance research in the Dominican Republic

Once the value chain and financial services SWOT is established, a defense matrix can be created. This matrix makes it possible to evaluate critical areas of risk within the value chain from a financial services perspective, establishing quantitative values for each criteria. Each is rated on a scale of one to ten; one being the least critical and ten the most critical. Once the rating is complete, a priority list of critical factors can be generated, representing the highest risk factors for the financial services strategy designed for a particular value chain. The defense matrix is a combination of the weaknesses and threats facing the value chain from a financial services perspective.

The offense matrix for the financial services strategy is traditionally referred to as establishing the comparative advantages of the value chain. Again, from a financial services perspective, this matrix is created by combining the strengths and opportunities for the value chain and the financial institution. In order to obtain a ranking of the comparative advantages, as in the defense matrix, the criteria are rated from one to ten, one being the least critical and ten the most. The ratings reflect the greatest opportunities for financial services strategies within a particular value chain.

TABLE 14. STEP 3.1: EXAMPLE OFFENSE MATRIX FOR VALUE CHAIN FINANCIAL SERVICES

Strengths \ Opportunities	Growing unsatisfied demand	NGO support	Local government initiatives	Available technology and seeds	Anchor firms predisposed to negotiate
Excellent hybrid seeds	0	0	3	1	0
High quality product	0	0	9	3	0
Levels of association	3	1	3	9	9
Good agricultural conditions	3	1	9	9	3
High production volume	3	9	0	9	3
Total	**9**	**11**	**24**	**31**	**15**

Source: Arno Lowenthal, value chain finance research in the Dominican Republic

Step 3.2: Establish a strategy for financial services models

Using the information generated from the prior exercises, a value chain finance strategy can now be developed. This requires completing and organizing the following information into the Matrices outlined in Stages 1 & 2:

Information related to demand, including:

- Production calendars
- Frequency of payments
- Stratification of required and available volumes

A description of the supply of financial institution products and services, including:

- Products
- Requirements
- Terms
- Fees and prices.

Segmented perceptions among each value chain actor, including:

- Knowledge
- Perceptions related to security, accessibility, prices, terms, financial products, requirements, service, opportunity.

In developing the value chain finance strategy, the financial institution's products and services should be adapted in line with with potential demand based on a holistic (and unfragmented) view of the value chain. Products and services should be segmented by links and actors, taking each of these into account.

Conducting this analysis provides the tools to decide which products and/or services financial institutions can offer and at what price, responding to market demand, and providing a comparative advantage. The exercise involves comparing the products, prices, terms or conditions offered with other financial institutions' products and services to determine whether it is offering advantages over the competition for similar products.

Step 3.3: Identifying anchor firm(s)

In Step 2.3, the value chain anchor firms were identified. By identifying anchor firms, particularly those which are already customers of the bank, the financial institution identifies a potential strategic ally that it can work with, potentially offering preferential interest rates and/or other terms, or to serve as a cashier for the bank. The financial institution's value chain finance work group should develop proposals for strategic alliances with anchor firms and submit these to bank management for approval to explore and negotiate alliances with select anchor firms.

Step 3.4: Client segmentation

In Step 2.7 the financial institution's value chain finance work group defined the value chain profile. Each type of actor (small, medium, large) for each value chain link (producers, suppliers, processors, traders and exporters) was organized by:

- Production volumes
- Sales
- Hectares under production
- Volumes processed
- Export volumes
- Length of experience within the sector.

In this step, bank staff must decide which direct actors it wants to work with. To do this, it is useful to review the information collected in earlier steps related to direct actors.

The financial institution value chain finance work group should develop a product supply matrix for each actor and link of the value chain it has chosen as clients: producers, suppliers, processors, intermediaries and exporters.

Financial products

The financial institution's work group should determine which products it will offer to each actor within the value chain (producers, suppliers, processors, intermediaries and exporters) and for each type of actor (small, medium, large). Potential products can include savings accounts, long-term deposits, checking accounts, and other investment products and services, among others. The financial institution should analyze similar products being offered by its competition to refine its set of products.

Loan products

The financial institution's work group should also determine which loan products it will offer to each actor within a value chain (producer, supplier, processor, trader and exporter) based on size (small, medium, large). Potential products include personal loans, business loans, and microcredit. Clients should be segmented based on their demand and the cycle of demand for these products.

The financial institution should also analyze the products offered by its competition to similar client segements and adjust their product offerings accordingly.

Step 3.5: Develop the supply of financial services & products

In this step, the financial institution's value chain finance work group must determine the entirety of services it will offer to each actor within a specific value chain (producer, supplier, processor, intermediary and exporter) and type of actor (small, medium, large) potentially including remittance services, bill paying services for utilities and other services, foreign exchange, check cashing, etc. To determine which services to offer, the bank can use the information gathered previously to establish the segmented demand characteristics for these types of services, according to projected volumes of demand, the calendar for demand and other key business variables.

The products' interest rates or fees are in this case set based on the supply of these in the local market. In some cases the financial institution may wish to lower these as part of a positioning strategy.

Therefore product requirements, terms and collateral are established based on the value chain analysis conducted, the supply of financial services offered in the market, and regulatory requirements.

Validating the research conducted on value chains as well as the value chain finance strategy developed by bank staff, will ensure a higher-level of certainty regarding their proposals. The methodology outlined in this document provides the necessary framework to evaluate the financial needs of value chains as well as how to implement an action plan to serve these.

CONCLUSIONS AND RECOMENDATIONS

Increased agricultural production and increases in food exports to meet higher global demand, as well as initiatives undertaken by the public and private sectors and international donors to support agricultural associations and support value chains, are some of the factors driving the growth of the value chain finance field in Ecuador. In order to move beyond pilot programs and isolated initiatives towards more meaningful initiatives achieving scale, the financial sector must become more involved. To move in this direction, financial institutions –public and private alike– will need to evaluate the profitability of extending credit to those actors who traditionally have not had access to financial services.

The foundation to support a larger-scale implementation of value chain finance strategies is firmly in place. In addition, the institutions –regional and national public sector authorities, regional economic development agencies, trade associations and specific value chains– are prepared to support the expansion of this methodology.

In the case of Ecuador, the Productive Network Project has worked closely with regional economic development agencies through the national network CEDET, as well as with local investment promotion agencies, to transfer value chain with anchor firm, and value chain finance methodologies to be successfully applied throughout the country.

Regional governments, financial entities and networks of project development experts are also familiar with these value chain strategies. What this means that financial institutions have ready-made, knowledgeable partners with an understanding of regional economic needs and their region's priority sectors for development. The next step for public and private financial institutions is to forge new partnerships and strategies to reach more MSMEs. As discussed throughout this document, as individual units, MSMEs may not represent a sufficient volume of business from the traditional perspective of a

financial institution, but when viewed as part of an integrated value chain, they are key actors who could be interesting clients for banks. Many groups and organizations have already developed successful value chain projects in Ecuador with important connections to anchor firms and end markets, and therefore have the necessary potential to increase their participation in the formal financial sector.

As mentioned in the section of this manual related to the USAID/ Productive Network experience in value chain finance, the opportunities to expand financial services to dynamic value chains in Ecuador are vast, as most value chain efforts remain untouched by the formal financial sector. Productive Network leaves behind an established value chain methodology using an anchor firm approach, which, when applied along with a comprehensive analysis of each economic sector and value chain environment, can serve to minimize the risk in financing MSMEs.

Much of the work carried out by Productive Network within ten value chains nationally built trust between anchor firms and thousands of small and medium producers, creating opportunities for financial actors in these value chains. Productive Network's interventions led some anchor firms to play the role of financial intermediary, directly and successfully providing value chain actors with financial services.

Even with existing value chain efforts underway, the demand for value chain finance is vastly unmet, particularly in the agricultural sector. The Inter-American Development Bank notes that many commercial banks continue to view value chain actors as individual clients rather than viewing the value chain holistically. Staying this course is risky for banks, as partial financing of value chains can limit the performance and growth of the entire chain; partial credit can mean that certain actors are unable to meet their commitments to others and lead to reductions in profit margins for all.[13]

To move forward in expanding provision of value chain finance in Ecuador, financial institutions can partner with any of the existing experts on the subjects of value chains and value chain finance, from representatives of consulting firms and anchor firms, to international donor agency and government representatives. If financial institutionos take this logical next step towards value chain finance, anchor firms will be freed from performing financial services so they can reinvest their resources elsewhere to improve the consolidation and efficiency of value chains.

A thorough analysis of value chains and their demand for financial services is the first step for Ecuadorean financial institutions to build a value chain finance strategy and continue playing a transformative role in the country's productive development.

[13] Financing Agriculture Value Chains in Central America, Technical Notes No. IDB-TN-146, Inter-American Development Bank

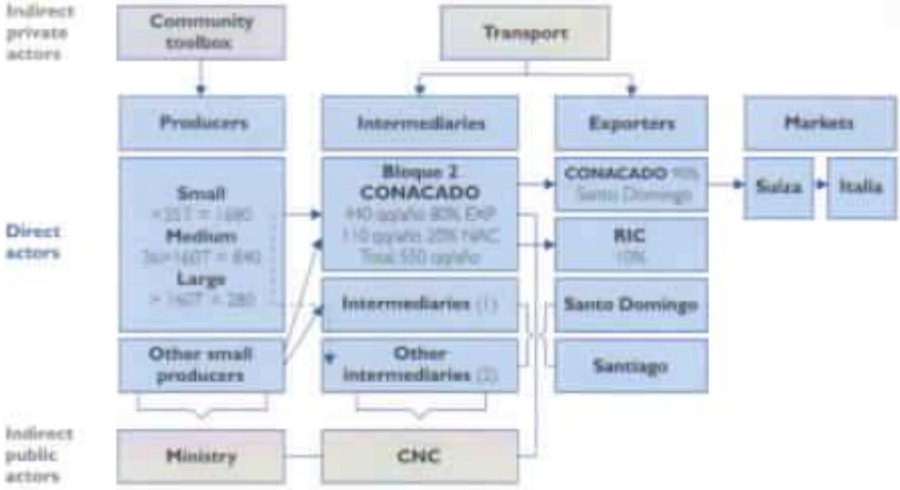
ANNEXES

STAGE 1: INITIAL ANALYSIS OF THE VALUE CHAIN

MATRIX A. STEP 1.2: FINANCIAL INSTITUTION'S RATING FOR VALUE CHAINS		
Criteria	**Consideration %**	**Score**
Value chain's market potential	20	20
Level of development of value chain	20	20
Record of financial services in the value chain	5	0
Level of government intervention in financial services, prices, value chain's market	10	0
Risk analysis report(s) for the value chain and product(s)	10	10
Default level of the value chain and/or its product(s)	20	15
Whether the value chain is part of a growth market for the financial institution market/geographic area of the financial institution	5	5
Anchor firms that are clients of or potential clients of the financial institution	10	10
Total	**100%**	**80**

MATRIX B.STEP 1.2:VALUE CHAIN SUMMARY: OBJECTIVES AND REASONS	
Objectives	Analyze the cacao value chain in Bloque 2
Products	Conventional and organic cacao
Geographic coverage	Yamasa
Scope within chain	From producers to exporters
Description of the production area	Block 2 is a traditional cacao production area of small producers living in poverty in the south of the Dominican Republic a zone of alluvial soil and undulated topography in the humid tropical forest at 2 m snm with 800 mm of precipitation per year and an average temperature of 24 degrees Celsius

GRAPH 5. MAP OF A CACAO VALUE CHAIN MODEL



STAGE 2: CONDUCTING A VALUE CHAIN RISK ANALYSIS

MATRIX C. STEP 2.2: NATIONAL AND INTERNATIONAL POLICIES THAT IMPACT THE VALUE CHAIN

Policy	Description	Impact
Trade agreements & treaties	The Andean Trade Promotion and Drug Eradication Act (ATPDEA) signed with USA	US cacao market dependent on Europe
Customs policies & tariffs	Cacao tariff is immediately deregulated	EU market restricted for non-organic cacao
Quality, sanitary, phytosanitary norms	Strict phytosanitary norms for controlling pathogens	Only certified products are allowed to enter the US. EU market is organic

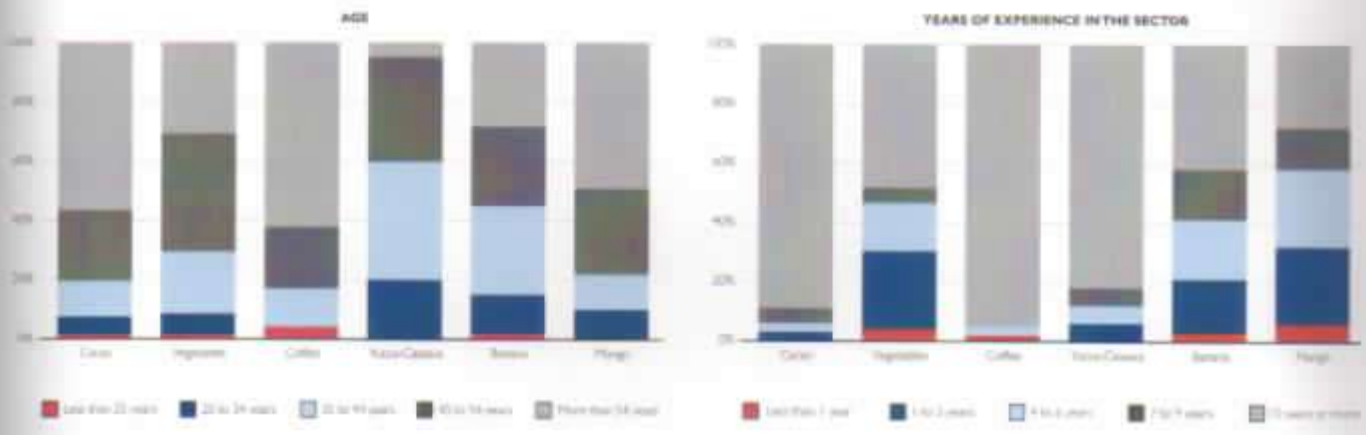
MATRIX D. STEP 2.2: NATIONAL POLICIES REGARDING FINANCING VALUE CHAINS		
Política	**Description**	**Impact**
Limits on interest rates	Law sets interest rates a financial institution can charge for microcredit; a limit is set weekly by the Central Bank	A near 30% drop in microcredit loans, due to increased costs and banks upgrading client and product segments
Limits on fees charged for financial services	Law sets a limit on fees financial institutions can charge for services; a limit is set weekly by the Central Bank	A decline in financial services available to lower-income sectors due to higher costs and the banks upgrading client and services segments
Subsidized interest rates and fees	Subsidized credits offered by state-owned financial entities	Unsustainable financial services and products, affects payments practices
Financial services quota by economic sector	Sets a percentage of financing which must go to economic sectors and subsectors	Because credit destination is obligatory, there is a partial abandonment by management

MATRIX E. STEP 2.2: VALUE CHAIN INFRASTRUCTURE				
Infrastructure	**State**	**User**	**Responsible entity**	**Impact on competitiveness**
Transport	Rented and expensive	Small rural producers	Collection agents	Different quality products are mixed during transport. Unable to take advantage of more competitive prices
Energy	High levels of water and electricity use	Processor at Bloque 2	Bloque 2 CONACADO	High costs, irregular electricity service, high levels of pollution
Processing centers and warehouses	At 50% capacity	Bloque 2	Bloque 2	Unable to take advantage of the organic market, benefits the other 50%
Irrigation				

MATRIX F. STEP 2.2: INFRASTRUCTURE FOR FINANCIAL SERVICES IN VALUE CHAINS						
Infrastructure for financial services	**Number**	**Banks**	**COOPs**	**NGOs**	**Urban internet**	**Rural internet**
Agencies/branches						
ATMs						
Cellular phones						
Security						

MATRIX G. STEP 2.2: CLIMATIC AND ENVIRONMENTAL CONDITIONS AND RISKS FOR THE VALUE CHAIN			
Link	**Chain factor that affects the environment / culture**	**How does it affect the environment/culture**	**Impact**
Cacao processing in Bloque 2	Water consumption	High use of water	Negative
	Cacao waste	Contaminates soil	Negative
	Contamination of water sources	Contaminates the soil and water sources	

GRAPH 6. STEP 2.4: EXAMPLE OF CHARACTERIZATION OF PRODUCERS BY LINK



MATRIX H. STEP 2.4: OTHER INCOME FOR INDIRECT ACTORS			
Activities	**Monthly income (US$)**	**Global income (US$)**	**%**
Corn crops	166.66	2000	45
Peanut crops	15	180	4
Bean crops	6.6	80	2
Pig farming	12.5	150	3
Poultry farming	37.5	450	10
Cattle ranching	10	120	3
Odd jobs	41.6	500	11
Remittances	75	900	20
Fruit trees	4.1	50	2
Total	**368.9**	**4430**	**100**

MATRIX I. STEP 2.4: INDIRECT VALUE CHAIN ACTORS		
Indirect actors	**Intermediaries**	**Technical assistance**
Characteristics	Stores selling provisions or pesticides Represents sales of 27,000 mt/year Owners of general stores Buy from any producer	Agronomists from export companies
Description of activities	Storage, commercialization, transport, financing for trade	Technical assistance and input delivery in exchange for product delivery
Relationships with other actors	Relationships with producers, wholesalers and agro-industrialists	They compete with companies or pesticide sales
Area of action	Local & regional	Local & regional
Costs	Buy at $7.50 Sell $8 - 8.10/qq	Normally pay 10% - 25% less than market
Risks	Delinquency Low quality corn Natural phenomena	Dependency on upfront financing
Weaknesses	No quality controls, informality	Its survival depends on the producer's margins

MATRIX J. STEP 2.4: HORIZONTAL AND VERTICAL VALUE CHAIN LINKAGES					
	Type of organization	**Why was it formed?**	**When was it formed?**	**Area of action**	**Benefits for value chain actors**
Producers (horizontal linkage)	Yamasá Association	Technical assistance	2002	Technical assistance	Crop improvements Independence from input suppliers Quality verification upon delivery
Transformation (vertical linkage)	Bloque 2	Purchasing, processing	2004	Purchasing, processing	Exact weights and international prices
Commercialization (vertical linkage)	Bloque 2	Commercialization of all the production	2004	Processes the production and pays base price which is adjusted with the final export price	Exact weights and international prices
Export (vertical linkage)	CONACADO	Export & financing	2005	Export to international markets in volume	Pricing, International awards

MATRIX K. STEP 2.5: MARKET DEMAND FOR VALUE CHAIN'S PRODUCT(S)			
Criteria	**CONACADO**	**RICCA**	**Competitor 2**
Location	Germany & England	Germany, England & Holland	
Quality	Conventional & organic	Conventional	
Quantity			
Productivity / technology	Certification	Certification	
Price	NY International Exchange		
Presentation	60 qq		
Distribution channels	Brokers and fair trade		
Seasonality	Year round	Year round	
Brand	CONACADO	RICCA	
Associated services	Technical assistance, commercialization, credit, exports		
Competitive advantages	Producers' organization Transparent prices & weights Operation volume limit	No volume limits year round	

MATRIX L. STEP 2.5: ESTABLISH THE DEMAND FOR LIABILITIES				
Cluster	**Link**	**Number of potential clients**	**Savings account (coverage)**	**Investment certificate 25%**
CACAO Block 2	Small (<35T)	1680	500 per year = 210.000	
	Medium (35-160)	840	1000 per year = 420.000	210 x 5.000 = 1'050.000
	Large (>160T)	280	1500 per year = 210.000	70 x 5.000 = 350.000
	Total	**2800**	**US $840,000**	**US $1'400**

MATRIX M. STEP 2.5: ESTABLISHING FINANCIAL SERVICES DEMAND				
Cluster	**Link**	**Number of potential clients**	**Electricity payment (coverage 20%)**	**Phone payments**
CACAO Block 2	Small (<35T)	1680	336 x 600 per year = 201.600 x 1% = 2.016	
	Medium (35-160)	840	168 x 800 per year =134.400 x 1% = 1.344	
	Large (>160T)	280	56 x 1000 per year = 56.000 x 1% = 560	
	Total	**2800**	**US $3,920 annual income**	

MATRIX N1. STEP 2.5: FINANCIAL SERVICES INVENTORY FORM

Profile of financial institution

Identification Data	Data				
Registered name					
Commercial name					
Type of institution					
Date of establishment					
Profile					
Position statement/slogan					
Primary market					
Secondary market					
Business model					
Physical Location					
Headquarters					
Address					
City					
Telephone					
Manager					
Physical installations					
Number of tellers					
Service stations					
Operation scope	**Data**			**Comments**	
Sales channels	☐ Branches	☐ Sales force		☐ ATMs	☐ Internet banking
Office type	☐ Branches	☐ Agencies	☐ Mini-agencies	☐ Service point	☐ Mobile units
Website	☐ Yes ☐ No			www.	
Telephone banking	☐ Yes ☐ No			Telephone N°	
Services					
Cashier's check/Bank check	☐ Yes ☐ No				
Remittances	☐ Local	☐ International	☐ No		
Transfers	☐ Yes ☐ No				
Foreign exchange	☐ Yes ☐ No				
Travelers checks	☐ Yes ☐ No				
Letters and certifications	☐ Yes ☐ No				
Safe deposit boxes	☐ Yes ☐ No				
Bill paying services					
Telephones	☐ Yes ☐ No			Which?	
Cable TV	☐ Yes ☐ No			Which?	
Electricity	☐ Yes ☐ No			Which?	
City taxes	☐ Yes ☐ No			Which?	
Taxes	☐ Yes ☐ No			Which?	
Insurance	☐ Yes ☐ No			Which?	
Other	☐ Yes ☐ No			Which?	
Others					
Standing orders	☐ Yes ☐ No				
Payroll orders	☐ Yes ☐ No				

Offices, branches & agencies			
Type office	☐ Branch ☐ Agency ☐ Other	**Type office**	☐ Branch ☐ Agency ☐ Other
Address		Address	
City		City	
Telephone		Telephone	
Opening date		Opening date	
Manager		Manager	
E-mail		E-mail	
Type office	☐ Branch ☐ Agency ☐ Other	**Type office**	☐ Branch ☐ Agency ☐ Other
Address		Address	
City		City	
Telephone		Telephone	
Opening date		Opening date	
Manager		Manager	
E-mail		E-mail	
Type office	☐ Branch ☐ Agency ☐ Other	**Type office**	☐ Branch ☐ Agency ☐ Other
Address		Address	
City		City	
Telephone		Telephone	
Opening date		Opening date	
Manager		Manager	
E-mail		E-mail	
Type office	☐ Branch ☐ Agency ☐ Other	**Type office**	☐ Branch ☐ Agency ☐ Other
Address		Address	
City		City	
Telephone		Telephone	
Opening date		Opening date	
Manager		Manager	
E-mail		E-mail	
Type office	☐ Branch ☐ Agency ☐ Other	**Type office**	☐ Branch ☐ Agency ☐ Other
Address		Address	
City		City	
Telephone		Telephone	
Opening date		Opening date	
Manager		Manager	
E-mail		E-mail	
Type office	☐ Branch ☐ Agency ☐ Other	**Type office**	☐ Branch ☐ Agency ☐ Other
Address		Address	
City		City	
Telephone		Telephone	
Opening date		Opening date	
Manager		Manager	
E-mail		E-mail	

MATRIX N2. STEP 2.5: FINANCIAL SERVICES INVENTORY FORM

Institution		Type	
Product type		Product	

Savings & checking accounts		
Description		
Name		
Brand		
Family		
Primary market		
Secondary market		
Sales channels		
Pricing	**Data**	**Comments**
Nominal interest rate		
Interest payment schedule		
Interest payment schedule	☐ Yes ☐ No	
Basic product characteristics		
Currency	☐ Pesos ☐ Dollars ☐ Euros	
Minimum opening balance		
Number of free withdrawals		
Deposits		
Inter account transfers	☐ Yes ☐ No	
Third party withdrawals	☐ Yes ☐ No	
Account statements	☐ Yes ☐ No	
Savings book	☐ Yes ☐ No	
Debit card	☐ Yes ☐ No	
Withdrawals	☐ Available balance ☐ Overdraft ☐ Pending balance	
Availability of cash deposits	☐ Immediate ☐ Next day	
Availability of check deposits	☐ Transit ☐ Other	
Inactive account (months without registered activity)		
Account closure terms		
Amplified products: other benefits		
Personal accident insurance	☐ N° ☐ Free ☐ With premium	
Life insurance	☐ N° ☐ Free ☐ With premium	
Health insurance	☐ N° ☐ Free ☐ With premium	
Rewards program (mileage, points)	☐ Yes ☐ No	
Customer service	☐ N° ☐ Free ☐ With premium	
Catastrophic illness insurance	☐ N° ☐ Free ☐ With premium	
Loan against balance	☐ Yes ☐ No	%
Personal loan	☐ Yes ☐ No	

Savings & checking accounts - Continued		
Monthly fees	**Data**	**Comments**
Transactions		
Over-the-counter		
ATM		
Proprietary network		
Affiliate network		
Other network		
Cancelled transactions		
Bank card		
First card issued		
Replacement if lost		
Replacement if damaged		
Replacement upon expiration		
Card use		
Additional card		
Savings account		
Savings account book		
Replacement for lost savings books		
Replacement for damaged savings books		
Replacement for expired/full books		
Returned checks		
Transfers		
To accounts within the same bank		
Third party transfer		
Inter-bank transfer		
International transfers		
Other fees		
Inactive account		
If accounts falls below minimum balance requirement		
Bank statement		
Maintenance fee		
Account closure		
Marketing support		
Mass advertising	☐ Yes ☐ No	
Targeted advertising	☐ Yes ☐ No	
Promotional incentives	☐ Yes ☐ No	

MATRIX N3. STEP 2.5: FINANCIAL SERVICES INVENTORY FORM

Institution		Type	
Product type		Product	

Certificate of deposits		
Description	**Data**	
Name		
Brand		
Family		
Primary market		
Secondary market		
Sales channels		
Basic product characteristics	**Data**	**Comments**
Currency	☐ Pesos ☐ Dollars ☐ Euros	
Early withdrawal	☐ Yes ☐ No	
Early withdrawal penalty		
Interest payment schedule		
Grace period before account renewal		
Pricing		
Nominal interest rate		
Interest rate terms		
Term		
Minimum		
Maximum		
Amount		
Minimum		
Maximum		
Amplified product: other benefits		
Personal accident insurance	☐ N° ☐ Free ☐ With premium	
Life insurance	☐ N° ☐ Free ☐ With premium	
Health Insurance	☐ Yes ☐ No	
Rewards program (mileage, points)	☐ N° ☐ Free ☐ With premium	
Customer service	☐ N° ☐ Free ☐ With premium	
Catastrophic illness insurance	☐ Yes ☐ No	%
Personal loan	☐ Yes ☐ No	
Housing loan	☐ Yes ☐ No	
Marketing support		
Mass advertising	☐ Yes ☐ No	
Targeted advertising	☐ Yes ☐ No	
Promotional incentives	☐ Yes ☐ No	

MATRIX N4. STEP 2.5: FINANCIAL SERVICES INVENTORY FORM

Institution:		Type:	
Product type:		Product:	

Loans	
Description	**Data**
Name	
Brand	
Family	
Purpose	
Primary market	
Secondary market	
Sales channels	

Price	**Data**	**Comments**
Currency	☐ Pesos ☐ Dollars ☐ Euros	
Rate		
Rate terms		
Type of interest		
Late payment penalty		
Penalty rate calculation		
Disbursement charges		
Commission		
Loan agreement & legalization		
Life insurance		
Technical assistance		
Terms		
Maximum		
Minimun		
Amount		
Minimum		
Maximum		
Others		
Grace period	☐ Yes ☐ No	
Principal payment		
Pre-payment		
Monthly additional payments		
Requirements		
Minimum age		
Maximum age		
Credit history		
Indentity document		
Collateral		
Must be client of the bank	☐ Yes ☐ No	

Loans - Continued					
Requirements					
Income	Borrower	Co-signer	Guarantor	Spouse	Comments
Minimum income requirement					
Written verifications of employment	☐	☐	☐	☐	
Financial statement	☐	☐	☐	☐	
Bank statement	☐	☐	☐	☐	
Credit report	☐	☐	☐	☐	
Life insurance	☐	☐	☐	☐	
Response time	**Data**		**Comments**		
Application & requirements processing					
Loan processing					
Approval					
Disbursement					
Restrictions					
Exceptions					
Marketing support					
Mass advertising	☐ Yes ☐ No				
Targeted advertising	☐ Yes ☐ No				
Promotional incentives	☐ Yes ☐ No				
General comments					

MATRIX N5. STEP 2.5: FINANCIAL SERVICES INVENTORY FORM

Institution		Type	
Product type		Product	

Mortgages		
Description	**Data**	
Name		
Brand		
Family		
Purpose		
Primary Market		
Secondary Market		
Sales Channels		
Price	**Data**	**Comments**
Currency	☐ Pesos ☐ Dollars ☐ Euros	
Rate		
Rate terms		
Type of interest		
Late fee penalty		
Penalty rate calculation		
Disbursement charges		
Commision		
Sales purchase agreement & legalization		
Transfer title		
Loan origination fee		
Others		
Terms		
Maximum		
Minimun		
Mortagage amount		
Minimum		
% of the minimum appraisal value		
Maximum		
% of the maximum appraisal value		
Payments		
Payment frecuency	☐ Weekly ☐ Monthly ☐ Variable	
Amortization	☐ Principal+Interest ☐ Interest	
Payment type	☐ Fixed rate ☐ Adjustable rate	
Payment compositions		
Procedures		
Land	☐ No ☐ Borrower ☐ Lender	
Property taxes (pp/vis)	☐ No ☐ Borrower ☐ Lender	
Collateral verification costs	☐ No ☐ Borrower ☐ Lender	
Others		
Finance charges	☐ Yes ☐ No	
Grace period		
Principal payments	☐ Yes ☐ No	
Pre-payments	☐ Yes ☐ No	

Mortgages - Continued

Others	Data	Comments
Monthly additional payments	☐ Yes ☐ No	
Notification	Days in arrears	
Penalty notices	Late payments	
Foreclosure	Late payments	
Response time		
Application & requirements processing		
Load processing		
Approval		
Disbursement		
Disbursement		
Disbursement payment form		
Requirements		
Borrower		
Must be client of the bank	☐ Yes ☐ No	
Minimum age		
Maximum age		

Income	Borrower	Co-signer	Guarantor	Spouse	Comments
Minimum income requirement					
Certified income statement	☐	☐	☐	☐	
Financial statement	☐	☐	☐	☐	
Documentation					
Identity document	☐	☐	☐	☐	
Application	☐	☐	☐	☐	
Life insurance	☐	☐	☐	☐	

Property / Collateral	Data	Comments
Collateral	☐ First ☐ Second ☐ Third	
Title	☐ Certification ☐ Original ☐ Application ☐ Other	
Homeowner's insurance policy	☐ Yes ☐ No	
Real statements taxes	☐ Yes ☐ No	
Appraisal	☐ Yes ☐ No	
Salesperson		
Company name		
Name of person		
Restrictions		
Exceptions		
Marketing support		
Mass advertising	☐ Yes ☐ No	
Targeted advertising	☐ Yes ☐ No	
Promotional incentives	☐ Yes ☐ No	
General comments		

MATRIX N6. STEP 2.5: FINANCIAL SERVICES INVENTORY FORM

Institution: _____ Type: _____

Product type: _____ Product: _____

Credit cards		
Description	**Data**	
Name		
Brand		
Family		
Purpose		
Primary market		
Secondary market		
Sales channels		
Basic products characteristics	**Data**	**Comments**
Currency	☐ Pesos ☐ Dollars	
Use	☐ Domestic ☐ International	
Financial period	Months	
Billing cycle	Days	
Days to pay at billing cycle cutoff	Days	
% available above credit limit		
Grace period		
Rewards program	Name	
	How points are accumulated	
	How points are redeemed	
Extended credit	☐ Yes ☐ No	
Minimum payment %		
Additional cards (numbers)		
Domestic cash advance %		
International cash advance %		
Price		
Interest rate		
Interest rate on delayed payments		
Interest rate on late payments		
Late fees		
Fees		
Domestic cash advance		
International cash advance		
Overdraft		
ATM* inquiries		
Loss insurance	☐ Yes ☐ No	
Insurance and customer services	☐ Yes ☐ No	
Issuance		
Principal card		
Additional card		
Renewal		
Principal card		
Additional card		
Annual membership		
Principal card		
Additional card		
Requirements		
Minimum age		
Maximum age		
Minimun income		
Present bank statements	☐ Yes ☐ No	
Others		
Choose payment date	☐ Yes ☐ No	
Internet payments	☐ Yes ☐ No	
Check payments	☐ Yes ☐ No	
Marketing support		
Mass advertising	☐ Yes ☐ No	
Targeted advertising	☐ Yes ☐ No	
Promotional incentives	☐ Yes ☐ No	

MATRIX O. STEP 2.6: FORMS FOR COLLECTING ACTORS' PERCEPTIONS ABOUT AVAILABLE FINANCIAL SERVICES

Survey of value chain actors' perceptions about financial institution and its services
Questionnaire for face to face interviews, May 2009

Survey number

I. General information

Cluster

Location

Link

Name

II. Knowledge of financial institutions and their products and services

1. Are you familiar with the following types of financial institutions? Which one(s)? (Show the entities' cards to help interviewee remember)
2. Have you ever used one of their products or services? From which one? (Show the entities' cards to help interviewee remember)
3. Have you visited one of the following financial institutions in the last 12 months? Which one? (Show the entities' cards to help interviewee remember)

Multiple Banks			Banks A & C			Associations A & P			Finance Companies			NGOs/Donors			Government/Other		
1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3

(Three institutions from most familiar to least familiar)

4. Which are you the most familiar with?
5. Which products/services offered are you familiar with?
6. Of these products/services, which of the following characteristics are you familiar with?

Product / Institution Characteristics		First					Second					Third				
		Name/ Brand	Agency	Fees/ charges	Amount	Deadlines	Name/ Brand	Agency	Fees/ charges	Amount	Deadlines	Name/ Brand	Agency	Fees/ charges	Amount	Deadlines
Savings																
Savings account	1															
XXX	2															
Others savings accounts	3															
Foreign currency	4															
Others(s)	5															
Investments																
Cert. fin.	1															
Cert. part.	2															
Foreign currency	3															
Other(s)	9															
Checking account																
Personal	1															
Cooperative	2															
Additional	3															
Other	9															
Loans																
Mortgage	1															
Personal	2															
Commercial	3															
Line of credit	4															
Agricultural credit	5															
Microcredit	6															
Foreign exchange	7															
Other(s)	9															
Factoring	1															
Pledging	2															
Leasing	3															
Other	9															
Cards																
Credit	1															
Debit	2															
Corporate	3															
Prepaid	4															
Other	9															

Product / Institution Characteristics		First					Second					Third				
		Name/ brand	Terms	Fees/ charges	Amount	Deadline	Name/ brand	Terms	Fees/ charges	Amount	Deadline	Name/ brand	Terms	Fees/ charges	Amount	Deadline
Insurance																
Health	1															
Auto	2															
Life	3															
Property	4															
Others	5															
Services																
Payment services	1															
Remittances	2															
Transfers	3															
Checks	4															
Currency	5															
Others	6															

7. Which of the following products or services have you used?
8. Where have you used these products/services?
9. If you were interested in one of the following products or services, which would be your best option?

Product	7. Use	8. Place	9. Best option	10. Why it would be your best option?												
				[illegible] charges	Security	Deadline	Facility	[illegible]	Treatment	Speed	Public	[illegible]	Home visit	[illegible]	[illegible]	[illegible]
Saving account																
Checking account																
Investment account																
Consumer loan																
Comercial loan																
Mortage																
Line of credit																
Credit card																
Debit card																
Medium term loan																
Leasing																
Factoring																
Pawn loan																
Insurance																
Payment invoice																
Remittances																
Transfers																

III. Evaluation

Which financial institutions are:

	1	2	3
11. Your house			
12. Your workplace			

In which one is it easiest to:

	1	2	3
13. Pay for services			
14. Open an account			
15. Apply for a loan			

Which bank do you consider:

	1	2	3
16. The safest			
17. Offers the lowest fees			
18. Offers the best treatment			
19. Is fastest			

If you managed all your operations with one financial institution,

20. Which one would you use? ______

21. Why did you choose this institution?

	1	2	3	4	5	6
Access						
Facility						
Speed						
Security						
Fees						
Treatment						

Survey :

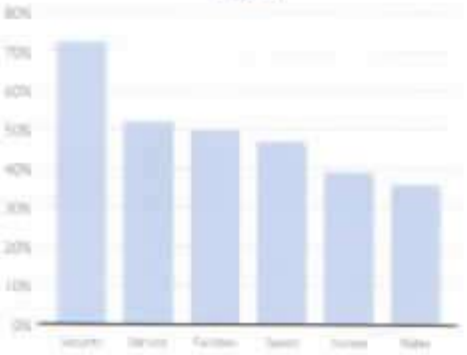
Name ______ Phone ______

Occupation ______ Years in the activity ______

GRAPH 7. STEP 2.6: EXAMPLE OF VALUE CHAIN ACTOR'S PERCEPTIONS OF FINANCIAL SERVICES IN SIX VALUE CHAINS

REASONS WHY VALUE CHAIN ACTORS ARE LOYAL TO OR CHOOSE A FINANCIAL INSTITUTION

Cacao

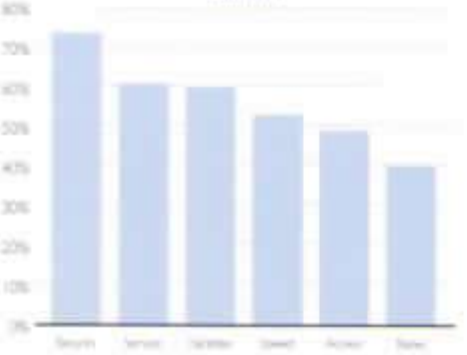


Vegetables

Coffee

Yucca-Cassava

Banana

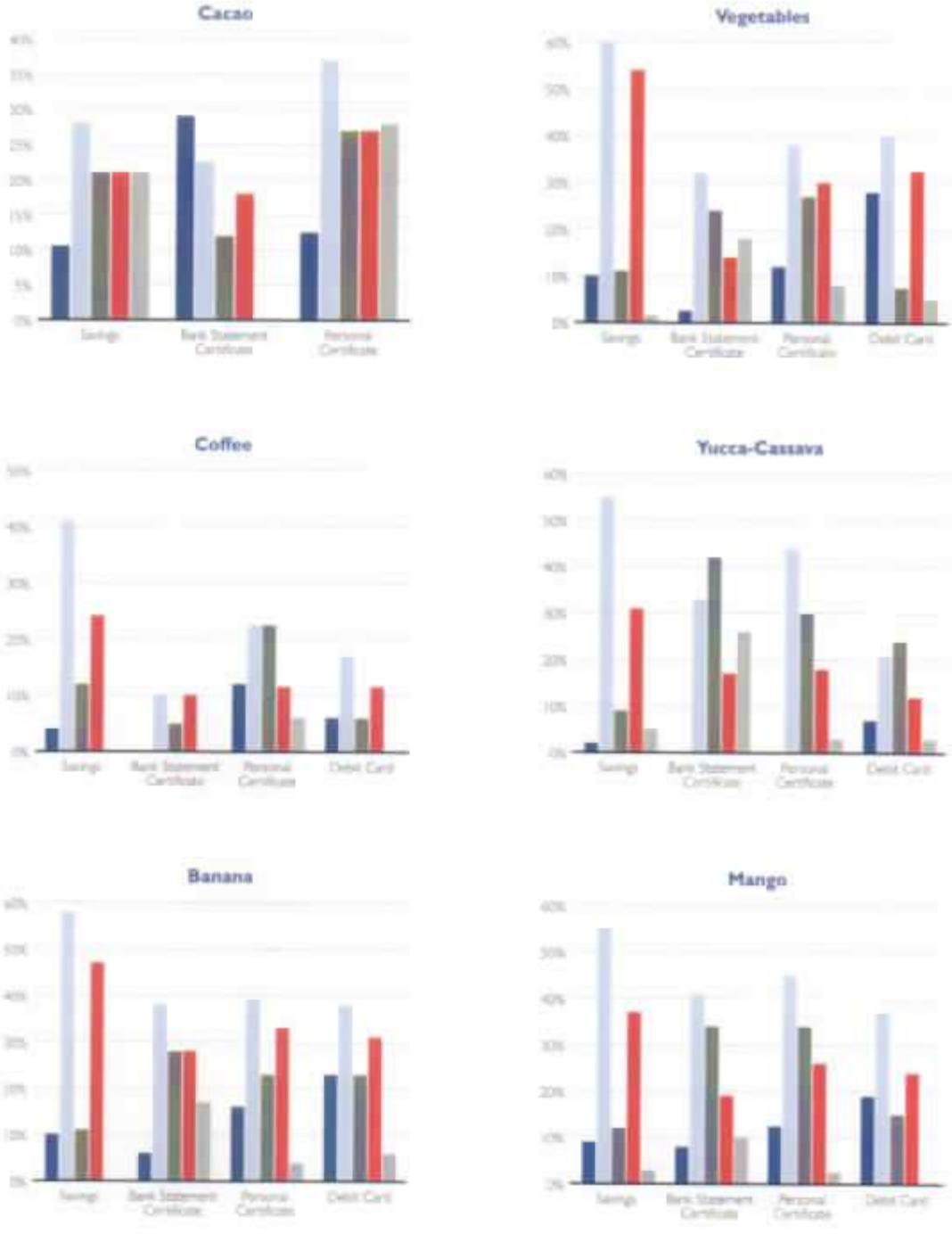


Mango

GRAPH 8. STEP 2.6: VALUE CHAIN ACTORS' KNOWLEDGE OF FINANCIAL INSTITUTIONS

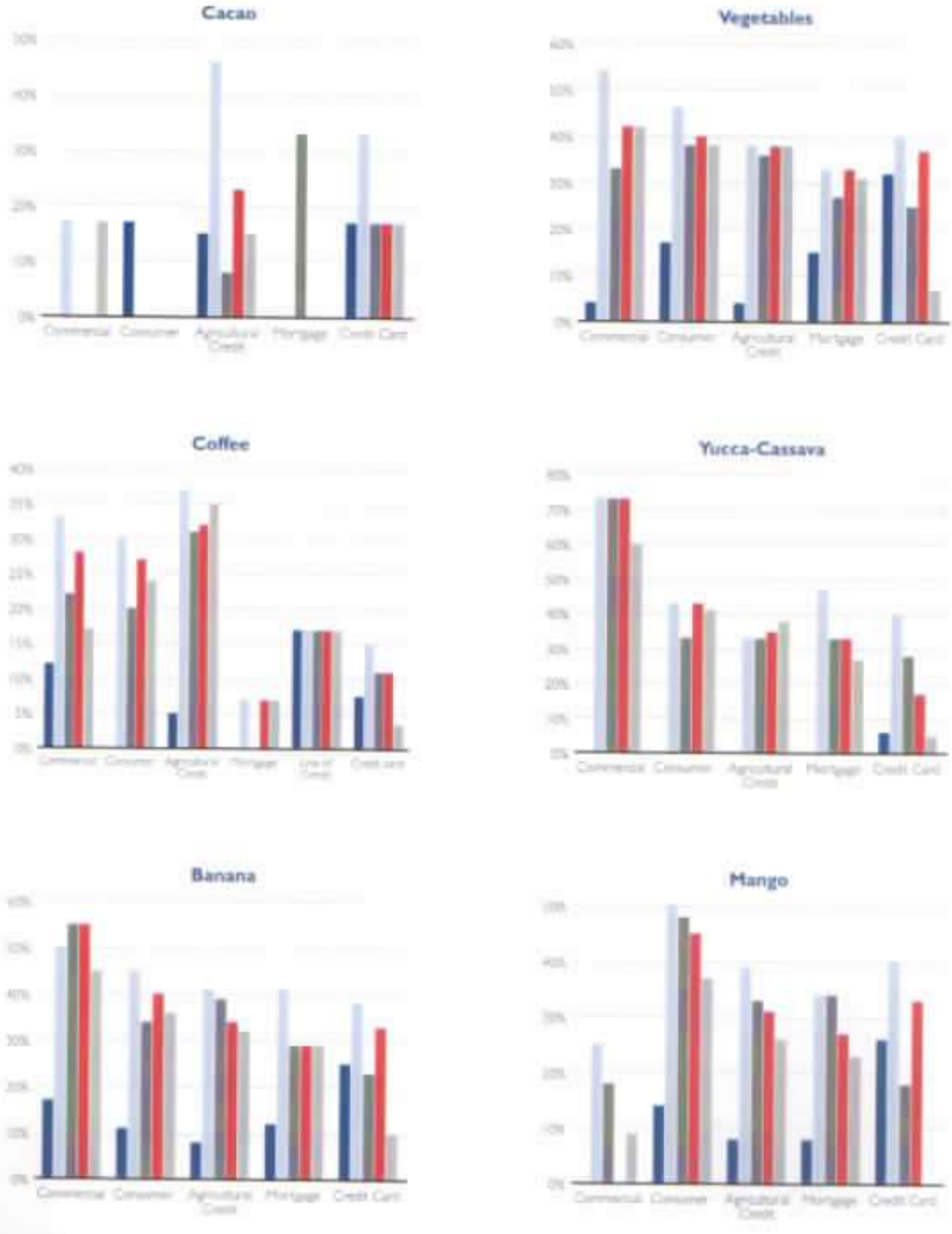
The following graphs illustrate value chain actors' level of knowledge about loan products and other financial services.

OTHER FINANCIAL SERVICES



GRAPH 9. STEP 2.6: VALUE CHAIN ACTORS' KNOWLEDGE ABOUT FINANCIAL INSTITUTIONS

LOANS



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