



Agricultural Value Chain Finance



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AGRICULTURAL VALUE CHAIN FINANCE

Rodolfo Quirós
Editor

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Table of contents

<i>Preface</i>	XI
Introduction	
<i>Claudio González-Vega</i>	1
1. Value chain financing: a strategy for an orderly, competitive, integrated market	
<i>Ken Shwedel</i>	11
A. Definition of the value chain	13
B. A new agroindustrial business model	14
C. Financing agricultural value chains	20
D. Financing value chains: examples	22
1. Indirect supplier financing: agave	22
2. Direct supplier financing: meat for the supermarkets	23
3. Cascade financing: flowers	24
4. Financing for producer groups: coffee	24
E. Implications for rural development and for financial institutions	26
1. Rural development policies	26
2. Implications for financial institutions	27
2. Lessons learned in agricultural value chain financing	29
A. The value chain concept	
<i>Geoffrey Chalmers</i>	31
B. The virtuous circle of financing	
<i>Geoffrey Chalmers</i>	33
C. The financial intermediary's comfort zone	
<i>Mark D. Wenner</i>	36
D. Importance of the environment	
<i>Pauline Tiffen</i>	38

E.	Risk management	
	<i>Pauline Tiffen</i>	39
F.	Financing agricultural marketing	
	<i>Eva Gálvez</i>	40
G.	General lessons	
	<i>Mark D. Wenner</i>	42
H.	Recommendations	
	<i>Mark D. Wenner</i>	43
3.	Modern value chains: towards the creation and strengthening of creditworthiness	
	<i>Claudio González-Vega</i>	45
A.	Motivations	48
B.	Rural lags	49
C.	Value chains and financial intermediation	50
D.	Externalities and virtuous circles	51
E.	Modern chains	53
F.	The traditional approach and a new vision	55
G.	Creditworthiness	57
H.	Information and systemic risk: proximity and diversification	59
I.	Long-term relationships	61
J.	The environment matters	63
4.	Models of agricultural value chain financing	67
A.	Hortifruti	
	<i>Jorge Cavallini</i>	69
	1. Background of the company	69
	2. Tierra Fértil Program	70
	3. Marketing and finance models	72
	4. Conclusions and challenges	73
B.	INDACO	
	<i>Carlos Melosevich</i>	74
	1. History of the company	74
	2. Value chains for cacao, peanuts, soybeans and corn	75
	3. Credinka	76
C.	Dos Pinos Dairy Cooperative	
	<i>Célimo Soto</i>	78
	1. Background	78
	2. Financial support	79
D.	Agromantaro	
	<i>Juan Arrieta</i>	80
	1. History of the company	81
	2. Agriculture in the Peruvian highlands	81
	3. International markets	81
	4. Artichoke value chain	82IV

5. Sources of financing	83
E. Bounty Fresh	
<i>Raúl Romero</i>	85
1. Background	85
2. Risks	85
3. Financing	86
F. UNIPRO	
<i>Rubén Chávez</i>	88
1. Background	88
2. Para-finance	88
5. Financial entities and agricultural value chains: innovative arrangements	91
A. Banco do Brasil	
<i>Derci Alcantara</i>	93
1. Agribusiness in Brazil	93
2. Successful agricultural chains	94
3. Other projects	96
B. Banorte	
<i>Enrique Martínez</i>	97
1. The current environment for agricultural finance in México	97
2. Strengths of Banorte	98
3. Financing arrangements	99
C. LAFISE	
<i>Enrique Zamora</i>	101
1. Comprehensive support for the value chain	101
2. Programs and partnerships	102
D. BN Desarrollo	
<i>Luis Corrales</i>	104
1. The Costa Rican environment	104
2. Linkages	105
3. Models for intervention	107
E. UNCTAD	
<i>Leonela Santana</i>	109
Collateral-based financing	109
6. Technical assistance, risk mitigation and access to financial services	113
A. Fondo de Desarrollo Local	
<i>Julio Flores</i>	115
1. History of the FDL	115
2. Value chain approach	116
3. Examples of financial products	118
B. Rural Economic Diversification Program	
<i>Andrew Medicott</i>	119
1. Background and scope of the project	119
2. Production systems approach	121

C.	Starbucks Coffee Agronomy Company	
	<i>Peter Torrebiarte</i>	122
1.	Starbucks and agricultural value chains	122
2.	Sustainability	123
D.	Agromantaro	
	<i>Anita Campion</i>	124
1.	The artichoke market	124
2.	Agromantaro	127
3.	Lessons learned	128
7.	Dialogue with donors and international organizations	131
A.	Food and Agriculture Organization of the United Nations	
	<i>Calvin Miller</i>	133
B.	United States Agency for International Development	
	<i>Geoffrey Chalmers</i>	135
C.	Inter-American Development Bank	
	<i>Mark D. Wenner and Juan Fonseca</i>	137
D.	Central American Bank for Economic Integration	
	<i>Ronald Martínez</i>	139
E.	International Fund for Agricultural Development	
	<i>Raúl Hopkins</i>	140
F.	World Bank and International Finance Corporation	
	<i>Pauline Tiffen</i>	142
8.	Summary and conclusions	
	<i>Mark D. Wenner</i>	145
A.	Changing realities	147
B.	Theory	149
C.	Promising formal practices	150
D.	Implications	150
1.	Implications for governments	151
2.	Implications for farmers	151
3.	Implications for financial institutions	151
4.	Implications for donors	151
	Appendix 1 Participants	153
	Appendix 2 Speakers and moderators	159
	Appendix 3 Program	163

Tables, diagrams and graph

TABLES

Table 1.1	Consumer demands	19
Table 1.2	Changes in the world agri-food system	26
Table 2.1	Financial institutions and potential financial flows	35
Table 2.2	Sources of funds for working capital	41
Table 3.1	Role of agricultural value chains in processes of rural financial deepening. Three questions	50
Table 3.2	Two moments, two responses	55
Table 4.1	Hortifruti financing models	72
Table 4.2	Dos Pinos direct and indirect financial services	79
Table 4.3	Share pertaining to economic agents in the artichoke value chain	83
Table 5.1	Brazil's standing in worldwide agribusiness	94
Table 5.2	Small-scale farm producers in Brazil. BB share in production and financing	95
Table 5.3	Advantages and strategies of Banorte for strengthening its position in agricultural finance in México	98
Table 6.1	Availability and need for financing	127
Table 8.1	The world of rural development yesterday and today	148

DIAGRAMS

Diagrams 1.1	The production approach and the demand approach	15
Diagrams 1.2	The global market for pork, beef and poultry	16
Diagrams 1.3	Competing with a chain vision	18
Diagrams 1.4	Financial dimensions of a value chain with small farmers, small retailers and a large processor or retailer .	21
Diagrams 1.5	Financing coffee with a chain approach	25
Diagrams 1.6	Conversion of products from the field to specific markets	28
Diagrams 2.1	Helping small-scale producers compete in value chains	32
Diagrams 2.2	Virtuous circle of access to external financing for small-scale producers	34
Diagrams 2.3	Different ways to coordinate and structure the value chain	36
Diagrams 2.4	Sources of financing for agricultural processors and traders	40
Diagrams 3.1	Virtuous circles	52
Diagrams 3.2	Design of a rural finance system	59
Diagrams 4.1	Tierra Fértil Model	71
Diagrams 4.2	Cocoa value chain with participation by INDACO	76
Diagrams 4.3	Credinka: Production, processing and marketing links	77
Diagrams 4.4	COFIDE. Structured financial product	84

VIII

Diagrams 4.5	The marketer's dilemma	86
Diagrams 4.6	New financing structures	87
Diagrams 4.7	Basic para-finance operating model	89
Diagrams 5.1	LAFISE model for financing the agricultural value chain	102
Diagrams 5.2	Linkage strategy of BN Desarrollo	106
Diagrams 5.3	Use of movable goods as collateral	110
Diagrams 5.1	Artichoke value chain	125

GRAPH

Graph 1.1	Index of real purchases in corner stores and supermarkets in México	18
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Members of the seminar organizing committee were:

FAO

Calvin Miller
Carlos da Silva

RUTA

Miguel Gómez

Academia de Centroamérica

Rodolfo Quirós
María Castro

The committee also drew on valuable suggestions by Mark D. Wenner of the Inter-American Development Bank, Mario Castejón, a FAO officer working with RUTA, Grettel López, of the Academia de Centroamérica and Alan Bojanic, FAO Representative in Costa Rica. The event was managed and run by the Academia de Centroamérica, whose staff and many external supporters generously lent their creativity and knowledge to make the activity a success. Rodolfo Quirós was in charge of summarizing and editing transcripts, and María Castro managed the publication process. Claudio González-Vega and Pilar Picado were particularly helpful in reviewing the summaries. Elizabeth M. Lewis translated the Spanish edition.

The event was attended by a large number of participants, most of them from Central America, as well as México, the United States, South America and Europe, as can be seen in Appendix 1. Participants learned much from the extensive knowledge and experience shared by the nearly 40 specialists (Appendix II) who were on hand for the two days of plenary sessions. The detailed program can be found in Appendix III. On the third day of the seminar, participants left the meeting venue on separate field trips to visit leading Central American companies operating in well established agricultural value chains: a dairy processor and exporter (Cooperativa de Productores de Leche Dos Pinos) and a coffee processor and exporter (Coopedota). The organizers would like to thank these two cooperatives for their valuable explanations and the warm welcome they extended to participants.

The opinions, recommendations and conclusions contained herein are those of the speakers and participants, and do not necessarily reflect the views of the sponsors.

PREFACE

This document is a collection of presentations and discussions that took place in the “Agricultural Value Chain Finance” international seminar organized by the Food and Agriculture Organization of the United Nations (FAO), RUTA and the Academia de Centroamérica and held in San José, Costa Rica from May 16 to 18, 2006.

The concept of “agricultural value chain” covers the full range of activities and participants involved in moving agricultural products from the farmer’s field to the consumer’s table. Participants in this chain need money to carry out their activities. Although they often turn to traditional financing institutions, rural producers, processors and retailers are receiving increasingly large injections of resources from other entities with which they maintain trade ties. These flows of credit and financing among the various links in the chain comprise what is known as “value chain financing.” The objective of the seminar, organized by the FAO, was to learn more about practical experiences with these models and approaches to value chain finance in many countries.

Businesses active in the agricultural sector (including producers, processors, marketers and exporters) met together with technical assistance providers and financial institutions to discuss this subject. The seminar provided a unique opportunity for dialogue, with participants sharing and obtaining information on best practices for linking chains together as a means to increase the supply and efficiency of financial services for rural producers, marketers and processors.

This document summarizes the main ideas discussed throughout the seminar and shares lessons learned by participants and organizers. It should serve as a source of inspiration for officers, leaders and practitioners in the area of agriculture and finance, extension agents, and in general,

all the people in institutions that provide financing or other types of support to agricultural chains. It also targets businesses in both the agricultural and financial sectors, encouraging them to learn from financing models and ideas advanced by other businesses like theirs.

Eva Gálvez Nogales

February 2007

INTRODUCTION

Claudio González-Vega

Agriculture in developing countries, all over the world, is experiencing profound, fast-moving changes. Latin America has not escaped these transformations. Globalization, although advancing more rapidly in some countries than others, has hastened the transition from traditional, low-productivity agriculture toward a modern, high-productivity agricultural sector. The resulting processes of structural change are having profound consequences for employment, the methods of generating income, risk management, poverty alleviation, and the well-being in rural households in these countries.

Consumer demand in industrialized countries is raising the bar for food quality and safety. The trend among consumers, who have ample purchasing power and little spare time, is to purchase precooked foods and prepared fresh fruits and vegetables. This means that many products acquire considerable value added in their trek from farm to table. Although modern farmers stand to earn considerably more income from these transformations, they also see a shrinking share in the final price, losing ground to those who provide processing, logistics support, and marketing.

Competition is fierce at the final stages of these market processes, and it demands sustained competitiveness by every participant in the value chain. In these days of dizzying change, when a new business rival could appear on the scene at any moment or in any corner of the world, successful farmers must constantly acquire new skills and knowledge. The need to learn, to obtain information and to compete drives every actor in the chain to build closer linkages with other actors and generates new demands for financial services.

The upper and middle classes in several Latin American countries have kept up with the times, demanding new features of color, size and flavor, as well as safety and consistency in the supply of fresh fruits and vegetables and other agri-food products. Local supermarket chains, increasingly allied with transnational chains, have responded to these new demands by introducing their own food processing and storage systems, dramatically changing traditional market linkages and replacing spot purchases with explicit and implicit longer-term contracts. At the same time, seizing their clear

comparative advantages, modern export agroindustries in Latin American countries are supplying supermarket chains in higher income countries through similar contractual arrangements, both local and international.

As Shwedel indicates in the first chapter of this book, independent farmers, faced with dramatic price risks, will eventually become broken links in fragmented chains, unable to survive competition or remaining forever in poverty. With the onset of structural transformation and the transition to modernized globalization, today's markets require integrated systems of differentiated production in which farmers, processors and marketers work interdependently. These producers can become and remain competitive if they have modern, well-organized chains and dynamic, flexible financial services.

This book examines the transformation of agriculture, the consolidation of agri-food chains, and new trends in financial intermediation, identifying the ways these processes interact. Fast-moving transformation processes of the kind many countries are experiencing pose three types of questions:

1. Are financial systems in Latin American countries prepared to meet the new demands for financial services arising from the growth of modern agri-food value chains? Will financial intermediaries be equipped to meet these demands and support the rapid growth of production and productivity triggered by the opportunities of globalization? These questions point to the influence of financial deepening on the success of chains. To what extent will the success of the chains depend on progress in rural financial deepening in these countries?
2. How much will the transformation of agriculture and the development of modern value chains shape the processes of financial deepening and the ability of financial intermediaries to meet the resulting demands? Does the development of agri-food chains contribute new means of support for modernizing and deepening the financial system? This question points to the influence of value chains on the very processes of financial deepening. How much will the development of chains and the emergence of contractual relationships among the various actors benefit a country's financial development? How much do the answers to the first challenge, described in paragraph 1, interact with the answers to this second challenge?
3. Will the supply of financial services that develops in response to these processes benefit all kinds of farmers? Which will be included, and which may not be? How much will traditional financial systems be able to facilitate the incorporation of small- and medium-scale farmers into modern agri-food chains? Will the lack of access to financial services become an insurmountable barrier to entry for many traditional farmers? What financial service options will be available to producers who are not served by formal financial service providers? This question points to the interaction between access to financial services and the incorporation of smaller producers into modern value chains.

The seminar "Financing Agricultural Value Chains" provided a remarkable mix of answers to these questions, marked by considerable **heterogeneity**. Presentations given by practitioners seem to suggest that "each case is unlike any other" in its specificity. In general, the presentations contained

a great wealth of experiences. In their papers, analysts suggested that “initial conditions” are very important. This reflects the complexity of relationships between producers, chains and financial intermediaries and the multiplicity of potential solutions to the challenges they face.

Heterogeneity matters at a number of different levels. At the first level, differences in initial conditions in the different countries reflect many kinds of diversity. For example, the countries report varying degrees of progress in increasing agricultural productivity, diverse levels of consumer income and preferences, and financial systems with varying degrees and patterns of development. These differences, in turn, reflect both the geographic conditions and the factor endowments that determine comparative advantages for certain types of products. They reflect cultural and historical determinants that shape the organization of production, and they respond to varying degrees of emphasis placed on developing human capital and on building infrastructures and institutions to facilitate communication and specialization. Finally, these differences are the result of dissimilar approaches to public policy and intervention in financial and non-financial markets.

Most visible are the differences between large countries (México, Brazil) and the smallest countries. In larger countries, the state has frequently, although not always successfully, taken the initiative in providing several types of usually subsidized credit for the activities it considers of high priority. Even though some of these programs have been in effect for a long time, it was not until very recently that they began to adopt the chain perspective. Despite their relatively long history, they have not prevented the perpetuation of a dual structure in agriculture, where large corporations with access to international financial markets continue to coexist alongside small subsistence farmers lacking access to even the most basic financial services.

Meanwhile, in some of the smaller countries, where fiscal constraints preclude such interventions, a greater variety of bold and often successful experiments have flourished in the hands of private entities (banking and nonbanking intermediaries) and nongovernmental organizations (NGOs). Such experiments have proved their mettle as equivalent or parallel to the most advanced microfinance developments in these countries. Some of them have engendered partnerships and alliances between nontraditional organizations and commercial banks, whether incubated locally or promoted by market developers in the terms described by Wenner in Chapter 2. The financial systems in these countries stand to benefit when a multiplicity of stakeholders, including modern value chains, all take readings of the signals about the risks encountered in financial and non-financial markets.

The second level where heterogeneity is important is in the diverse degrees to which different chains are organized. The book does not look deeply into the question of why some chains become consolidated, while others face chronic difficulties; but it is clear that the best organized chains are more successful at gaining access to financing for all their participants as a result of positive externalities among them. They also exercise a more favorable impact on the development of the financial markets where they operate.

The third level where heterogeneity is important has to do with the products themselves, as product characteristics often determine the difficulty of consolidating chains and gaining access to financial

services. It is no coincidence that in the case of Hortifruti (as reported by Cavallini in Chapter 4), alliances in the rice sector have developed with relative ease among producers, processors, buyers, supermarket chains and banks, while the process has been more thorny for vegetables. This particular company has won admiration for its success even with more difficult products. Product characteristics and the marketing system strongly condition the counterbalanced risks of production and market conditions (as Romero emphasizes in Chapter 4) and, through these levels of risk, they shape opportunities to consolidate the chain and gain access to financing.

The book reviews all these topics and introduces innovative conceptual frameworks, useful lessons, a wealth of experiences and valuable conclusions. The first three chapters are closely interwoven. Chapters 1 and 3 offer an optimistic counterpoint to the relative pessimism of Chapter 2 on the capability of banks and institutional financial intermediaries to handle today's challenges.

In Chapter 1, Shwedel approaches organized value chains as a new business model in a globalized world. As any good banker would do, he quickly concludes that the main challenge lies in complex risk assessment skills. He emphasizes commercial risk above agronomic risk, which until now had attracted the most attention. Shwedel examines the different risks that come into play when various links in the agri-chains demand financial services, and he concludes that the only proper perspective is to take a comprehensive view of risk all along the chain. Urging all stakeholders, including authorities, to adopt the perspective of the product chain, he acknowledges that development banks have failed to manage these risks. Their failure arose primarily from attempts by development banks (especially in México) to base financing "on the quality of the subsidy rather than the quality of the business." When banks decided to finance with a chain perspective, they begin to see and understand the business in its entirety. Risk management requires thorough knowledge of the chain.

In Chapter 2, Gálvez and others describe the great variety of financial arrangements found in numerous countries and agri-food chains, featuring varying degrees of formality and informality. As Chalmers also recognizes, many actors in the chain demand and supply different types of financial services, resort to more than one source of such services both inside and outside the chains, and very often find their legitimate needs unmet. One of the chief concerns is the degree to which existing arrangements bar entry to the smallest producers and those living in remote areas. In Chalmers' view, the holes or gaps in current lending services must be identified in order to develop new ways of responding to these unmet demands.

The authors in this second chapter focus on the unwillingness of banks to offer such services, rather than the huge difficulties these and other organizations must overcome to serve these groups. Wenner notes that banks have failed to set up branch offices in rural areas, do not offer suitable products, lack appropriate technology for developing such products, and have a distorted perception of the risks of serving marginal clienteles. Banks define their "comfort zone" for financial operations in terms of the characteristics of producers, the maturity of the chain, the degree of competition in the financial market and macroeconomic conditions. Tiffen stresses the importance of an environment in which credit contracts are respected and the temptation to forgive debts is avoided. She also

emphasizes the need to keep up with trends on financial markets by developing instruments for managing catastrophic risks, with innovations such as parametric insurance and options.

Many factors may determine an institution's willingness to serve a particular market segment. One feature that could reduce the "fear levels" among financing sources is the presence of sound linkages all along the chain –from spot transactions, the most risky, to relationship-based partnerships, investment-based partnerships, and finally, vertical integration of companies. Although chains are important facilitators of credit activities, Wenner explains that the motivation to create chains should not be financial, but rather a desire to exploit non-financial advantages of an organized chain. Without a profitable chain, credit has no significant role to play.

In Chapter 3, González-Vega explores the role of value chains in promoting rural financial deepening. He begins by acknowledging the difficulties, involving both demand and supply, facing financial transactions and the diversity of pathways that can be followed to overcome these difficulties. In challenging environments, actors forge interconnections with one another, enabling themselves to understand the risks they face and handle them more effectively. Interactions among producers, chains and financial intermediaries provide better risk-management tools, making it possible to take on the risky but more productive investments that attend the transition toward modern agriculture.

These interconnections generate a series of **virtuous circles**. It begins when a producer links into a modern chain, entering a virtuous circle of contractual relationships that progressively bring better opportunities. Second, these interconnections generate virtuous circles for the chain itself, as its competitiveness depends on the strength of its links. The third virtuous circle forms around financial intermediation as the chain "creates clients," facilitates transactions, reduces costs and increases financial intermediation profits while generating economies of scale and of scope. This makes it possible for these intermediaries to offer better services both to participants in the chain and to their neighbors. All this –better opportunities for producers, more competitiveness for the chain, and greater financial deepening– improves resource allocation and promotes a country's economic growth, especially in rural areas.

González-Vega takes an innovative view of the ways in which the consolidation of value chains facilitates producer financing. The traditional view has been that credit is supplied through interlinked contracts that bind together the different actors of the chain. In the new vision, it is not the interlinked contract that serves as a promising source of credit. Instead, the very existence of a non-financial contract makes participating farmers more creditworthy in relationships with financial intermediaries outside the chain. Instead of providing a direct credit relationship, the chain exerts an indirect influence on the producer's creditworthiness.

Chapter 3 offers a detailed description of the process of creditworthiness creation. Participation in the chain allows the **delegated screening** of borrowers, in which an explicit or implicit contract linking institutional buyers to producers provides the lenders with a go-ahead signal. Under the traditional scheme, a supermarket chain would be expected to serve as a source of credit for its suppliers, while

governments and donors would be mostly concerned about shoring up the supermarket's indebtedness ability. The experience of Hortifruti in Central America, as examined by González-Vega, shows that this is not usually the case. Under the new vision, the contract between producer and the supermarket chain triggers and expands creditworthiness in the eyes of other financial agents. Governments and donors adopting this design would seek, on the one hand, to strengthen relationships between producers and institutional buyers and, on the other, to bolster institutional financial intermediation. A deeper process of financial intermediation then provides a host of advantages that the supermarket chain alone cannot offer.

The theoretical discussion is followed by four chapters illustrating these principles with a variety of real-life experiences, from different perspectives: participants in the value chains, executives of financial institutions, suppliers of technical assistance and international cooperation agencies that offer financing. All these experiences, whether long-standing programs or new experiments, hold out lessons to be learned.

Chapter 4 describes financing experiences within agri-food chains in various countries. Cavallini relates the experience of Hortifruti, as background to the operating approach soon to be adopted by Wal-Mart Centroamérica. He particularly focuses on examples of bank financing for the production and processing of rice and beans, involving a dense network of contracts among producers, the bank, input suppliers, assembly plants and the institutional buyer. Melosevich then describes INDACO and its experience with Credinka, a rural credit union in Perú that offers "agrarian consumer loans" backed by producer associations, along with a credit card program. Arrieta discusses the Agromantaro experience with "structured financial products" to support artichoke production in Perú, by linking farmers to financial intermediaries.

Romero outlines direct and indirect financing programs that the Bounty Fresh transnational corporation offers to producers of pineapples, mango, melons and asparagus in various countries. Because this company has access to international financial markets, it clearly enjoys a better liquidity position, which enables it to meet market demands unsatisfied by local banks. In this vacuum, the trader bridges the financing gap by offering credit, but Romero looks ahead to a different kind of structure, as local financial markets deepen. Producer-trader linkages should provide the basis for gaining access to financial intermediaries. Chávez describes the contrasting experience of the Mexican para-finance agent UNIPRO, in which the chain structure provides participants with access to FIRA lines of credit.

Chapter 5 presents experiences with financial operators that use agricultural value chains to provide dynamic, innovative services with low transaction costs. Alcantara examines the experience of banking giant Banco do Brasil, with its 14,800 branches, in a country where agricultural value chains are a significant player in generating value added and exports. Banking services include the new credit card, the farm product note and support programs for farmers to enter integrated production systems. Martínez goes into the innovative experiences of Banorte in México, stressing the importance of being familiar with productive sectors, working with specialized personnel, adopting the chain approach,

diversifying the product line (including leasing), managing risk profiles and building inter-institutional coordination. Although this bank uses the full gamut of government mechanisms for financing agriculture, its commitment to the sector is not contingent on the continuation of these programs.

Zamora shares the experience of Grupo LAFISE in Central America and its comprehensive support programs for value chains, including financing, production, marketing and export. This entity provides resources by channeling them through partnerships with public and private organizations that lend technical assistance, training and institutional support to small- and medium-scale producers organized into cooperatives, guilds or associations. Corrales shares the experience of the Development Banking Division of Banco Nacional de Costa Rica (BN Desarrollo). One of this bank's success stories is its work with the Association of Small-scale Producers of Talamanca (APPTA), an indigenous area whose value chain centers around small-scale agriculture. Santana discusses the experience of several projects developed by UNCTAD, especially the land titling program for livestock growers in Colombia.

Chapter 6 describes technical assistance programs that help participants in the chain upgrade their operations, reduce risks and improve access to financial services. While some cases involve a single entity that provides technical assistance, financing and marketing, other programs focus on training in management and production skills, with no direct link to a financial institution. This section echoes a comment made by González-Vega in Chapter 3, noting that the programs help producers become more creditworthy and gain wider access to financial services. Each case study has important lessons to offer.

Flores sets forth the successful experience of Nicaragua's Fondo de Desarrollo Local. In this case, a university-based center created a microcredit institution with a rural focus, intended to fill the financing gap created by structural changes and demonstrate that credit can be taken to this sector sustainably, using methods unlike those of banks. Because the services market is imperfect, fragmented and mostly ignored by government institutions that lend technical assistance, roads and infrastructure, and because this sector must become more competitive and needs to undergo broad reconversion processes, the decision was made to offer technical assistance through strategic alliances, as described in this chapter.

Medlicott describes the experience of the Rural Economic Diversification Program (RED), a technical assistance project financed by USAID and conducted by Fintrac in Honduras, as a continuation of the successful Agribusiness Development Center (CDA). The idea is to facilitate the transition of traditional farmers toward market-led professional agriculture, with operating plans of several years' duration and the use of modern technology. The project provides technical assistance in marketing, post-harvest handling, processing, production and information technology. It has no credit fund, as its avowed specialization is not moneylending.

Torrebiarte tells the story of the "Starbucks Coffee Agronomy Company." The company understands sustainability as an integrated management program that includes premium prices for high quality,

certified and conservation coffees, access to credit, social projects, the Farmer Support Center –a regional office headquartered in Costa Rica– and a performance-based incentive program known as “C.A.F.E. Practices” that offers preferential purchases. Starbucks was interested in supporting farmer access to financing but did not wish to do so directly. It decided to invest in such organizations as Verde Ventures, EcoLogic Finance and Calvert Foundation, whose mission is to finance cooperatives of coffee growers. Although these loans are no cheaper than bank financing, they are timely and imply lower transaction costs. As González-Vega predicts in Chapter 3, the growers need only to present their Starbucks sales contract in order to qualify for credit.

Campion adds more details to the story of *Agromantaro* in Perú, already introduced in Chapter 4 by Arrieta. Artichokes are a good example of financing and technical assistance within a chain structure. When the results of this chain began to spread, other nonbanking financial entities, especially rural savings banks (*cajas rurales*), municipal savings and loans (*cajas municipales*) and *Edpyme Confianza* began to show an interest in providing direct loans to small-scale farmers. When processors found some of their own capital freed up, no longer needed for supplier credit, they began expanding their investments. Processors had some access to bank financing, but not as much as they would have liked. Collateral requirements were so stiff that company employees found themselves drawing on their personal assets to guarantee loans. Valuable lessons can be learned from this interesting case.

In Chapter 7, representatives of international cooperation institutions are given the opportunity to discuss their grant programs and other financing projects. Miller explains FAO participation in startup projects and in government-based cooperation programs. Three of the organization’s working groups carry out activities associated with agricultural value chains: marketing, rural finance and farm management. Chalmers outlines activities of the United States Agency for International Development (USAID). Interventions that target financing of agricultural value chains are based on a conceptual framework that seeks to analyze and improve the entire chain, so as to create wealth in poor communities, with a focus on sustainability. Wenner and Fonseca explain the approach used by the Inter-American Development Bank, while Martínez discusses the Central American Bank for Economic Integration. Hopkins then describes the operations of the International Fund for Agricultural Development (IFAD), and Tiffen outlines the work of the World Bank and the International Finance Corporation.

In the final chapter, Wenner identifies the change of paradigm and draws conclusions from the seminar. His summary is divided into four parts: old and new realities, a bit of theory, formal practices that seem promising and the implications for different participants, whether governments, international organizations, producers or financial institutions. The reader is especially encouraged to draw on this excellent synthesis in a book that is interesting throughout.

1

VALUE CHAIN FINANCING: A STRATEGY FOR AN ORDERLY, COMPETITIVE, INTEGRATED MARKET

Ken Shwedel

In my presentation, I will be emphasizing the concept of value chains.¹ We now see this concept as a new business model, and you need to start seeing it this way too. It is the key that will help those of us who work in the financial sector to finance these chains and manage risk.

I will begin my presentation by explaining what a value chain is. I would then like to speak a bit about the concept of the value chain as a new business tool, and this is where I will place most of my emphasis. We in the banking sector need to start understanding the agroindustry business as a chain. You should know that when we were developing a policy for the Government of México, some five years ago, we decided that the concept of the chain was critical if we were to protect agriculture and equip it to compete and survive.

As I said before, I want to insist on the importance of this new business model. After that, I will speak briefly about financing, describe the traditional working approach that we bankers have used for so long, and point out a few problems with it. I will also offer a few brief examples, because this is what you will be hearing about during the rest of the seminar. I will finish by talking about what we have learned, and the implications for rural development, for public policy and also for those of us who are ensconced in our financial institutions.

A. Definition of the value chain

I will start with a textbook definition of what a value chain is. The concept of the value chain has been defined traditionally as a function of “Company X” or “Company Y.” We ask which of the company’s activities are strategic, create value and improve its competitive position, and then we apply this methodology to analyze costs and identify points of differentiation. But today I want you to consider the whole array of activities that define the strategic and competitive position of an entire industry.

1. This chapter is a literal transcription and reflects the spontaneous style in which the presentation was given.

This is how we apply these same concepts to the broad agri-food sector. It was what we did in México when we designed the “Farm Policy.” The agri-food value chain can be seen as “a collection of activities or interrelated sequential and parallel functions involved in the production, manufacturing and marketing of foods.”

B. A new agroindustrial business model

You are probably thinking, “This chain concept is nothing new;” and you’re right. In the 1950s, the United States Department of Agriculture (USDA) adopted the chain concept; by the 1960s, they were talking about the interrelationships of systems. When I worked here in Costa Rica in the 1980s, we were also managing marketing systems. Porter, in his classic work on competitive strategy and its clusters, emphasized the imperative of taking a chain perspective.

The chain perspective has been present in the literature all along, in diverse forms. However, there is something new in the way the value chain approach is operating now.

What I will argue here is that we are moving away from a commercial, segmented form of agriculture in which many separate links operate in isolation, out of sync with each other, in which farmers produce in bulk, are exposed to price risks and capital needs and produce independently. This model is giving way to a new agriculture based on integrated systems, differentiated production, risk management, information needs and interdependent farmers.

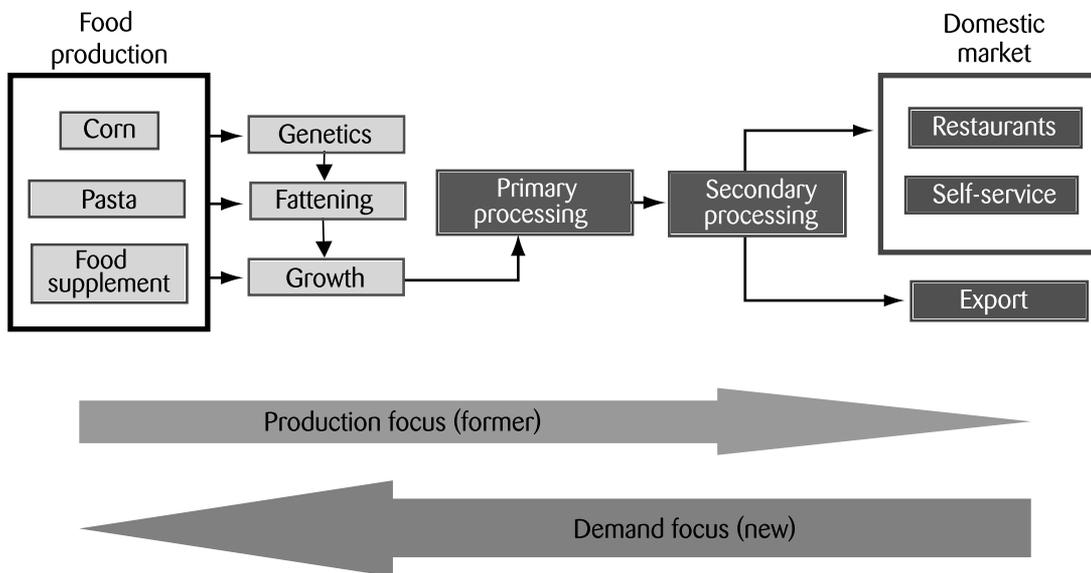
I was impressed with the words of the Vice President of Costa Rica when he spoke about globalization, and I will touch on this point, because today’s producers are interdependent.

When I talk to farmers in México, I tell them: “Look, you need a global vision, you need to compete globally even if you are selling domestically. You are now in a market of interdependence.”

Something new has been happening, as you can see in Diagram 1.1. This illustration does not show all the inputs, but in the past, we have always gotten by with a production-based vision or approach: “I will produce whatever I want, whatever I feel like, the same thing my father and my grandfather and my great grandfather produced before me. I don’t know how I will sell it, but you can be sure I will produce it.”

The entire chain, with all its links, then focuses on pushing this production onto consumers. Today things are changing. It is a new approach that is evolving in response to market structure, as we will see shortly, with a focus on demand. We need to produce what consumers want. It’s no good to me if I cannot sell it.

Diagram 1.1 The production approach and the demand approach



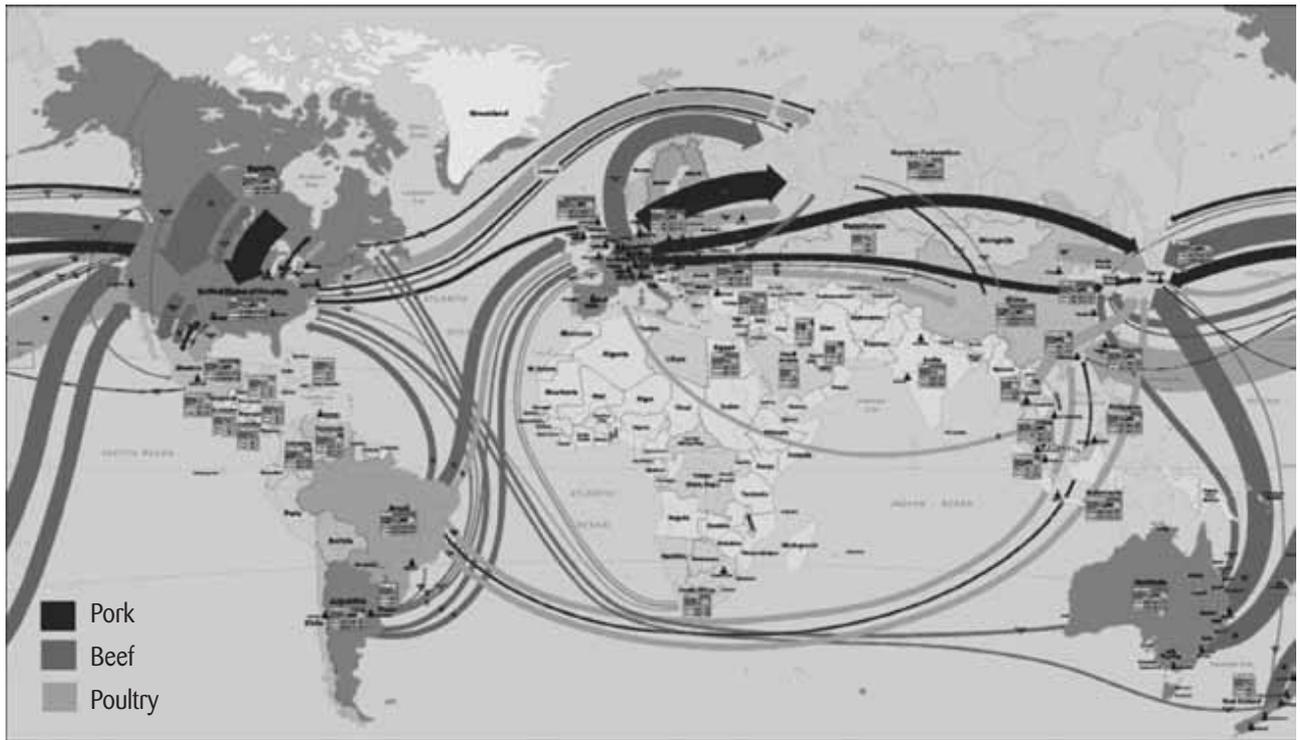
SOURCE: Ken Shwedel, Seminar presentation.

Sometimes people ask me why I studied agricultural economics. As it happens, I studied agricultural economics because of the wisdom of a farmer. I was in a small town working in agricultural extension, and I noticed that on Saturdays, everyone came to the market to buy flowers to go to the cemetery. I asked a farmer, “Why don’t you plant flowers? It looks to me like a pretty good business.” He answered, “Look, if they don’t sell, I can’t eat them either.” In his own words, this man was describing his demand approach: he would produce what buyers wanted. If this farmer could not sell his flowers, he preferred not to take the risk.

So here we have two important concepts: i) **risk** about what consumers want, and this brings in the need for information; it is an innovation, because the model requires a two-way flow of information; and ii) what we are seeing, as Vice President Casas noted, is that business is now **global**.

Diagram 1.2 is a map of the globalization of animal products, and I can show you other maps of other products. The important thing is that for every type of product, agribusiness is now global.

Diagram 1.2 The global market for pork, beef and poultry



SOURCE: Ken Shwedel, Seminar presentation.

Meanwhile, the international food trade has been growing so rapidly that its value has increased by 50 percent over the past 10 years. This is due partly to inflation, but also has much to do with overall growth in global business flows. And speaking of global business, it is also evident that agribusinesses are becoming much stronger. The four largest agroindustrial companies in the United States hold varying shares of control over the market, depending on the sector. In the industry where they have the least control (ethanol production), they make up around 40 percent of total sales, while in the market where they hold greatest sway (beef), they sell more than 80 percent of the total. In other words, agribusinesses are growing stronger, and the agricultural sector is competing on a globalized market where there is more and more concentration at the final end of the chain.

It is also interesting to look at specific companies and examine their global presence. In the oilseed sector, for example, local companies hold 90 percent of the market in China and 55 percent in Brazil. In other countries, local production reports a much smaller share: 45 percent in Argentina, 25 percent in the United States and 15 percent in the European Union. Foreign presence is remarkable in general, and even more so in specific industries. In oilseeds, for example, ADM, Bunge and Cargill all dominate certain markets with shares of up to 30 percent –Cargill in the European Union and ADM in both the European Union and in the United States. These companies are now a powerful presence not only in a single country, but worldwide. Another example is the Mexican company Maseca, that just recently began to invest in China. Egg rolls may soon be displaced by a form of genuine Chinese tacos!

Another important example can be seen in the changing patterns of average production posted by milk bottling plants in the United States. The number of plants has been declining, while average per-plant production has been on the rise. Meanwhile, the number of dairy farms has demonstrated the very same trend, with the number of farms declining while the number of animals on each farm has grown. Why am I telling you this? Because what happens in one part of the chain has consequences for other parts.

I am talking here about concentration in the manufacturing industry, and next I will discuss trends in retail. You may ask “What do I care if there is concentration in that segment of the chain?” It does matter, because what happens at the end of the chain is affecting production.

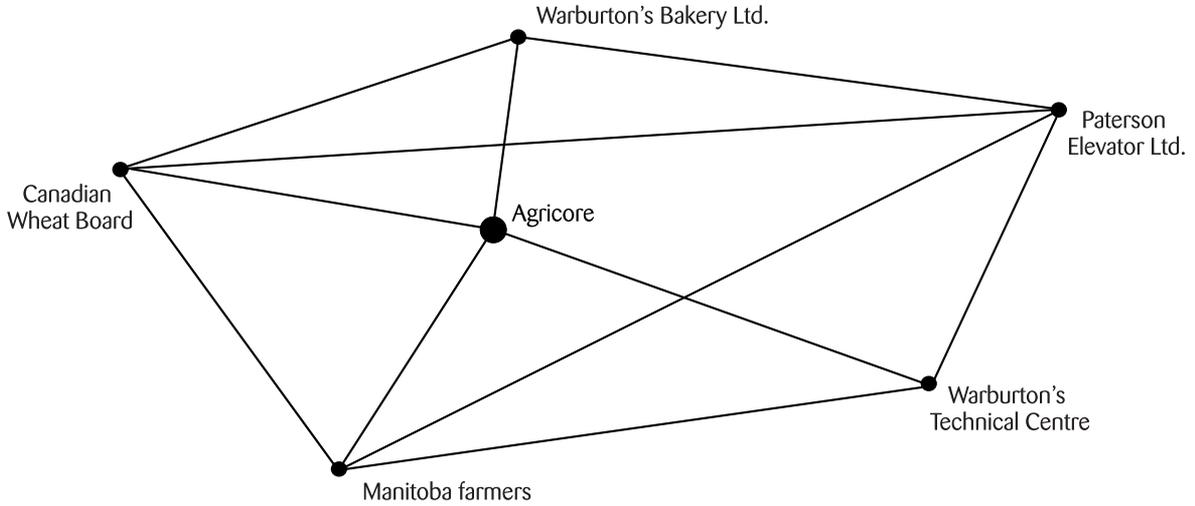
If I show you figures from México, Europe and Asia, you will see the same phenomenon all over the world. What are they doing about it? Another example in the United States is pork producers. What do pork producers do with 20, 50, 100 bellies? What can they do? What they are all doing is to find ways of linking into a chain. In a clear example of vertical production and contract production, nearly 70 percent of the hogs produced in the United States today are sold before they are born.

This is where we bankers enter the picture. We are willing to finance the activity because we know there will be sales at the end. This is what we are doing. This is how end consumers exert their power in the chain, and it falls to the producers to find ways of linking into it. Is this good or bad? I say it is neither good nor bad, but merely a survival strategy.

Diagram 1.3 shows an example of globalization for an English company negotiating with Canadian producers to purchase of certain varieties of wheat. The English buyers notify the warehouses when they need to purchase wheat. The warehouses in Canada contract with producers and finance them; the original company charges certain expenses and sells its bread in England at a higher price. What is the point of this example? It is an illustration of the globalization of interconnection. Who could have imagined that the wheat farmer in Canada would be dealing with a baker in England? But this is exactly what is happening.

All of you need to understand clearly that power is passing into the hands of consumers. Figures for 1999-2003 show heavy concentration at the retail level in China, Brazil, Poland, Argentina, the United States and Australia.

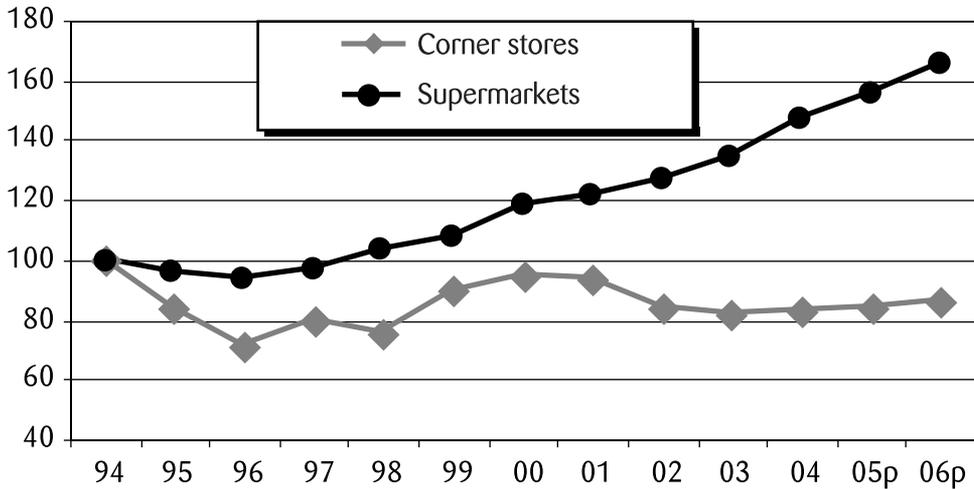
Diagram 1.3 Competing with a chain vision



SOURCE: Ken Shwedel, Seminar presentation.

Supermarkets are also gathering greater power, as you can see in Graph 1.1 for México. Sales in mom-and-pop corner stores, known in México as *changarros* and here in Costa Rica as *pulperías*, have stagnated and ceased to grow. The heavy black line (connecting the circles) shows growth in the supermarket sector. Today in México, nearly half of all food purchases are made in supermarkets. More than 200 cities around México now have full supermarkets, and growth continues. Wal-Mart has announced plans to invest one billion pesos to open new stores in 2006.

Graph 1.1
Index of real purchases in corner stores and supermarkets in México (1994=100)



SOURCE: INEGI

Now, why is all this important? Who is writing the rules of the game? Retailers are, because it is retailers who have the consumer's ear. We were recently at a seminar organized by Rabobank, and a representative of one of the world's largest chains came and told the vegetable suppliers, "If I don't know where it comes from, I'm not buying." What was his message? Whether he was looking for vegetables, cantaloupes or watermelons, if he didn't know where the product came from, he would not buy it. In other words, farmers need to be part of a chain in which everything can be identified. These retailers are writing the rules of the game. The most important factor is neither the government nor its rules and regulations, because if supermarkets don't buy, if producers do not play by their rules, producers cannot sell.

It is also extremely important to understand that consumers have become more demanding. Table 1.1 shows the type of high quality that consumers expect, including availability, flavor, quality, freshness, convenience, environmental safety, traceability, and in addition to all that, they want low prices.

Table 1.1

Consumer demands

1. Year-round availability
2. Flavor
3. Quality
4. Wholesome and practical
5. Freshness
6. Convenience
7. Innovation, new products
8. Care of the environment
9. Care of welfare
10. Traceability
11. Low prices

And more important all the time:
food safety

SOURCE: Ken Shwedel, Seminar presentation.

If farmers hope to sell, they need their products to get into the hands of final consumers with the quality demanded and at low prices. This means they must be part of an integrated chain. More and more all the time, food safety is a prerequisite for the industry today. Just remember the case of mad cow disease. What I am telling you is that concern for safety is fundamental. I will go back to my earlier example. Retailers want to know where the product comes from, what was done to it, and how we are handling it. If farmers are not part of a clearly identifiable chain, and if their products are not handled in accordance with standards demanded by final consumers, they will not be able to sell.

So farmers need to juggle a vast number of requirements, and this is part of the reason why they join value chains. Here I will pause to talk about public policies. I want everyone who is in the government

to understand that even though we are talking about value chains of small-scale farmers and small businesses, competition among nations is also a competition of chains.

We realized this in México in the early years of the Fox Administration, when the existing policy approach was abandoned in favor of a chain policy designed to develop and protect viability in México's agri-food chain. I cannot overstate how important it is for governments to adopt this chain vision for the design of rural development policies.

C. Financing agricultural value chains

I would like to begin with the concept of agroindustrial activity. The traditional view sees an array of isolated, autonomous links. We bankers had developed a wide selection of financial products, one for each link, all separate.

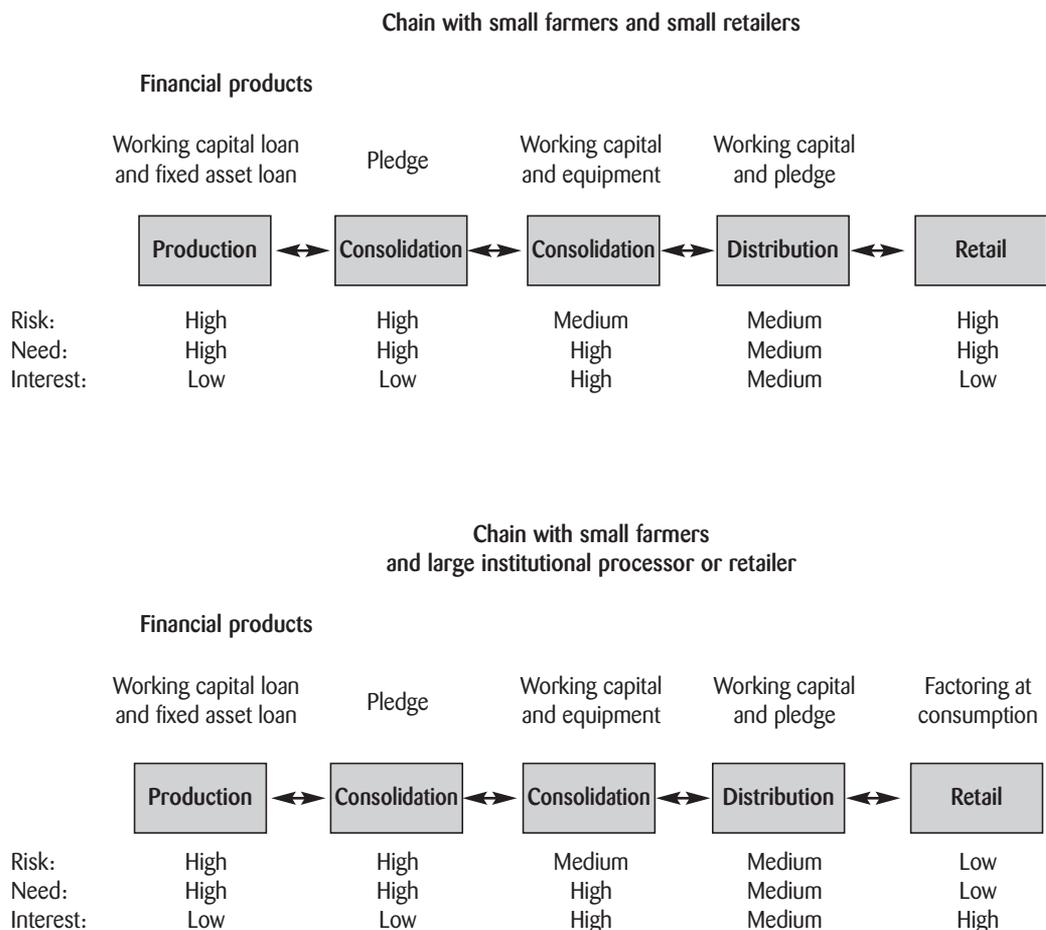
Take a look at Diagram 1.4. At the top center you see a traditional chain with its separate links. Above each one I have named the applicable financial product, and underneath it, the risk assessment, the relative need for financing, and the bank's interest in providing the service. Small-scale producers at the beginning of the chain are a high-risk proposition unappealing to banks. Retail sales at the end of the chain are also unattractive for bank financing. So in a traditional chain where small-scale producers supply small mom-and-pop stores, no one in the banking industry wants to lend financing because it is not an attractive proposition. Quite simply, it is too risky. I as a bank prefer not to take such risks. I am not interested. I am not in the risk-taking business. My job is to make money, and this level of risk is no good to me.

The bottom section of Diagram 1.4 shows the case of slightly larger companies. The situation is not much different. Maybe if the chain culminated in a Wal-Mart or a *Más x Menos* supermarket, I would be willing to finance, but such a fragmented industry structure undermines all possibilities for financing agriculture. This structure produced results that actually exacerbated the fragmentation of chains, worsening isolation and triggering confrontation among the different segments and links of the chain.

When I worked in the *Banamex* bank, we financed the agricultural sector. We did not care what the rest of the chain was doing, or that farmers couldn't pay if they didn't sell. We did not care whether we were undermining the rest of the chain and thus heightening the level of isolation and confrontation. One of the results was a declining flow of financing to the chain, especially to farmers as primary producers.

Costs were higher, because if I was asked to finance a certain farmer, it meant I was being asked to take a risk, and I charge for risk. If I perceive the risk as higher, I charge the client for it. I am not talking about whether the risk is actually higher or lower, but about perceptions of reality. Perceived risk is much more important in my pricing decision than reality itself.

Diagram 1.4 Financial dimensions of a value chain with small farmers, small retailers and a large processor or retailer



SOURCE: Ken Shwedel, Seminar presentation.

The traditional chain also encouraged the development of non-financial intermediaries. I am not criticizing the competition, simply saying that when non-financial players are in the game, financing becomes much more expensive.

So what are the answers? There have been several so far, and this is where I have to criticize public policies:

- i. **Government banks or programs.** In México, we have tried to solve this problem by setting up development banks. We found that development banks were a fiasco, a bottomless pit, and the Fox administration got rid of them. Subsidies after subsidies, and before we knew it, our commercial banks had fallen into the same trap. What were we doing as commercial bankers? We were financing, not based on the quality of the business, but on the quality of the subsidy. If I as a banker could get in on a good subsidy, I jumped at the chance.

“Make way, I’m coming in,” and who cares how good the business is? If the subsidy was attractive and there was a good guarantee, I got into the business, I got into the financing, and I think these are the answers that distort everything.

- ii. **Producer organization.** We also saw many cases in which the government’s solution was to organize producers. I submit here that this approach was a mistake. The problem is not how to deliver a financial product. Yes, we need to bring down the cost of giving credit, especially the cost of working with smallholders, but the problem is not delivery of the product; the problem is risk. Many governments focused on reducing agronomic risk, but agronomic risk is not really my concern, as a first-tier bank; I care more about commercial risk. “If I can’t sell the flowers, I can’t eat them either.” If the only collateral they can offer me is flowers, what use is that to me?
- iii. **Agricultural research.** I have nothing against agricultural research, but what I am saying is that research does not solve the problem of credit.
- iv. **Marketing support programs isolated from the chain.** Nor is the solution to offer marketing support programs disconnected from the chain. All we do with these programs is to support or finance one part of the chain that runs contrary to other parts. Many of these policies actually undermine the integrity of the chain.

So we found ourselves with a traditional approach that had no notion of consolidating chains. Chain-based financing requires the banker to see and understand the business in its entirety. It demands adjustment to new market conditions, more accurate pricing, a better understanding of risk, and consequently, a greater willingness to take risk.

D. Financing value chains: examples

I want to share four examples of financing: agave suppliers in México, beef suppliers in England, cascade financing of flowers in Holland and coffee financing.

1. Indirect supplier financing: agave

Agave production is an interesting example of a value chain. It is a highly complex activity by comparison with the average farm commodity. It is highly cyclical, grown mainly by small-scale farmers with little access to formal financing, and affected by wild price swings.

If I, as a banker, encounter an agave producer, I do not finance him. However, I am willing to consider and handle financing for a company that will use the money to take on the six-year risk of financing a producer, because I understand what a chain is and I understand how it works. I do not take this risk directly. I am not willing to accept a six-year loan term. But I can at least provide financing to someone who will take the risk of lending money to the producer who needs it. In other words, I can finance a client who needs to guarantee his supply of raw material to keep his own business running. This is

the tequila producer. As a tequila producer, not an agave producer, but a manufacturer of the beverage, he understands the farming risk because most tequila producers also have their own crops. So what's going on? I have the chain perspective; I am willing to finance a tequila distiller so he can finance the production he needs.

In a case such as this, the financial institution understands that access to raw materials is a critical factor for the success of the end business. Nevertheless, the bank is not willing to take the risk of financing the primary producer. The flow of financing takes place, in the end, because the farming risk is held by the tequila distiller, who can manage it better than the banks.

2. Direct supplier financing: meat for the supermarkets

This second example is from England, where we are willing to get into the business because we finance the supplier directly. Why am I willing to finance the supplier? This particular value chain has two fully interdependent links. They are not isolated, but interdependent links held together by a long-term business relationship. I have been working with this supermarket retailer for a long time. It is the market leader, and a high percentage of its needs are met by this supplier. The financial institution is willing to take the risk because, even in the absence of a formal contract between supplier and retailer, we have understood the relationship between the links.

Briefly, we understood the chain and the relationships between different parts of the chain, and we were willing to finance suppliers directly. We have seen that:

- supplier and retailer are interdependent,
- these two links of the chain enjoy a long-term business relationship,
- the retailer is a market leader,
- the supplier provides a high percentage of the retailer's meat and
- the meat process is difficult to duplicate.

I should like to add that we were willing to do this in England because we trusted the legal institutions. In other parts of the world, this would not necessarily be so, as the institutions do not inspire trust. Public policy is a very important factor. In this particular case, the financial institution was willing to take the risk even in the absence of a formal contract. In some markets where reliable legal institutions are not available, the working relationship and interdependency among stakeholders becomes even more important than a formal contract.

3. Cascade financing: flowers

This example comes from Holland and also from my same bank. I apologize for continuing to use examples from the bank where I work, but it is what I know best.² Flower marketing has become a specialized global business. Farmers see flowers as a high-value product that requires substantial, costly investments. One hectare of greenhouse floor space in México costs about \$1 million, so the business is highly specialized. Are we willing to finance it or not? In this case, the answer has always been “yes.” This business takes the shape of a “cascade,” making it easy to understand in depth.

We finance farmer needs for working capital, equipment and technology, and we also finance the equipment distributor. We finance the farmers because we know them and understand their marketing system. Essentially, the farmers send their products to an auction market in Holland, and we finance the auction market. We also finance many of the buyers. We have locked up the financing of the whole chain. We have intimate knowledge of production factors, equipment suppliers, and equipment buyers. We also know that the farmers receive their money and deposit it in a Rabobank account, so later we directly debit their accounts for loan payments. We are willing to get into a high-risk business because we finance the entire chain and, modesty aside, I believe that no other financial institution knows as much about flowers as we do.

Not only do we finance, but we have also invested in market analysis and studies, which as I said, has given us in-depth knowledge of the industry. For us, then, it is not an excessively risky business. The risks are manageable and we understand them. We have account executives specialized in this business and account executives who understand the technical part of the business. Because we know the risk, we are willing to take it.

4. Financing for producer groups: coffee

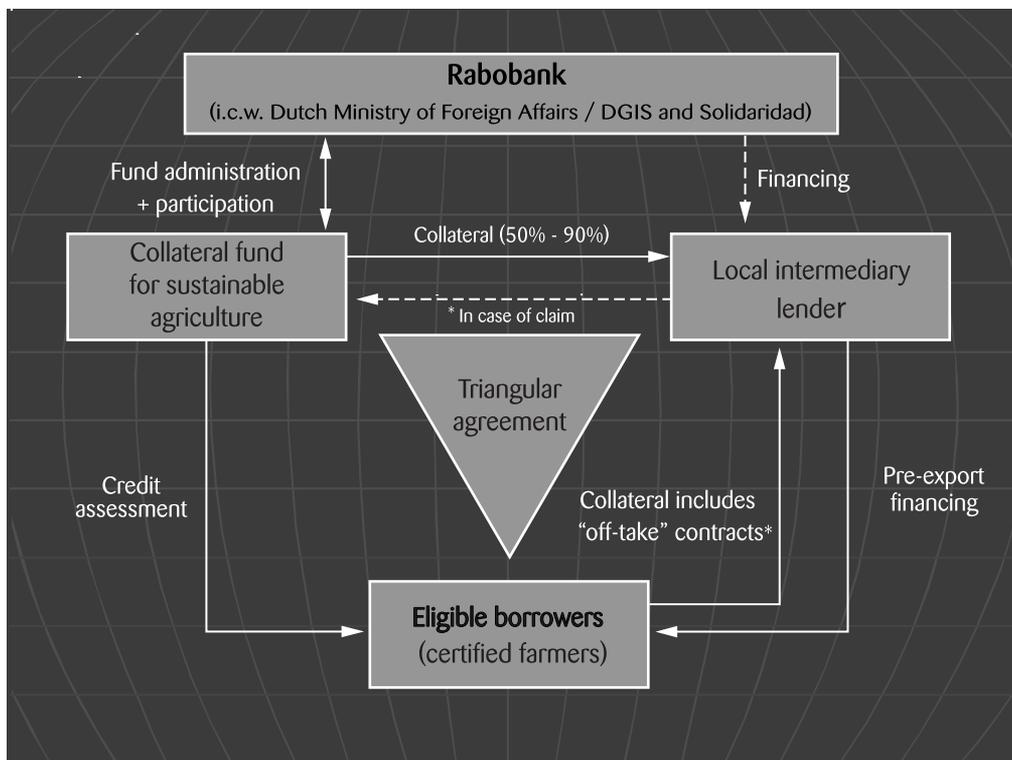
This example brings together a commercial bank, the Rabobank Foundation, and a group of coffee growers. You already know that many coffee growers are non-organized smallholders vulnerable to market risk and dependent on a long line of intermediaries. In this example, producers were organized into cooperatives, and pre-harvest credit was based on sales contracts. We also lent technical assistance.

It was part of a rural development project using the chain perspective and involving other factors besides credit (see Diagram 1.5):

- Technical assistance: flow management, product and storage logistics, and price risk management
- Diversification into other products
- Environmental awareness

2. I should clarify that although I am an employee of Rabobank, I am expressing my own opinions here and do not necessarily speak for the Bank.

Diagram 1.5 Financing coffee with a chain approach



SOURCE: Ken Shwedel, Seminar presentation.

Diagram 1.5 shows our model. Financing comes essentially through local financial intermediaries, backed by the Foundation. What matters here is not that we organized farmers into cooperatives, but that we adopted a new vision. In order to consider this business model, farmers needed to organize so they could enjoy economies of scale, but also they needed to receive certain technical assistance to strengthen their activity. They received support with flow management concepts and logistics, storage, risk management and other such considerations. In other words, the vision of the project was not only to improve the farmers' ability to produce and organize so they could sell with economies of scale, but also to strengthen the whole rest of the chain. The project included environmental awareness and diversification into other products.

The interesting point is that the project evolved into contract-based pre-harvest credit, which is also a key factor here. There was no risk because there was a contract. More long-term financing is now being offered, in some cases for up to two or three years, and even carbon bonds are under discussion.

That gives you a few examples. During the rest of this seminar, you will be discussing many more examples in greater detail.

E. Implications for rural development and for financial institutions

At this point I would ask: What has all this taught us about public policy for the rural sector? The agribusiness environment is changing. This is clear in Table 1.2, a list of actions by all the stakeholders or agents in the economy.

Table 1.2
Changes in the world agri-food system

TRADITIONAL AGRICULTURE	NEW AGRICULTURE
• Separate segments	• Integrated system
• Bulk production	• Differentiated production
• Price risk	• Risk management
• Need for capital	• Need for information
• Independent producer	• Interdependent producer

SOURCE: Ken Shwedel, Seminar presentation.

In order to compete, we will need to find new ways to organize, new ways to structure business. I would like to repeat these key words: business and competition. Banks have got to start understanding the concept of managing financial schemes that will strengthen the overall chain. In the future we need to be very careful to avoid breaking the chain, either with banking practices or with public policies.

1. Rural development policies

For those who work in the government, I want to insist on the idea that value chains are not an academic, theoretical construct. All too often you go in and talk about value chains and people scratch their heads and say, "What? What are you talking about?" It is not academic tall tales. It is the reality of the structure of business today. I repeat, it should be a top objective in implementing rural development policies. Rural development should find ways to fit farmers into value chains. This needs to be the objective because if farmers are not linked into chains, they will remain isolated, in a complex state of poverty.

So there is no other alternative in rural development policy, and particularly on the production side. All activities should include components that strengthen farmers and link them into value chains and that create a favorable environment. A few important issues are:

- **Contract farming.** I have already mentioned this, and you will probably hear much more about it during the rest of the seminar: contracts, contracts, contracts. I will say it again: I am more willing to finance someone who already has a buyer lined up. If he has no one to buy, why is he asking me for money? Should I give you credit to produce flowers if I don't know where you will sell

them? No way! This approach revolves mostly around contract-based farming or some similar model.

- **Price-risk management programs (hedging).** As an example, the coffee market already has a number of instruments available for managing price risk, but not all growers are using them. They are in common use in some of the larger countries.
- **Safety standards and controls.** One of my most frequent criticisms is that in many countries, including México, we have neglected the development of standards and controls. Sometimes we worry too much about Secretariat of Health standards, when in reality this is an agri-food trade concern. While I realize that health authorities have legitimate concerns as well, market standards and controls are extremely important.

When there is money available for rural development, they want us to spend it out in the field. Maybe instead they should be spending it on a cold storage plant in the city. It's all about prevention, and international trade policies should be restructured around the concept of value chains.

2. Implications for financial institutions

Again, the first implication is that the value chain is not a theoretical construct. We find the same thing in the banking sector. We show up and talk about value chains with line and staff employees, and they growl, "Don't come crying to us. That's your problem." No way! Chains are business strategies.

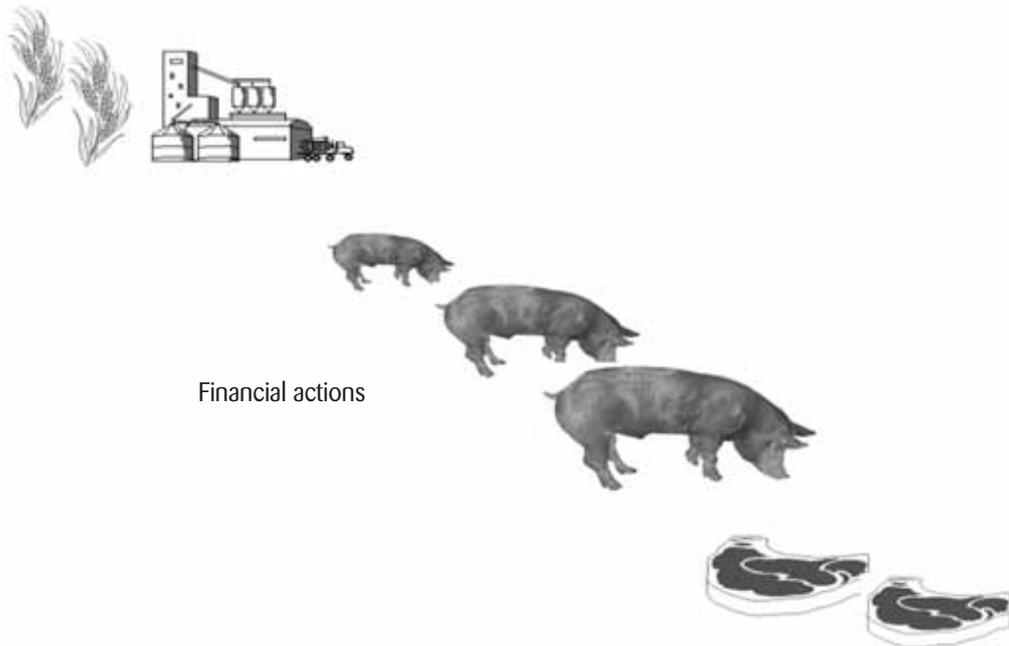
Risk management means that we need to understand the chain thoroughly. The finance business is all about information and knowledge. Don't kid yourselves, and don't try to kid us. If you have no knowledge, if you have no information, you should not be in the lending business.

The structure of payment terms is also important. It needs to be a reflection of the chain itself. Let me give you an example. I go to Italy, I visit a grape farmer, and he says, "Will you give me a year's financing right now so I can plant my vineyard?" My answer is, "No. Do you really think I would offer a year's financing to establish a new vineyard? I would have to be crazy!" Several years will have to go by before it starts to produce, so if I offer just one year of financing to plant the vineyard, he will have nothing to pay me with. Unless I am willing to lend for a term of three, four or five years, I am kidding myself and leading this fool to bankruptcy. The structure of loan payment terms also needs to be a function of the chain, and this calls for full analysis of the efficiency and competitiveness of the chain itself and each of its links. Back to the example of agave: we in the banks are not willing to finance it, but we finance the tequila distiller who is willing to provide agave farmers with six-year loans. This is the full perspective of loan structures and terms, and it needs to be reflected in our arrangements.

Another important point is to find new financial opportunities as a function of the chain. It is fine for the bank to counsel its clients; but under the chain structure, bank and client are full-scale partners. Now the whole chain needs to come under scrutiny: support for suppliers, project financing, and everything else. These are the things we need to consider. I would like to finish with Diagram 1.6,

showing that the success of agribusiness must be grounded in clear, coordinated strategies based on a chain perspective.

Diagram 1.6 Conversion of products from the field to specific markets



SOURCE: Ken Shwedel, Seminar presentation.

I always illustrate with this diagram. It shows that banking activity needs to focus on the chain. The first image is wheat, but you can imagine sorghum or milo instead. The sorghum farmer is not just a producer of sorghum. He is the supplier who sells his grain to an animal feed mill, which in turn sells to swine producers, who sell pork chops to the supermarkets. So ultimately, the farmer who plants milo or sorghum is in fact selling pork chops.

This is what I am trying to stir up in you: the vision of the chain. If you have no one to buy sorghum, why plant sorghum? If the feed mill has no one to buy concentrate, why is it in business? If the swine producer has no one to buy its animals, who does he kill them for? Why is he raising them? And if I am doing all this to supply a swine producer who is raising three hogs, forget it. I prefer not to finance the animal feed mill, and certainly my friend in Banorte will not finance the sorghum farmer.

So if we accept the importance of value chains, how have the traditional financial institutions responded? I will close with this answer: poorly, dreadfully, awfully. This is self-criticism. And this is the challenge that stands before us and the challenge that you must consider during the rest of this seminar.

2

LESSONS LEARNED IN AGRICULTURAL VALUE CHAIN FINANCING

Geoffrey Chalmers, Mark D. Wenner, Pauline Tiffen and Eva Gálvez

This chapter explores experiences and lessons in financing agricultural value chains in various parts of the world. The different sections were contributed by experts from international organizations and researchers who have been exposed to a variety of models. The presenters outline diverse analytical approaches for understanding the operation of agricultural value chains and their environments and inherent risks. It is important to understand all these factors in order to find the best ways of adapting project design to facilitate the supply of financial services. They also describe several types of agricultural chains and various financing arrangements and give recommendations. This chapter summarizes and reorganizes concepts outlined by speakers in the seminar.

A. The value chain concept

Geoffrey Chalmers

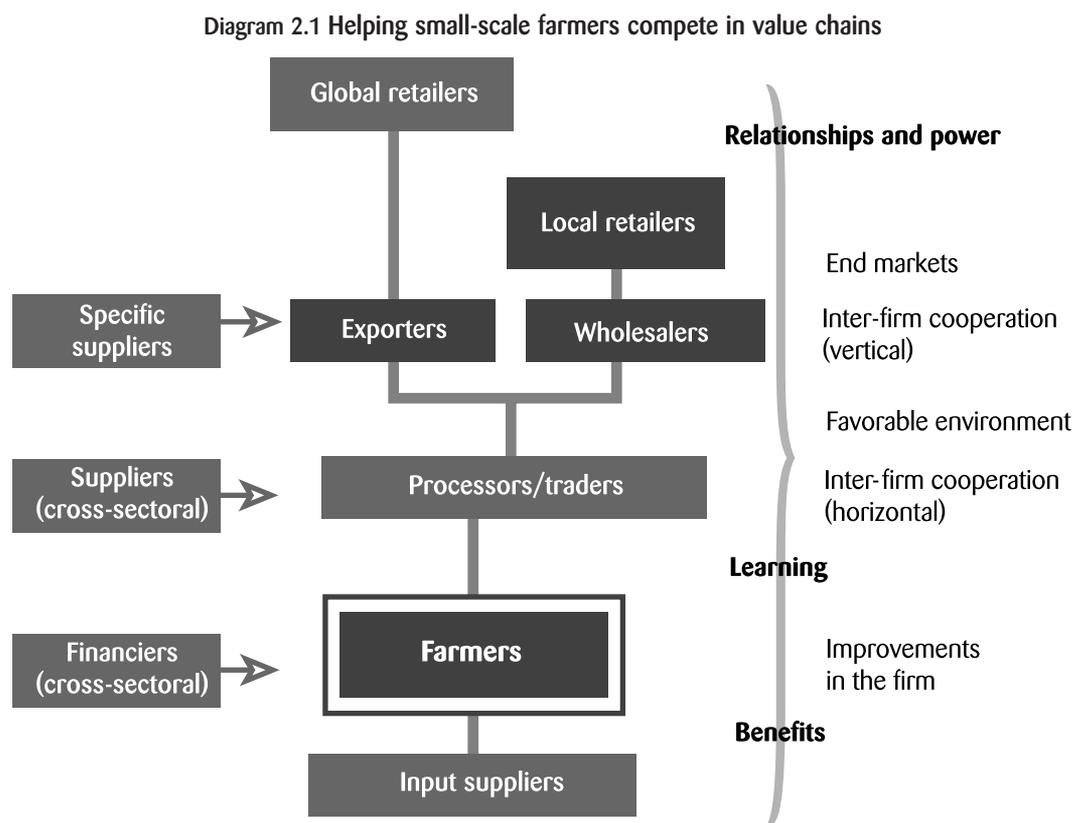
It is important to think about how to deepen the participation of small-scale or isolated producers in rural financing. This is especially so in dual rural economies or dual agricultural systems, as in México but not so much in Costa Rica.

Certain sectors of agriculture already enjoy financial services and the many benefits they promise; the challenge is, first, to take these services to other sectors, and second, to attract more financial entities into working with the agricultural sector. This does not mean only banks, but could also include credit unions, micro-finance institutions, NGOs and others. All these institutions need to do what Ken Shwedel described in Chapter I: to understand value chains and the areas in which they operate and to design products specifically targeting these chains and the real conditions of participants in the chains.

I will not begin by talking directly about finance, but instead I will address the concept of the value chain. This is because finance is only one of several critical issues, certainly not a key one, for

counteracting duality in rural areas and linking small-scale, remote producers into various types of markets.

Diagram 2.1 gives a generic example of a value chain. In the center column is the chain itself, with several types of stakeholders. To the left are what can be described as “support markets,” including everything from technical assistance to financial services. To the right is a listing of different qualities or features of the working environment that reflect improvements inside the companies, as well as relationships among companies.



SOURCE: Geoffrey Chalmers, Seminar presentation.

International cooperation can play a significant role in several of these areas, through various kinds of interventions. One of the analytical models that donors or governments use when they design interventions is to examine the three qualities listed in the bracket at the right side of Diagram 2.1:

- i. *Relationships and power.* Value chains are not a static concept, but evolve continuously. Similarly, the complex series of relationships among participants also changes over time, and this includes relationships of power.
- ii. *Learning.* This basically entails technical assistance. It is not enough to consider financing only. The structure of the value chain, technical assistance and other concerns also need to be considered. In other words, the operation of the chain needs to be analyzed comprehensively.

- iii. *Benefits.* Interventions should be designed so as to promote growth and improve immediate benefits for participants in the chains. If these benefits are significant, they provide sufficient incentive for the chain to progress.

So we have a value chain. On the left is a series of service providers, and on the right, conditions of the general environment and conditions inside each company. Finally, superimposed on the bracket are three overall issues to consider when designing interventions. In the middle section are the links in the chain, or stakeholders that require some type of financial service but also play a dual role. They lend financial services by offering various kinds of financing to other participants in the value chain. It is useful to consider all the links in the value chain that provide financing, and simultaneously examine all the external suppliers of financial services (banks, micro-finance organizations, savings and loans). Such a perspective sheds light on gaps or holes in the financing system. Gaps represent legitimate demands for financial services that are not being met currently by entities of the financial system or other links in the chain. These are the opportunities to improve financial deepening.

Financing from inside the chain is a practice that has been in existence for decades, or even centuries. This is the financing that processors or traders lend to farmers to ensure their own supply of inputs. It occurs when there are no other financing options, due to the absence of banks or micro-finance organizations offering appropriate products to meet farmer needs. This lack of services actually reflects how difficult it is for financial transactions to develop in these rural environments. Given the lack of external financing for the chain, participating links find creative and interesting forms of finance from within.

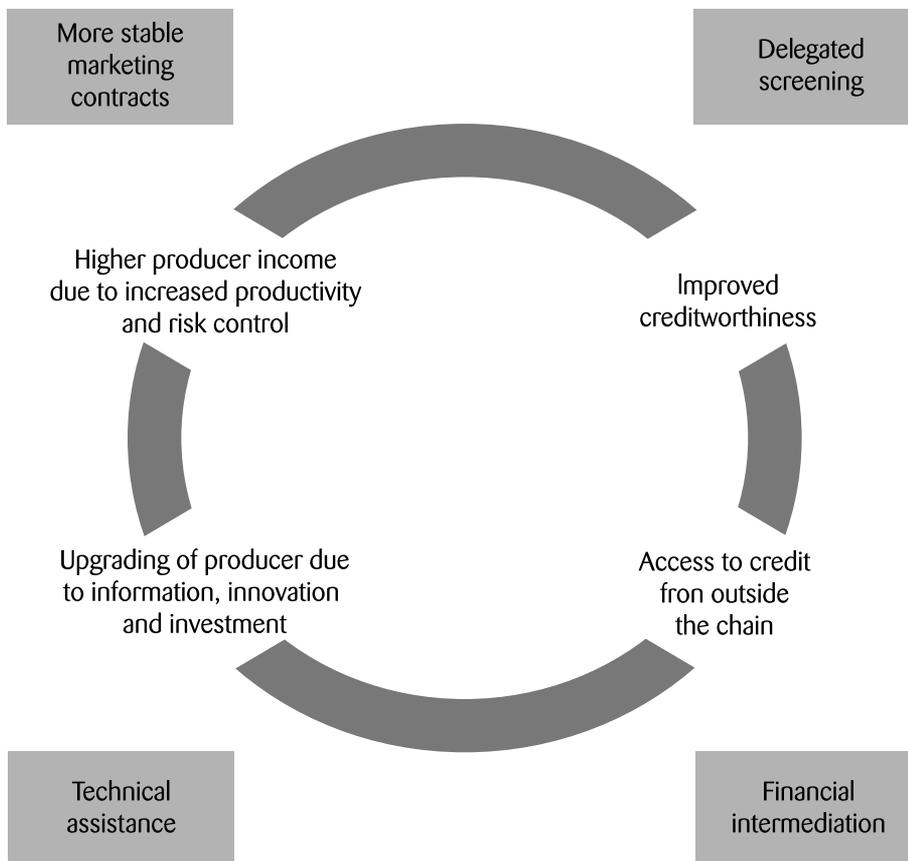
B. The virtuous circle of financing

Geoffrey Chalmers

If the idea is to grow, if we want to take a leap forward by introducing new technologies, if we want to incorporate producers who have remained outside the organized chain, financing from inside the chain is not likely to meet these investment needs. A recent case study of farmers who supply a supermarket chain showed that access to funds from financial intermediaries external to the chain improves their situation, leading to the formation of a **virtuous circle**.¹ Financing facilitates the growth of production activities by each farmer and expansion of the overall chain when financing begins to flow in from outside the chain in the form of credit from financial intermediaries (see Diagram 2.2).

1. See Claudio González-Vega, Geoffrey Chalmers, Rodolfo Quirós and Jorge Rodríguez-Meza, "Hortifruti in Central America. A Case Study about the Influence of Supermarkets on the Development and Evolution of Creditworthiness among Small and Medium Agricultural Producers," The Ohio State University Rural Finance Program, for the USAID Rural and Agricultural Finance Initiative.

Diagram 2.2 Virtuous circle of access to external finance for small producers



SOURCE: Geoffrey Chalmers, Seminar presentation.

As González-Vega explains in Chapter III, the idea behind Diagram 2.2 on the virtuous circle of external financing is that producers can build their creditworthiness with financial intermediaries. This happens when their ensemble of market relations develops and grows stronger through participation in a modern, organized chain. Financing is an important component of this involvement in a chain. When farmers receive technical assistance from buyers or when their buyers in some way guarantee purchase of the product, they improve their standing for receiving loans from financial intermediaries. This means they can obtain or improve financing from outside the value chain. The very existence of these contractual relationships, whether explicit or implicit (as Ken Shwedel explains in Chapter I, no written contract is required) improves producer creditworthiness. They allow the financial intermediary indirectly to delegate part of the task of screening producers for credit risk to some other participant in the chain, thus bringing down costs and lessening risk.

Spurred by their contractual relationships with other participants in the chain, farmers are more likely to invest, improve their technology or seek out new buyers, and this in turn allows them to make a leap forward in productivity by adopting upgrades. If they have a standing source of technical assistance, they become more attractive to buyers, in turn improving their income and

creditworthiness and ultimately increasing their access to financing. Farmers can enter the circle at any point and begin the circular movement of virtuous improvement, seizing the benefits of all these relationships.

The key question is, “What producers or participants should be selected to initiate the process of joining a virtuous circle and improving productivity? ” Should it be those who are already involved in this virtuous circle? Or would it be better to bring in others who have remained outside the circle and come from the most backward agricultural sectors? What interventions would be most appropriate for each case? In which cases is the absence of financial intermediaries a barrier to entering the circle? If those on the outside are brought in at some point on the virtuous circle, will the rest of the circle accept them?

It is instructive to compare theory with reality when we consider external and internal financing gaps in the chains. It seems that some of the intermediaries, including banks, have little interest in interacting actively with the agricultural sector. They restrict their transactions to large corporate clients, whether in agriculture or agribusiness, or to taking deposits in rural areas. They do not see the great business potential that small- and medium-scale producers have to offer. Table 2.1 describes this situation and the preferences and comparative advantages of each type of intermediary. Micro-finance organizations and credit unions are generally more willing to serve micro- and small-scale producers. However, the products they offer are often ill-suited to the demands and needs of the agricultural sector.

Table 2.1
Financial institutions and potential financial flows

TYPE OF FINANCIAL INSTITUTION	TYPICAL CLIENTS	TYPICAL PRODUCTS	POTENTIAL MARKET NICHE
Commercial banks	Large businesses	Short- and medium-term loans; deposit services	Short- and medium-term loans for medium-scale and large processors, exporters, producer groups and micro-finance institutions; term deposits
Non-bank financial institutions	Micro - and small enterprises	Short- and medium-term loans	Loans to small-scale farmers and groups; remittances; insurance
Community-level micro-finance institutions	Micro-enterprises, poor households	Short-term loans	Loans to micro-producers and micro- and medium-scale enterprises; savings
Credit unions and farm cooperatives	Rural households; micro- and small-scale producers	Short- to medium-term loans; savings	Loans to micro- and small-scale producers; savings

SOURCE: Geoffrey Chalmers, Seminar presentation.

There are cases of financial entities that operate in rural areas, but they tend to be the exception. Most financial intermediaries are fearful of lending to agriculture because they feel it is too risky. In actual fact, agriculture is not as risky as many organizations perceive it to be, but these institutions lack

appropriate credit technologies for evaluating such risks accurately. A handful of microfinance institutions do operate in rural areas with agricultural portfolios and a full range of products adapted to the kinds of activities they finance. Again, however, these are the exception rather than the rule.

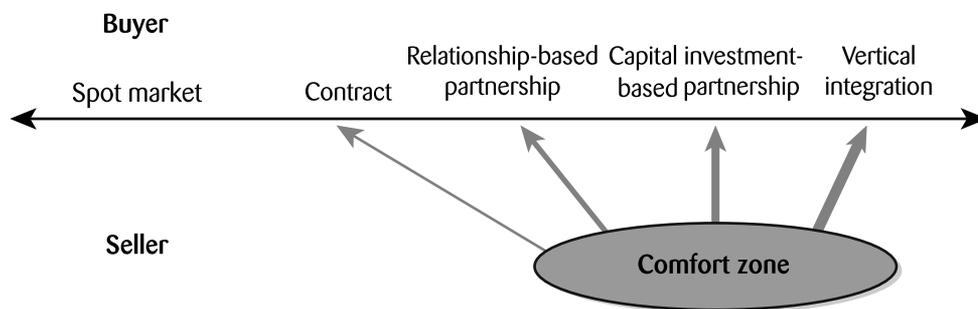
C. The financial intermediary's comfort zone

Mark D. Wenner

Financial intermediaries have varying degrees of fear of financing the agricultural sector; these can be understood as a function of how the value chain is coordinated. Diagram 2.3 describes different value chain structures, defined in terms of the relationship between two stakeholders: buyer and seller. The buyers are agricultural processors, exporters or distributors, or in some cases, supermarkets. Producers are the people or links that sell their products to these individuals or organizations.

The relationship between these two stakeholders, buyer and seller, can be described through five types of linkages: (i) the instant or spot market, where producers come to sell their commodities, and prices fluctuate; this is the most risky market; (ii) a contract that produces an arrangement known as contract farming; (iii) partnership based on a long-term relationship characterized by trust; (iv) partnership based on a capital investment by one of the buyers, characterized by high levels of producer credibility; and (v) a company that has achieved full vertical integration, such as the large industries found in certain countries.

Diagram 2.3 Different ways to coordinate and structure the value chain



SOURCE: Mark D. Wenner, Seminar presentation.

As was already explained, financial intermediaries have a number of limitations. They have not developed products appropriate for agriculture, they have not set up rural branches, they do not have the right technology for serving this sector, and most of all, they labor under the perception that the sector is too risky, not very profitable and very difficult to understand. So the comfort zone or margin of trust of these financial intermediaries will depend on the type of linkage they see between buyers and sellers. They will develop high levels of trust only with companies that are vertically integrated

(represented in the diagram with a thick, solid arrow), and the degree of comfort shrinks as the relationship shifts to the left. At the far left is the type of linkage that financial organizations least prefer: the spot market.

So access to credit can be explained with the following equation:

$$\text{Access to credit} = F [P, f(Z), C, E]$$

where P is a vector representing the personal characteristics of the producer (farm size, education, location, distance to market, degree of technology adoption), $f(Z)$ is the relative maturity and efficiency of the chain, C describes the degree of competition, efficiency and structure of the financial market (whether there are many financial institutions present, whether there is much competition, whether technologies are appropriate for reaching this sector), and E reflects macroeconomic conditions. Financial intermediaries always prefer to minimize transaction costs and risks, and this should be taken into account when targeting interventions, based on all the characteristics in question.

An excellent means of allaying the reluctance of financial intermediaries to go into rural areas is to form **strategic alliances**. The advantage of these partnerships is that they serve an instrument for taking the financial organization directly into rural areas, where it can familiarize itself with the needs of stakeholders in agricultural value chains.

Two different kinds of alliances may develop. The first are activated from within. These are initiatives promoted by a rural financing institution that builds an alliance and provides financial services to farmers. The objective of the alliance is to develop appropriate financial products that will offset the specific limitations of the value chain. For example, the financial entity may focus on developing financial services for stakeholders in the chain, such as processors, buyers and input suppliers; these same stakeholders may then use the services as a means to extend their own loans to small-scale farmers.

The second category is strategic alliances activated from outside. They are promoted by “market developers” operating from outside the alliances they themselves helped create. The objective is to introduce stakeholders into rural financial markets and help them develop new financial products or new models for offering these services. One of the concerns about this type of alliance is that the market developers are not sustainable players. They tend to be programs financed by the government or by international donor agencies. Ideally, after a project of this kind has been in operation for a few years, it will have built enough of a demonstration effect to trigger the appearance of self-sustaining private activities.

D. Importance of the environment

Pauline Tiffen

One of the main considerations for agricultural financing is the overall environment. Some international organizations, such as the World Bank, consider the policy environment above all other factors. The governments of the region have an important role to play: helping to overcome the challenges that face agriculture. Many things need to be done to create a favorable environment for this type of production, often unrelated to financing per se.

A favorable environment does not mean dollars or loans or lines of credit; instead it refers to the environment in which financial entities and agricultural enterprises operate, and to the presence of some form of leadership. For example, governments need to find ways of raising product standards by focusing on the country's very culture in terms of competitiveness, innovation, risk-taking and adaptation in the face of a global market where demand is ever-changing.

With respect to credit, the government holds the very serious responsibility of refusing to give any signals suggesting that **non-payment** of debts is acceptable. Over the past ten years of crisis in the agricultural sector, we have seen countries faced with the temptation (normally a political temptation) to forgive debts, and this creates a culture of non-payment of loans.

In today's global trade environment, it is also extremely important for governments to honor and help their producers honor all the requirements of the recent Free Trade Agreement between Central America, the Dominican Republic and the United States (CAFTA-DR). The same applies to the upcoming negotiations between Central America and the European Union. In addition, as part of the region's competitive strategy, governments can seek out opportunities for their countries to take a new export position.

Governments need to ensure that conditions are in place so exporters and producers can protect their intellectual property rights, their capital and other non-tangible assets. Ultimately, this will be the source of values that far exceed short-term income and that derive from the entire string of investments in value chains. Certain assets far outweigh the product itself: reputation, reliability. It is also important for the government to ensure consistency and functional systems, to avoid redundant procedures and overlapping red-tape, to be clear in communications and to offer various kinds of certification services.

What system should the countries adopt? Governments can play a useful role by extending incentives for experimentation and investment and by disseminating successful practices or experiences. With respect to financing agriculture, the availability of bank credit for rural production has gone into slow but steady decline, and most banks no longer accept rural pledges or other chattel as collateral.

There is also the problem of the culture of nonpayment, combined with a lack of incentives for private banks to begin financing agriculture. In some cases, the demonstration effect can be very useful, but we have seen that even with reasonably good prices for coffee, most banks in the Central American

region have not resumed lending to the agricultural sector. This is due in part to bad experiences in the past, as many banks got into trouble by lending to agriculture. However, there have been some interesting innovations that may help allay these negative expectations. In any case, crisis situations are always valuable for identifying opportunities.

Another possibility is microfinance. Although this has been an interesting phenomenon, it is basically limited to urban areas. Credit unions could provide an answer, but all too often they operate outside the financial system or are not subject to rigorous supervision. In short, there has been much delay in developing organizations that are actively involved in rural areas, while others have withdrawn from agriculture altogether.

E. Risk management

Pauline Tiffen

We see very little knowledge or awareness of risk management techniques and price volatility control, such as parametric insurance and options, that could be used to offset some of the risk in agricultural value chains.

Experience has shown that there are many ways to reduce risk: information, market knowledge, chain knowledge, or acquiring links throughout the chain. Even though available strategies are many, they tend to be overlooked by local businesses, mostly remaining the province of transnational enterprises.

In some cases, national and sectoral levels have no responses even for catastrophic risks. What can a government do? It can develop explicit policies for intervening in the case of a catastrophic climate event and for supporting any sectors that suffer the consequences. In such cases, it must define very clearly when to intervene and when not to.

We have also seen banks that have high liquidity and a wide variety of financial products, but are often out of reach of producers and medium-sized enterprises. In the case of credit, the World Bank has found a direct connection between volatility and failures in the sector. Specifically, if volatile conditions make it impossible to meet basic goals, loans cannot be repaid. The solution is not so complicated: profits, projections, business plans. These same factors are considered in evaluating a project, and they ensure good management of any production enterprise.

The problem is that many local small- and medium-scale enterprises lack access to the financial products and instruments needed to offset the risks of price volatility. This is a problem not only for company management, but also for competitiveness, because it creates an imbalance between two types of companies –those that have access to these instruments and those that do not.

Moreover, the delivery of financial products and instruments for price risk management encounters the very same problems and challenges as physical marketing of the final product. Small-scale

producers need to join forces and organize if they are to achieve a useful scale of production. The finance system needs to find the right models, many examples of which have been shared in this seminar. It is also important to think about systems for aggregating the demand for financing.

F. Financing agricultural marketing

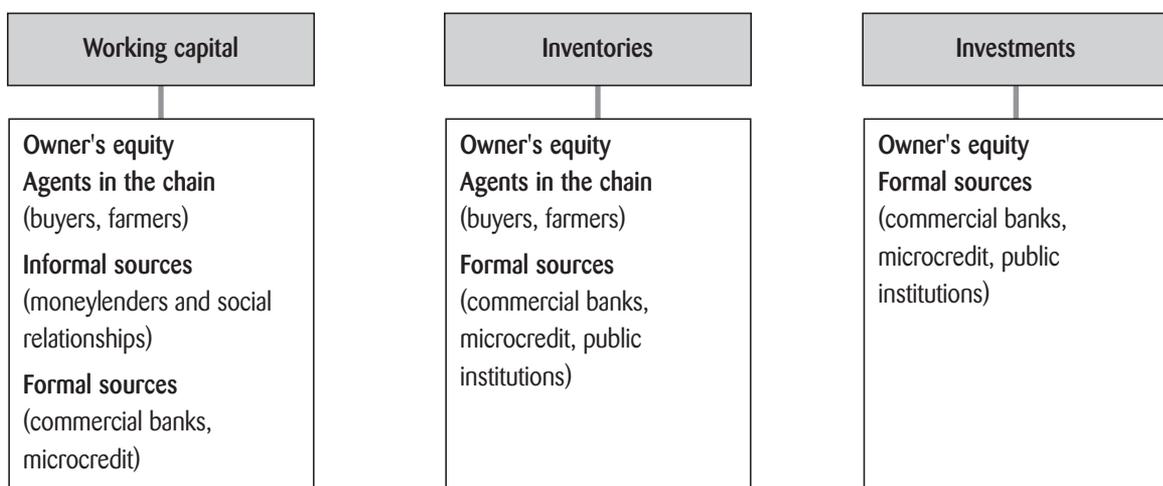
Eva Gálvez

A recent FAO project focused on value-chain-affiliated traders of agricultural commodities in domestic markets and examined how they are financed. The study covered Argentina, Brazil, Costa Rica, Ecuador and Perú as part of a global initiative that also took place in seven countries in Asia and three in Africa.

The study adopted a broad concept of financing that looked beyond bank credit and micro-credit. It also considered financing by other participants in the chain, including buyers, larger farmers, input suppliers and informal sources such as moneylenders, friends or family. The focus of the research was how to finance working capital in fruit and vegetable crops and rice.

To begin with, the study produced information on the most common sources of financing according to purpose –whether the loan would be used for working capital, inventory or investment (see Diagram 2.4).

Diagram 2.4 Sources of financing for agricultural processors and traders



SOURCE: Eva Gálvez, Seminar presentation.

The study then looked more deeply into financing of working capital and confirmed the thesis that traders finance their operations from a combination of sources. Major differences were found among countries, as can be seen in Table 2.2. Owner's equity is at the top of the list, making up 40 percent to 80 percent of the total. In second and third place is financing received from other agents in the agricultural value chain, ranging from 10 percent to 30 percent. This is very similar to institutional financing available to these enterprises, obviously with higher percentages in certain countries, such as Costa Rica. In Ecuador and Perú, a very important source of trader financing comes from moneylenders, in some cases as high as 20 percent.

Table 2.2
Sources of funds for working capital

SOURCE	SHARE OF TOTAL FINANCING (PERCENT)
Owner's equity	40-80
Commercial relations in the agricultural chain	10-30
Institutional financing	10-30 (important in Costa Rica)
Moneylenders	10-20 (important in Ecuador)
Family and friends	0-1

SOURCE: Eva Gálvez, Seminar presentation.

Before these findings can be used for policy actions, careful consideration must be given to the characteristics of relevant chains and the environment in selected countries. The first important point is the nature of the chain itself, especially the degree of informality. Ecuador and Perú are countries where informal agricultural chains are common, and studies have shown that 25 percent of the transactions conducted in Perú are informal. The chains in these countries are fragmented. Perú alone has hundreds of thousands of producers, nearly 1,000 mills and 60,000 rice warehouses, standing in contrast to the chains in Argentina and Brazil, which are increasingly concentrated and integrated. These characteristics are very important, because the participants in informal chains tend to be smaller and have less access to financing. Argentina and Brazil also have small-scale producers, but they are members of strong cooperative movements and generally participate in formal systems where the modern retail trade is picking up a fast-growing share of the market.

Another significant factor is the financial sector: its efficiency and relative coverage. In Costa Rica, for example, regulated financial entities have large numbers of branch offices located throughout the country. The macroeconomic environment is similarly important. Over the past decade, Latin American has witnessed a number of economic or financial crises, transforming the way each participant in the chains is financed. Crisis has also brought changes in the linkages among the different participants.

What are the conclusions of this study on the lack of institutional financing? Trade can survive even in the absence of adequate financing; traders continue to buy and sell products, but they do not grow. Drawing lessons from products developed by microfinance institutions, certain countries have begun to respond to the demands of agricultural traders. They now offer financing with flexible amounts, lines of credit, alternative forms of collateral, other financial products and above all, offices located near the traders.

G. General lessons

Mark D. Wenner

Several lessons can be drawn from the experience of international organizations. The first is that the motivation to strengthen value chains comes from the need to become more competitive and improve product quality and diversification in order to survive, and not so much to improve credit delivery. Finance is key, and could be an obstacle, but the emphasis should always be placed on the entire chain.

Second, the most severe constraints in agricultural value chains are not financial. **Non-financial** barriers are so large and critical that they can nearly crowd out even the discussion of problems with access to financial services. For example, the most significant problems observed in these agricultural value chain projects are lack of technical knowledge, lack of appropriate technology, deficient post-harvest management, lack of information, inefficient channels of distribution and, as a consequence of all this, lack of access to financing. In short, access to credit is a second-tier priority. The fact is, no one can walk into a financial institution and say, "Please finance X group of producers in such and such a chain" when the unsolved problems in the chain are so daunting.

In the third place, the partners in a chain need to make substantial improvements in non-financial areas, especially to create positive economies of scale through collective action. Chain operations produce many externalities, but before this can happen, the chains need to be created and then worked collectively for several years. An IDB grape production project in Colombia is perhaps the most successful example in this area of chains. It took two years to convince the producers and the 11 support institutions that they should work together, that no one person or organization would be the big boss or great leader, that they all had a role to play and needed to focus on solving practical problems. One of the great lessons learned from this experience was that building a chain takes time. The process by which the chain is organized and gains maturity unfolds over three phases: (i) learning and technology adaptation, (ii) expansion and consolidation and (iii) globalization as foreign stakeholders enter the picture to purchase part of the chain.

Fourth, a revolving fund is easy to create but difficult to sustain. Much depends on whether it has had a positive impact and especially on two factors: efficient management capabilities, and a favorable environment in which the group can begin to obtain financing from formal sources. Agricultural and rural cooperatives or small-scale enterprises all too often experience very high levels of turnover in

leadership. Much money can be spent to train leaders and technical personnel who turn around and leave two or three years later, and everything has to start over. Or personal conflicts may arise at the top of the organization, affecting the work of the entire cooperative. In short, it is not a very robust model. It functions, but mostly because of the presence of good people and favorable conditions.

A second arrangement, the non-chain differential model, can work in an atmosphere of respect for contracts. It requires an internal stakeholder who is strong enough to protect the interests of small-scale producers in the chain. In addition, and rather obviously, it requires favorable price and demand conditions.

A third model brings in a catalyst in the form of an intermediary committed to find niches and participate in the market. Examples could include groups involved in fair trade markets, such as Ecologic. These experiences are too recent for drawing any definitive conclusions.

H. Recommendations

Mark D. Wenner

Looking toward the future, it is important to continue investing in social arrangements, in coordinated approaches and in improving products and processes. This last point is essential, especially in the case of products derived from agriculture that require, not only improved technical capabilities among producers, but also crop quality. In a globalized world, as Ken Shwedel explained in his presentation (see Chapter I), it is important to produce for consumers whose quality demands are becoming ever more stringent. So the great challenge is to organize producers to supply a high-quality market in the shortest time possible.

Second, much needs to be invested in risk management. A clear example is the joint project by IDB, the World Bank and other organizations. Financial intermediaries must be given more facilities and instruments for reaching out to rural areas and beginning to finance chains.

In the third place, we need to invest in more structured loans that reflect all the different interests and are able to spread risk throughout the chain.

In the fourth place, we need to think more about new types of funds or lines of credit that can be extended over the medium and long term and that will improve the capacity to harness domestic deposits. Financing in agriculture is very different from microfinance, for example. To have an impact, to be successful, loans must be made for two, five, or seven year terms. Financing of agricultural value chains does not mean one-year loans. Successful, strong agribusinesses require longer-term credit.

3

MODERN VALUE CHAINS: TOWARDS THE CREATION AND STRENGTHENING OF CREDITWORTHINESS

Claudio González-Vega

This morning, Ken Shwedel provided us with definitions, clarifications, and conceptual frameworks needed to understand the topic of agricultural value chains (see Chapter 1).¹ Afterwards, Geoffrey Chalmers (Chapter 2), based on our joint work, explained how the participation of farmers in modern value chains can improve their access to credit and lead to the emergence of virtuous circles, even if the loans come from somewhere else rather than other actors in the value chain itself. I could illustrate this effect now, by talking about a study we just finished on the influence of Hortifruti on the degree of access to credit enjoyed by its suppliers. In fact, Jorge Cavallini is here, and he will be talking later about the complex chains that are taking shape around this corporation (Chapter 4). In short, it would appear that everything I would have liked to say has already been said. So, perhaps, it would be more fun, at this point, to speculate a little about some of the topics the other speakers have already mentioned and, at the same time, share with you some different perspectives.

Much has been said about what exists. I would like to talk about what does not exist. It is something we already started to talk about this morning. This approach is always exciting, because 15 or 20 years ago, among the many things that were being claimed were that it was foolish to give credit to poor people and impossible to recover it and that savings could never be mobilized in rural areas. Back then, I was already talking about things that did not exist, and it is a good thing I did –because others took it up, and now it has happened. Today we admire successful microfinance programs and are amazed at how they have managed to overcome what appeared to be insurmountable barriers. So, maybe the things we are talking about today will turn out to be a foretaste of exciting opportunities that will expand in the future. It is worth going after them.

The research I want to talk about is based on a case study of Hortifruti in Central America. The paper starts by asking how supermarket chains have influenced the creation and development of creditworthiness among small- and medium-scale farmers.² I will not talk about Hortifruti per se, as I

1. This chapter is a literal transcription that preserves the oral style of the presentation.

2. Claudio González-Vega, Geoffrey Chalmers, Rodolfo Quirós and Jorge Rodríguez Meza (2006), “Hortifruti in Central America: Case Study of the Influence of Supermarkets on the Creation and Evolution of Creditworthiness among Small and Medium Agricultural Producers,” Washington, D.C.: USAID.

already explained, but instead I will tell you what I have learned by observing the situation of Hortifruti's suppliers, many of them small-scale producers, through the lens of academic research.

A. Motivations

I should start by recognizing that those of us who are here all have different motivations. We come from a variety of experiences and we hope to share many perspectives that are of mutual interest. These perspectives complement each other, if we consider the complex challenges of rural development. Some of us are motivated by the desire to find mechanisms that will help improve the welfare of rural households and, particularly, alleviate poverty. Some of you are interested in rural development processes in general, especially because most of the poverty in our countries happens to be concentrated in rural areas.

Others want to strengthen value chains –the agri-chains, as Jorge Cavallini calls them– because of their contribution to the country's economic development, especially in rural areas. A particular concern is to promote the growth of value chains that could potentially incorporate large numbers of small- and medium-scale producers. Presumably, the incorporation of small-scale producers into modern, dynamic value chains is a source of wealth creation. The challenge is to overcome barriers to entry and guarantee that these producers will reap the promised benefits of participating in the chain.

Some of us are particularly interested in processes of **financial deepening**. By financial deepening we mean growth in the volume of intermediation between depositors and borrowers at a faster pace than the growth of “real” productive activity. Processes of financial deepening are not complete until a full spectrum of financial services has been taken to rural areas. This is the challenge of rural outreach. Of course, financial deepening, value chains, households –all these are elements of rural development processes, a rural dimension that has been wholly neglected and ignored in the economic development of our countries.

I cannot talk today about all the issues that matter, so I would like to focus essentially on only two factors and, above all, on the ways they influence one another: on the one hand, the value chain, and on the other, financial intermediaries. I would like to continue speaking, as we already have, about how these actors interact and are interdependent; and I would also like to point out that this interdependence and the synergies that arise from these reciprocal influences produce many externalities. It is the generation of these **externalities** that makes the subject so interesting from the perspective of public policy. This is where something happens that goes beyond the outcomes for the actors directly involved in these processes.

B. Rural lag

I have already mentioned the starting point for this discussion: my concern with the rural lag in processes of financial deepening. This lag is revealed by the low proportion of the rural populations with access to these services (by a limited *breadth of outreach*). The lag is also revealed by the narrow range of services offered (by a limited *variety of outreach*) and by the low quality of the available services, because what traditional financial intermediaries are offering is ill suited to the demands and circumstances of producers and other rural clients. The lag is also evident in the high, often prohibitive, costs of the services for all participants in these markets, after considering both the transaction costs and the prices that emerge in them. The lag is particularly visible in the limited sustainability of the organizations themselves. They tend to be fragile and cannot create an image of permanence. As a result, their contracts have little credibility.

This **rural lag** exists partly because of faulty public policies and, even more so, because taking financial services out to the rural areas is very difficult, for reasons found on both the demand side and the supply side of the market. On the demand side, problems arise (i) because of the limited ability to repay of producers, if their crops are not profitable enough or are excessively risky, (ii) because of the high transaction costs that everyone needs to bear and that are common in our fragmented countries, and (iii) because it is so difficult for potential borrowers to persuade lenders that they are in fact creditworthy. The latter difficulty is reflected in the high cost of sending a signal that says, "I am creditworthy." In addition, where a sound culture of repayment is missing, there is the additional problem of unwillingness to repay. As a result, no legitimate demand for credit can be said to exist.

The supply side presents the well-known problems of: (i) information, (ii) creating incentives to repay loans, and (iii) enforcing credit contracts. All this is compounded by the covariance of the proceeds from agricultural undertakings, a critical element, because these covariant results lie outside the control of the lending financial intermediary or the borrower. Indeed, with innovations and the development of their lending technologies, lenders can meet the challenges of information, incentives and contracts, in order to address *idiosyncratic* risks. However, the covariance that lies at the heart of *systemic* risk is a function of whatever nature decides, and responding to catastrophic events is very difficult.

I should clarify one point before I go on. The problems of development I mentioned at the beginning and the challenges of taking financial deepening into the rural areas that I am emphasizing now are complex issues, with many dimensions. They encounter a full array of barriers and difficulties, both interconnected and interdependent. It is important to recognize this. As was said this morning, we are navigating on a sea of diversity where it makes no sense to look for simple recipes.

Given the initial conditions of Central America, determined by geography, a multi-dimensional complex of agricultural and environmental circumstances, and history, it is essential to find an approach suited to each country's experience with certain types of agriculture and to the

consequences of social and cultural structures that cause each case to be unlike any other. Much of what I say consists of basic principles that can be generalized and transferred from one setting to another. Even so, at the end of the day, it is only in each unique location that real lessons can be learned. That is, **learning** is always a local undertaking, and each local setting is unique. Certain general principles can be observed, but they need to be adapted to each specific circumstance.

C. Value chains and financial intermediation

So there is no one answer. There is no one answer for expanding the outreach of rural financial markets and incorporating the poorest and most neglected producers, those who have been on the margins for so long, into the frontier of financial services. There is no one answer, so perhaps there are several possibilities, and in some of them, agricultural value chains would play a meaningful role. The question I would like to answer is: What is the role of value chains in these processes of rural financial deepening? I will introduce this topic by asking three questions, which at the same time are the three faces of a three-sided coin (see Table 3.1).

Table 3.1
Role of agricultural value chains in processes of rural financial deepening.
Three questions

QUESTION		NATURE OF THE QUESTION
How much does the lag in rural financial deepening restrict participation in modern agricultural value chains?		Barriers to entry
How much does participation in modern agricultural value chains improve access to financial services?		Creating and expanding access
How much does strengthening modern agricultural value chains improve the coverage of financial brokers?		Facilitating intermediation

SOURCE: Claudio González-Vega, Seminar presentation.

The first question is: How much do this lag in rural financial deepening and the failure to develop new markets for financial intermediation condemn small- and medium-scale farmers to remain in isolation? Does the lack of access to financial services bar them from participating in modern agricultural value chains? This question asks whether the undeveloped condition of financial intermediation stands as a barrier to entry into modern value chains. Ultimately, it is a matter of democratizing chains. Who can enter, and who cannot? What does finance have to do with the ability to enter the chain?

The second question is: By participating in a modern chain, how does a particular producer gain improved access to financial services? Is participation in the chain a springboard for expanding access to financial services? This question is about individual producers becoming creditworthy and gaining expanded access to financial services.

The third question is the one I find most interesting, in complementing what Shwedel and Chalmers have already said. We are talking about strengthening the chains, modernizing the chains, and linking them to domestic and international markets. Will this process of modernization through chains eventually facilitate **completion** of the task of deepening rural financial intermediation? How can the chains hasten financial deepening, even beyond providing some of the participants with access to credit? This is more than the simple challenge of financing a particular producer, whether this farmer or that. The real question is: How does the presence and strengthening of chains change the financial system, how does it make the system better? What is the impact on financial intermediation, in a broad sense?

In what context does all this take place? These questions mostly target agriculture in the tropics. One of the most difficult challenges we face in our classrooms in Columbus, Ohio is to get our students to understand what agriculture is like in the tropics. In these countries that are so green, that are overgrown with every kind of plant, both crops and weeds, where everything is so luxuriant and exuberant, agriculture is a terribly difficult enterprise. The same conditions of heat and humidity engender every possible problem of fungus and pest infestation, insect attack and soil erosion. So this is our point of departure: obtaining high yields in the tropics requires Herculean efforts, and the results are highly uncertain and risky.

In an agricultural sector that faces overwhelming challenges, it is worthwhile to consider the interconnections among actors that make it possible to identify and manage more successfully the resulting risks. When producers, chains and financial intermediaries interact with one another, they create and strengthen the types of tools needed to offset inherent risks or manage them better. This paves the way to the kinds of riskier but more productive investments that will improve rural incomes and lead the transition to modern agriculture.

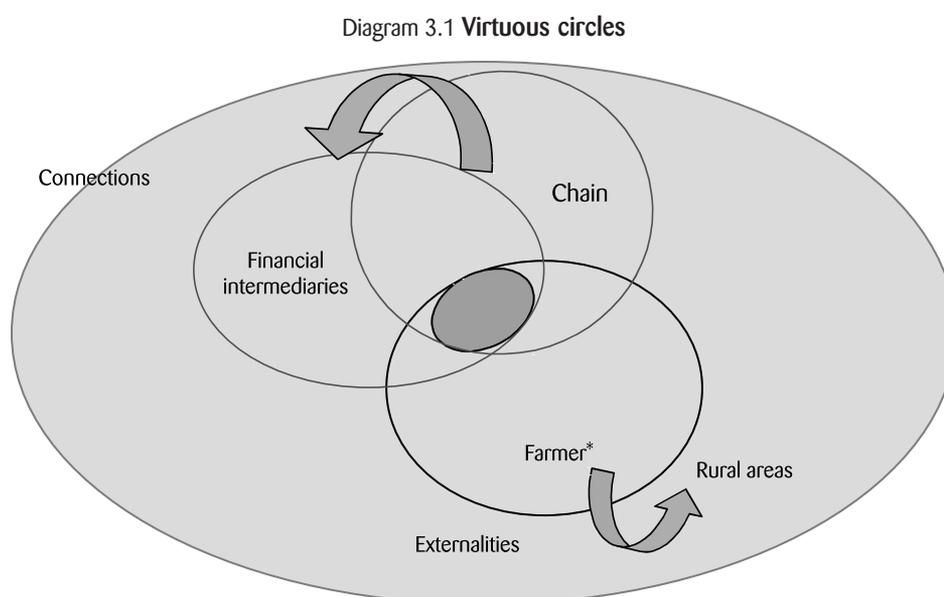
D. Externalities and virtuous circles

These interconnections themselves generate a series of virtuous circles. First, when producers join a modern chain, they enter a virtuous circle of contractual relationships that increasingly provides them with better opportunities to improve their welfare, as Chalmers explained in Chapter 2, based on our joint work. But that is not all. Second, interconnections among the participants also generate a virtuous circle for the chain itself. Ultimately, the chain becomes more competitive as its links, or incoming producers, gain strength. As the chain acquires more successful producers, better able to manage risk and increase their investments, the chains themselves begin to expand their horizons. Third, there is also a virtuous circle for financial intermediation. The creation of clients through the

presence of a chain facilitates transactions, reduces the costs of financial intermediation, and improves earnings for the intermediaries. This allows these intermediaries to generate greater economies of scale and scope and, as a result, they begin to offer better services both to members of the chain and to their neighbors. Fourth, the combination of these advantages –better opportunities for producers, more competitiveness for the chains, and greater financial deepening– improves the allocation of resources in a country and promotes economic growth in rural areas, expanding markets and creating new opportunities. All this, in a great mesh of interlocked virtuous circles, contributes to rapid, participatory and sustainable economic growth.

Diagram 3.1 illustrates the interaction among these virtuous circles. The broad outer circle consists of all rural participants, whether farmers or non-farmers. As **modernity** breaks out in rural areas, a variety of mechanisms are triggered in the chains, which gradually attract more and more small-scale and medium-scale producers. When they enter the modern chain, they gain the opportunity to become “star producers.” This means they possess some special attribute, a particular endowment of valuable production factors (initiative, experience, discipline). Their credentials improve through the contractual relationship that brings them into the chain (information, technical assistance, guaranteed market). As star producers, they take their place on the locomotive that carries them toward higher levels of productivity, income and welfare.

Other producers lack such credentials or face serious barriers to entry for joining the chain. Not all small-scale producers can climb onto the locomotive at the beginning; but even though many remain outside, those who are modernizing begin to generate very strong externalities that exert a positive influence on everyone around them. Their neighbors watch them modernizing, imitate them, and try to adopt similar changes to improve their own lives.



SOURCE: Claudio González-Vega, Seminar presentation.

Some of these changes require investments (irrigation, greenhouses) whose high cost may exceed the farmer's current income levels. This is one of several possible **barriers to entry**. Under these circumstances, farmers need to wait a long time before they can save up enough money to make the investments required for joining the chain. Indeed, if they have access to deposit accounts, they can accumulate what they need at a lower cost and be ready to take the leap sooner. If they have access to investment credit, they can overcome this barrier to entry much more quickly. Other circumstances (lack of knowledge or of entrepreneurial skills, for example) also become barriers to entry, and these barriers cannot be removed with a loan. So credit is not a cure-all.

Financial intermediaries usually have little outreach in the rural areas. Here too, the chain has a role to play. Just as star producers who participate in the chain generate externalities beneficial to their neighbors, in terms of increased productivity and greater market participation, the chain also creates externalities for the development of the financial system. Stronger chains attract better financial intermediation; these externalities then multiply and are transmitted to the rest of the economy, promoting economic development in other sectors. When this happens, inner circles begin to expand. More and more rural producers participate in the chain, and a growing proportion of producers, both participants and non-participants in the chain, gain access to financial services. The empty space between the large outer circle and the smaller inner circles, which represents nonparticipation in markets, contracts.

The lower circle in the diagram represents the virtuous circle for individual producers, identified in the study I conducted with Chalmers, Quirós and Rodríguez Meza, as Chalmers described this morning (Chapter 2). This virtuous circle is barely one cog in the machinery of virtuous circles. At the hub is the place where producers, chains and financial intermediaries can connect through contracts, alliances and partnerships. When this intersection occurs, the number of star producers in the rural population grows, competitiveness increases, chains become larger, and financial intermediation deepens. Productivity, chains and intermediation combine forces to promote economic growth.

E. Modern chains

Clearly, not just any chain can accomplish so much. These are chains with peculiar characteristics, which could be described as a new kind of modern chain. Supermarket chains are an extreme example of this new style –fast-growing chains that are tremendously dynamic. Supermarket food sales in Central America have grown several times faster than the population itself, several times faster than income growth, and much more than food sales in general. This means supermarket chains are rapidly expanding their share of the market.

Dynamic growth produces two results. First, it provides many producers with the opportunity to climb onto the locomotive of modernization. In the second place, it means that, in terms of the financial market, this has clearly become a **deficit sector**. A chain that develops around the supermarkets is a sector that needs to draw funds from other sectors of the economy into the entire chain. It needs to

attract large quantities of resources from other parts of the economy, because it is one of the most dynamic sectors.

Supermarkets possess three unique features. First, they use modern product handling processes and expect their suppliers to meet high (private) quality standards.

Second, they handle an extremely wide array of products. This means producers not only can modernize, but they can also diversify. They cease to be a simple rice grower selling to the local mill, or a sugar-cane farmer selling to the sugar plant. Instead, as supermarket suppliers, they can dabble in a full range of product possibilities. I as a farmer have many more options for deciding how much I want to diversify for reasons of risk, or how much I want to specialize to maximize the return on my comparative advantages. I can decide how much flexibility I want to leverage so that, without losing my contract with the supermarket, I can change my product mix, because consumer demand is no longer what it was, or because people now want pears instead of apples.

Third, being a supplier to the supermarket chain creates stability and offsets the impact of seasonal sales, which restrict liquidity and make it so difficult to smooth consumption in farm households. It means sustained sales over the course of the entire year, week after week, 52 weeks a year, seven days a week, 24 hours a day.

So the question is: What is happening with these modern chains, such as supermarket chains and nontraditional export chains? What keeps small-scale producers from entering these chains? It is easy to see that supermarket chains are part of globalization. They are part of “supermarketization,” as retail markets are transformed in response to increasingly stringent consumer demands for cost, quality, diversity, convenience and an enjoyable shopping experience. Many of these were already discussed this morning by Ken Shwedel (Chapter 1) and are part of the response to increased competition. Do not be fooled into thinking that, just because there are few chains and these market segments are highly concentrated, the **rivalry** between these competitors is insignificant. Quite the contrary, competition is fierce, and no business can stand up to it without all the elements of quality control that Jorge Cavallini will certainly tell you about, including size, color and appearance (packaging), safety and wholesomeness (traceability), and consistent supply (Chapter 4).

To respond to consumer demands, the supermarket, in fierce rivalry with its competitors, needs to create product consolidation mechanisms that can guarantee certain conditions. These mechanisms are usually institutional buyers, a consolidation center that enters into **contracts**, both explicit and implicit, with small-scale and medium-sized farmers who are its suppliers. It centralizes the collection of bulk products, as we will see in the case of Hortifruti in Central America, and it creates export platforms that are very promising. More and more every day, these institutional buyers develop private quality standards that producers are expected to meet.

F. The traditional approach and a new vision

How can we interpret such a situation? This is where I begin to depart from the views of my colleagues, at least some of them. Let me exaggerate a bit to help you understand the difference, because I want to distinguish between traditional agriculture and its determinants and, by contrast, the promise of modern agriculture. In the former case, we have a corn producer who uses traditional farming methods and takes the resulting corn crop to a wholesale market or warehouse, or who works with an informal broker of spot transactions. There is a classic response to the challenges of financing for such producers. If the farmers belong to a traditional chain, credit transactions are facilitated by linking the credit contract to other dimensions of the chain relationship (*interlinked contract*), such as product buying, input supply or lender-provided technical assistance for farmers.

So, the **traditional view** of the role of the value chain in farmer financing is the notion of facilitation: a contract links one participant in the chain to another participant in the same chain. It all takes place inside the chain.

I propose a **new vision**. It is not a new paradigm or model; it is simply a way to understand what is happening in some parts of the world at this time. The new vision arises from the realization that, in modern agriculture, it is not the interlinked contract that serves as the most promising source of credit. Instead, the very existence of a contract between chain and producer –a contract that makes no provisions for credit– in itself improves the farmer’s creditworthiness in the eyes of actual financial intermediaries. This is what creates the virtuous circles and externalities that we have been talking about.

Table 3.2
Two moments, two responses

PROBLEM	TRADITIONAL RESPONSE	NEW RESPONSE
Contract	The contract creates interconnections (interlinking) that facilitate the granting of credit.	The existence of a contract improves creditworthiness.
Cash flow	The flows of funds take place inside the agri-chain.	The flows of funds come from outside the chain, by means of financial intermediation.
Net cash flow	Net flows of funds for the chain are zero-sum (but the game is positive-sum).	Net flows of funds for the chain are positive-sum (and the game is positive-sum for society).
Impact of interlinking	The interlinking of the farmer to the chain creates a direct impact on access to credit.	The interlinking of the farmer to the chain creates an indirect and potentially powerful impact on access to credit.

SOURCE: Claudio González-Vega, Seminar presentation.

Under the traditional view, funds flow inside the chain, from supplier to producer or from buyer to producer, in the form of advances and such. The new vision calls for **external** flows, or outside funds entering the chain mostly by means of institutionalized financial intermediation mechanisms. Because this arrangement strengthens financial intermediaries, they are able to begin offering a broader spectrum of financial services in the rural areas.

Under traditional mechanisms, net flows of funds are zero-sum for the chain as a whole, because the funds that buyers advance to producers leave the hands of the buyers, who lose liquidity at that point. If buyers obtain funds from outside the chain, they need to pledge collateral (their inventory is usually unacceptable as collateral) and quickly exhaust their borrowing capacity. As a result, they lose potential liquidity. Of course, the interaction between buyer and producer is still a positive-sum game in terms of welfare, because both gain from the transaction; nevertheless, they are sharing liquidity. At some point, the buyer transfers liquidity to the producer, for a time, and later the producer is expected to return it. The chain as a whole has not gained liquidity. Simply put, available liquidity is redistributed among the links of the chain.

Under the new vision I am introducing, net flows of funds are **positive-sum**. This means that available working (collateralizable) assets remain inside the chain, while additional funds flow in from the outside, thanks to the existence of contracts. This increases the total supply of available flows for the chain. Contracts, in and of themselves, become an intangible security, which replaces traditional forms of collateral. They become a facilitator of transactions, increasing the total supply of credit for the chain. Of course, the game between producer and consolidator and the game between producer and financier are positive-sum games, from the perspective of welfare. Each one of the players –and society as a whole– enjoy greater welfare because resource allocation improves when resources are transferred from traditional agriculture to modern agriculture. The transfer generates countless externalities that favor many other sectors as well. In short, thanks to the use of this intangible asset (the contract) in improving financial deepening, national output increases. It is a positive-sum game for society.

Under the traditional model, farmers who link into a chain gain direct access to credit from another link in the chain. Under this new vision, the farmers who link into a chain gain indirect access to credit through a financial intermediary. The potential impact is equally powerful, whether access to credit is direct or indirect.

Under the traditional model, much of the direct impact derives from information advantages: buyers know the market, they know the sector, and they know that farmers will not want to disappoint them because there are only a few buyers available. Another dimension of the direct impact derives from incentive advantages: both producer and buyer protect their long-term relationship because it is better than the alternative of working with unknown buyers. Another source of direct impact is associated with contract enforcement. Indeed, in many situations, buyers can retain loan payments before paying farmers for their products. Another advantage is that it produces **economies of scope**

for both parties, as it provides a basis for providing other products and services, such as technical assistance (since both are interested in improving the likelihood of success for the crop). These direct impacts are usually associated, nevertheless, with a specific product or crop.

G. Creditworthiness

All this stands in contrast to the new vision, where the impact is **indirect**. Here, it is the dimensions of the contract itself that determine the producer's creditworthiness. That is, the terms and conditions of the contract in some sense create creditworthiness, where it did not previously exist, or increase and improve latent creditworthiness that may have existed already.

What exactly is creditworthiness? Naturally, there is a **core** creditworthiness, based on the objective evaluation of the ability or willingness to repay of the applicant, as a result of the actual conditions of the particular producer. Although it is based on concrete circumstances, it is not readily visible and the lender can observe it only imperfectly. If information were not so costly, anyone could see it; but even though it is objective and true and thus it generates a legitimate demand for credit, it is only dimly visible. It is opaque, as if hidden. This core creditworthiness, this fundamental ability and willingness to repay is there, behind a veil that needs to be removed.

Core creditworthiness depends, first, on **ability to repay**. This ability is determined by the opportunities, diligence and behavior of each producer, all of which have an impact on profitability and the idiosyncratic risk of the producer's actions. It also depends on the vagaries of nature, on whether it rained or did not rain, which in turn determine the farmer's exposure to systemic risk. The farmer's ability to repay depends on his or her tangible and intangible wealth, and the resulting ability to use assets for paying debts, and even on the household's access to other sources of liquidity, such as remittances.

The second factor, **willingness to repay**, depends on the basic honesty of the borrowers, on their desire to protect their reputation (or credit history) and, above all, on their incentives to nurture and preserve a long-term relationship with the lender. These incentives are traditionally rooted in a basic fear of losing the asset pledged as collateral. In the case of microfinance and the new technologies for evaluating creditworthiness, they also rest on the value of relationships between participants in the financial transaction (this value, in turn, depends on the quality of service and the prospects that the relationship will endure).

It is clear that the incentive to repay is always highly correlated with the client's desire to preserve a relationship with the financial intermediary. This new vision suggests that the **value of the relationship** with the institutional consolidator (buyer), as in the case of Hortifruti, can play the same role. Producers want to make a good impression on buyers, because they value the relationship. In turn, potential lenders recognize the existence of this incentive and feel safer about offering credit to a

producer who is linked to a chain in this fashion. As Mark Wenner says (Chapter 2), lenders find themselves with a wider comfort zone and are more willing to lend.

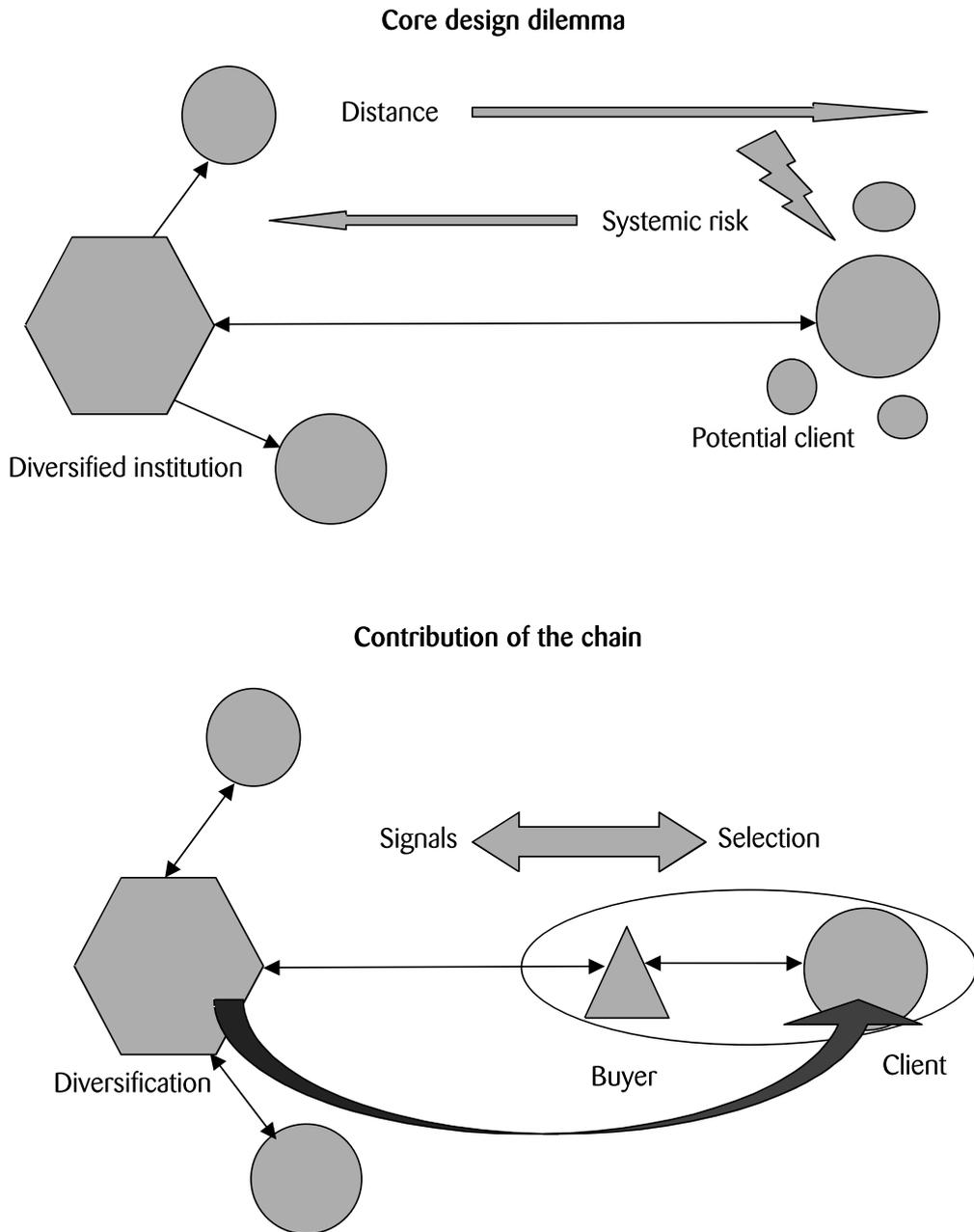
However, simply possessing a core creditworthiness is not enough, because of the veiled nature of the available information. If lenders cannot see the core creditworthiness, it does not really exist. No one is creditworthy until certified as such by someone else. Even if you know perfectly well that you are willing and able to repay, someone else has to see this in order for you to be considered a potential borrower. You have to find a willing lender.

Judging creditworthiness from the outside requires a subjective **assessment**. Even though it is subjective, such an assessment is based on the components of the lending technology and on the ability of this technology to select borrowers (*screening*), to predict who will repay and who will not repay, to know when to lend and when not to, to watch closely what the borrowers are doing with the money (*monitoring*), to figure out how much to lend and design a repayment plan and other conditions (*contract design*), to make sure the borrower is able to fulfill the conditions, and to take care of everything else that needs to be done until the money has been finally collected in case of arrears (*contract enforcement*). The ability of the lender to perceive core creditworthiness depends on the quality of the available lending technology.

This means that core creditworthiness needs to be **recognized** by the lender, a result that can be very costly to accomplish. Potential borrowers can help unveil their creditworthiness, making it more visible, by issuing certain signals. With this process of **revelation**, the creation of creditworthiness becomes a joint endeavor by borrower and lender. Starting with a basic condition, the lender learns to recognize the signs of creditworthiness, while the borrower finds ways to demonstrate them (*recognized and revealed creditworthiness*).

Both parties to the contract have **incentives** to take part in this process of creating creditworthiness if there is potential for a long-term relationship, because old clients are the best clients, easier to recognize than unknown newcomers. Both parties to the contract have incentives to invest in the sunk cost of getting to know each other and share risks. In summary, creditworthiness is created and transactions take place in the presence of a good business project with a high likelihood of success (core creditworthiness), visible to the lender (recognized creditworthiness), and that the borrower is able to demonstrate (revealed creditworthiness).

Diagram 3.2 Design of a rural finance system



SOURCE: Claudio González-Vega, Seminar presentation.

H. Information and systemic risk: proximity and diversification

This leads me to a brief digression, about the central dilemma in designing a rural finance system. It is a question that Isabel Cruz correctly asked this morning: So how do we design it? The task of designing a system for rural intermediation brings out the conflict between two different forces. On the one side are the advantages of **proximity**, of knowing, being there, seeing, and building trust. In

other words, creating creditworthiness is more affordable at shorter distances. A shorter distance is key in a reduction of the costs of lending and borrowing. As we draw closer to the client, whether geographically or as a sector of economic activity, the process of lending becomes easier and cheaper, due to the advantages of information and the strength of incentives. At the same time, however, as our client base becomes more local or more concentrated in a given sector, our credit portfolio becomes more vulnerable to **systemic risk**.

The phenomenon of systemic risk means that the income and repayment capacity of the whole group of borrowers can be jointly devastated by a local pest infestation, a flood, or declining prices for a product in which the community is highly specialized. At the local level, there is no possibility whatsoever of diversifying this risk. So, how do we design a rural finance system? If we draw closer to our borrowers, we improve our proximity but expose ourselves to greater systemic risk, as seen in the top part of Diagram 3.2. If we move farther away, our view of the potential borrower dims behind the thickening veil that blocks our diversified institution's visibility. However, distancing ourselves, we are able to diversify operations and dissipate the covariance between outcomes. This is a real challenge in designing the system, and although there are a number of possible solutions, none of them is perfect. There is no one right answer.

The solution we will consider here calls for a **third party**. This third party is the institutional buyer, such as a consolidation center for the supermarket chain. Such a third party can play either one of two different roles for improving the supply of rural credit. First, under the traditional perspective, the bank grants a loan to the institutional buyer, who then extends an advance (loan) to the producer (as Wenner describes in Chapter 2). That is, the institutional buyer becomes a *retailer* of loans for the bank, which operates as a *wholesaler*. This allows the bank to bring down its transactions costs, by limiting itself to one transaction only, and it curtail its risks, by drawing on the collateral of the institutional buyer, including both tangible and intangible assets. Presumably, the institutional buyer incurs lower costs for selecting borrowers because it has the advantages of information about the sector and the activity, and through the interlinking, it is in a position to induce incentives to repay. This is the traditional view of how various links of the chain can become involved in financing agriculture.

Nevertheless, this traditional vision has a fundamental weakness. Both buyer and producer are in the same incidence zone of systemic risk. If coffee prices should plummet, for example, everyone in the sector is in trouble at the same time –coffee growers, traditional buyers who work locally, and the cooperative that processes the crop. It is because of this close correlation that financial intermediation cannot develop well at this stage, based exclusively on the relationship between these two players. The only possible solution is diversification, which in turn means that the lender who finances the farmer needs to be an intermediary with transactions in other places where results are not covariant. The solution is a diversified portfolio.

The institutional buyer has a second role to play, under the new perspective outlined here. The bank (a diversified intermediary) lends directly to the producer. In any direct connection between lender

and borrower, the opacity of information continues to be a problem. However, the new arrangement successfully thins the veil because the bank lends to the producer *by virtue of the fact that* the institutional buyer has performed a pre-screening and has identified star producers. In gauging creditworthiness, the bank does not limit its focus exclusively on the producer, but it attaches extra importance to the signal that emerges from the farmer's participation in the chain. In its risk assessment, the bank examines relationships in the chain, as Shwedel explained in Chapter 1.

In other words, the bank closely observes the behavior of the institutional buyer (as in the case of Hortifruti) and, based on this behavior, infers information about the farmer's creditworthiness. This second design is based on a form of **delegated screening** of borrowers, in which the explicit or implicit contract linking the institutional buyer to the producer is the **signal** that tells the bank: go ahead and lend, because this is a good prospect. The bank has confirmation of the farmer's ability and willingness to repay based on the institutional buyer's need to work with efficient, responsible producers. Institutional buyers need star producers, and they will never select farmers who are unable to fulfill their contracts. These farmers do not want to fall through, they value the relationships they have built with the buyer, and they will always honor their contracts. They have every intention of repaying.

If we take the traditional view of the role of value chains in financing producers (especially the role of supermarkets), we would expect the supermarket to serve as the source of credit for its suppliers, using either its own resources or bank loans. Governments and donors adopting this approach would find ways to build the supermarket's borrowing capacity and thus strengthen this relationship.

Under the new vision, farmers hold explicit or implicit contracts with the supermarket chain, and with these contracts, they are able to acquire their own credit standing with other financial intermediaries, from outside the chain (see the lower part of Diagram 3.2). Governments and donors accepting this second approach would focus their energy on strengthening the relationship between farmers and their institutional buyers (by supporting the supply of non-financial services, for example) and, in the second place, on developing institutional financial intermediation. Stronger financial intermediation, in turn, would produce countless additional advantages beyond increasing the supply of other financial services. It could offer benefits that the supermarket chain cannot because it has neither the funds nor the comparative advantages nor the opportunities to diversify its credit portfolio.

I. Long-term relationships

This process produces networks of **compatible incentives**. Contracts between producer-suppliers and institutional buyers are a complex web of commitments, and both parties invest in them for the long term. The process entails two-way exchanges of information. The institutional buyer provides producers with the knowledge they need to adopt required methods and meet quality standards. At the same time, the institutional buyer acquires information about the farmers and can judge whether they possess the qualities to become star producers. The two parties also make reciprocal investments in physical capital. Farmers invest in irrigation or greenhouses, with the expectation of a

guaranteed market, while institutional buyers invest in storage facilities located near the producers, with the expectation of a guaranteed supply.

Producer investments are particularly risky; if things go badly, the household's access to uninterrupted consumption could be jeopardized (*consumption smoothing*). Very often, small or medium-sized producers are reluctant to make such investments. Farmers are conservative people, even more than banks, and they do not want to innovate without certain assurances. It helps to have an assured market; but if they can use the financial system to manage their precautionary reserves (deposits or remittances) or to take out emergency loans, they will be more willing to get involved in a modern chain, generating externalities and feeding virtuous circles.

Institutional buyers face the same problem as any lender: they have access only to **asymmetric information**. Which farmers may become star producers? Which ones will come through? This is why buyers need to incur searching costs, screening costs and monitoring costs. They invest in attempts to retain good producers and find ways to multiply transactions with those who qualify for their preferred list. Buyers are willing to do this work and incur these costs because they do not like to be always seeking, with imperfect information, and because if farmers fail to come through and do not work out, they need to find someone else, with equal or greater uncertainty, and on and on.

This is why institutional buyers prefer to build **stable relationships**. The exercise is difficult because, in the search process, buyers are looking for information on attributes that are not directly observable. It is not a question of farm size, or how many children the farmer has, or how educated his wife may be. It is more a matter of initiative, responsibility, skills, discipline, good attitude, experience, motivation to change, responsiveness, leadership and creativity. These qualities are not easy to see. These features cannot be plugged into a **credit scoring** formula, because they are not quantifiable. Such attributes are poorly correlated to the scale of production, so they open the door for small- and medium-scale producers who wish to take the leap.

This kind of assessment is very difficult for a lender who is far away. Institutional buyers, such as Hortifruti, cannot get out of it –they need to perform this kind of screening in order to develop a preferred list of suppliers and guarantee a steady flow of products that will meet consumer expectations. Once they do this, however, the way is open for lenders willing to trust such institutional buyers as Hortifruti. The banks can come in and say, “Hmm. Hortifruti is buying from this producer; it buys from Juan, but not from Pedro. Juan must have certain qualities, certain intangible and not easily observable attributes, which not only make him a good supplier for Hortifruti, but would also make him a good repayer.” This is what I call **delegated screening**.

Even those producers who possess all the right attributes may not be able to take risks (see the bottom part of Diagram 3.2) without financial intermediation. Access to financial intermediaries is what allows farmers to manage their precautionary and speculative reserves and to receive remittances that boost their working capital or cushion them from emergencies. In order for producers with the right qualities to make the leap, they need to invest in physical capital. If the capital they need includes significant

indivisible components, they will need investment credit. This type of credit can be obtained only from an institutional financial intermediary. Farmers are unlikely to receive it from other actors in the same chain.

The institutional buyers are supermarket chains, the Hortifruti's of this world, seeking information to build their lists. They create their own lists and they try to retain their producers. Because they are unwilling to lose people from their lists, they offer technical assistance and advice and pass along market information. All this serves as a signal for the delegated screening process, whereby the financial intermediary lets Hortifruti do the choosing, and then finances the selected star producers. In the absence of this process, other farmers or producers who have not been able to enter the chain need to find some other way to finance their own entry.

Financing entry with the farmer's own equity can pose real problems, under certain circumstances. Self-financing draws on accumulated savings (facilitated by the existence of convenient and safe deposit facilities) and intrafamily transfers (facilitated by remittance mechanisms). In cases of high risk, entry depends on having access to instruments that will cushion the effect of adverse events. In cases of high investment levels, the barrier to entry is the lack of access to long-term credit. Other financial services, including deposits, remittances and liquidity management, can be very helpful in all these tasks. One of the great strengths of the new approach over traditional methods is that it holds out the possibility of improving the supply of such services by strengthening financial intermediation.

J. The environment matters

The study of Hortifruti took us to Nicaragua and Honduras, and we traveled all through Costa Rica, from La Irma to Talamanca. We ourselves had made a selection of producers from the list of Hortifruti suppliers, and we visited their farms to verify our hunch. We started with the hypothesis that the supermarket chain was a source of credit. Was this hypothesis borne out? No, it was not. Supermarkets do not practice an institutional policy of financing farmers. Sometimes, in exceptional cases when there is no other choice, they advance a few inputs, but this is unusual.

Our sample did not produce a single farmer who had been financed by Hortifruti itself. Why not? Because the chain was growing. The mother company, Corporación de Supermercados Unidos, of which Hortifruti is only one part, needed all the money it could find to build its new stores and meet other expenses. A dynamic chain faces heavy internal needs for liquidity. The more dynamic it is, the less surplus liquidity it has available for lending money to other participants in the same chain. Besides, the supermarket corporation is caught up in a complex competitive process, and its comparative advantages lie in marketing, not in financing.

The new perspective (our alternative hypothesis) suggests that suppliers of the supermarket chain can improve their creditworthiness by entering into contractual relationships with the institutional buyer. These contractual linkages entail many dimensions that help counteract risks faced by potential

lenders. Market risk is lessened by the guaranteed volume of sales obtained through the relationship with the institutional buyer. This same relationship serves as a brake on price risk and, because guaranteed sales to the supermarket chain are continuous all year long, it also protects the farmer from losses of liquidity. Thanks to a staggered planting and sales program, based on instructions from the institutional buyer, farmers have liquidity throughout the year. With technical assistance, market information, and other non-financial services offered by the supermarket chain, farmers are able to mitigate productivity risks, environmental risks and quality problems that could lead to product rejection, while at the same time broadening their horizons, increasing investment and promoting innovation.

We found promising evidence in support of this hypothesis in Central America, and especially in Costa Rica. Although the exercise was not systematic enough for us to assert conclusively that the alternative hypothesis always holds, we did find that the relationship between the producer and the supermarket chain has contributed to make farmers more creditworthy. This morning we heard some of the bankers agree with the view that implicit contracts make such transactions possible.

I will briefly outline some of our findings. The most surprising discovery when we went out to interview Hortifruti suppliers was how very heterogeneous they were and that their most important distinguishing features were not easily visible. For example, producer size is relatively unimportant. In Costa Rica, the average plot size for Hortifruti suppliers was nine hectares. This is not a huge producer anywhere in the world, and others were even smaller. We found farmers who owned no land at all, but met their Hortifruti commitments on rented property. Even lacking land, they were able to find financial intermediaries willing to give them loans on the strength of nothing more than rented property and a contract. They did not need any land as collateral; a verbal contract with Hortifruti was enough to make them creditworthy.

Naturally, producer associations are a great help. For example, on the Talamanca indigenous reserve, we were amazed to see how farmers had changed their crops, improved their methods and the quality of production, specialized in what they did well and at the same time diversified to satisfy the bottomless Hortifruti market. The type of financial technology used in lending to associations is sufficient for managing the amounts of credit involved. The maximum loan size that these Costa Rican farmers had carried at some point in their lives averaged US \$16,000 from banks, cooperatives, or whoever else was financing them.

The study found fewer farmers with access to financing in Honduras and Nicaragua, for a combination of reasons. For one thing, consumers in those countries are not yet so demanding; for another, the farmers are less prepared to modernize. In addition, transaction costs are too high, and most of all, financial systems are very different. In Honduras, in particular, political interference in the financial system had made it very unattractive for banks to stay in the rural sector and finance agricultural credit. Debt forgiveness had created very negative demonstration effects, as Tiffen has already explained (Chapter 2). Thus, differences in the initial conditions in each country have an impact on the degree to which this second approach can be implemented.

In conclusion, there are many approaches for expanding the supply of financial services in the rural areas, and this is only one of them. It is not the universal solution for all farmers; it will work only for those who are prepared and can enter the chain. As Mark Wenner said this morning (Chapter 2), non-financial barriers can be more insurmountable than not having access to credit, but for those who are prepared, not having credit can be a serious obstacle.

Even if many of the small- and medium-scale producers remain outside this arrangement, the externalities it produces benefit everyone, including those who are just beginning to imitate modern practices because, as financial services expand, other farmers gain access to them. When financial entities go after just a few producers, they begin to take an interest in market segments that they had never served before.

However, all this requires implicit and explicit cooperation between the chain and the bank. It may be enough simply to issue reliable signals, or even enter into an explicit partnership in which both sides share risks, as Jorge Cavallini will illustrate with the alliance between *Banco de San José* and Hortifruti (Chapter 4). Thank you very much.

4

MODELS OF AGRICULTURAL VALUE CHAIN FINANCING

*Jorge Cavallini, Carlos Melosevich, Célamo Soto,
Juan Arrieta, Raúl Romero and Rubén Chávez*

This chapter covers a wide range of agricultural value chain operations in a variety of Latin American countries. It includes many different kinds of businesses (producers, processors, shippers, distributors) that serve as examples of different financing models. The presenters are representatives of the businesses themselves. They describe the background of their companies, how they fit into one or more agricultural value chains and how these chains have become a channel for delivering financial services to other participants or for facilitating access to financing.

A. Hortifruti

Jorge Cavallini

This section will begin with a brief description of the company, followed by an explanation of the Tierra Fértil program. It will close with examples of financing models, lessons learned and conclusions that the company has drawn from applying the model.

1. Background of the company

A formal partnership was created in early 2006, linking together Costa Rica's Grupo Uribe, Guatemala's Paiz group and Wal-Mart. The result was a company called Wal-Mart Centroamérica, with a total of 335 stores, US \$1.8 billion in sales, 20,000 associates and over 7,000 suppliers, 70 percent of which are micro-, small- and medium-scale businesses. Wal-Mart Centroamérica has two major divisions: the supermarket or retail business and the agroindustrial development business, consisting of Hortifruti and a number of meat suppliers and private brand companies, whose mission is to guarantee the retailer a regular supply of fresh produce.

When Hortifruti began operations in the 1970s, the market was just beginning to develop. At that time, it seized on produce as a key factor to differentiate it from other chains. Consumers were seeking

variety and a stable supply and expected the products they ate in their homes to be nutritionally wholesome and safe and to meet standards of quality and hygiene.

Farming practices for the fresh produce department were progressing very slowly in those days. The sector was highly fragmented. Any farmers planted fruits or vegetables wherever they felt like it, and technical levels in the chain were very low. There was much product wastage, logistics were non-existent, food safety was unheard of and products could not be traced. All this caused serious quality problems and led to crop loss for farmers, while retailers often found themselves unable to provide the kind of produce selection that supermarkets need.

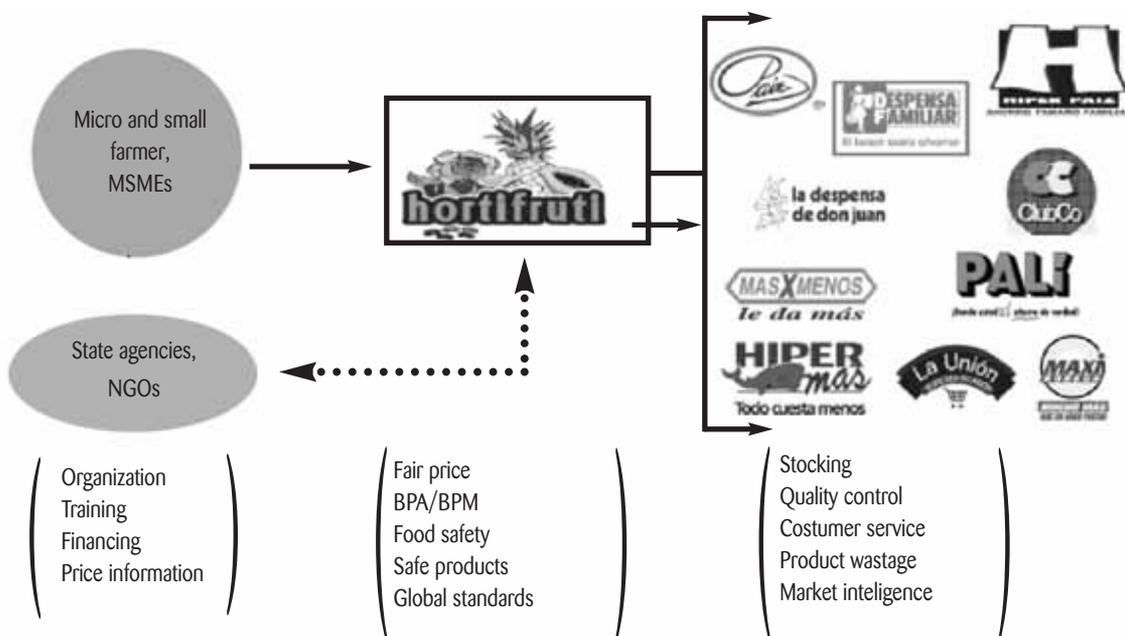
2. Tierra Fértil Program

The purpose of the *Tierra Fértil* Program is to provide technical support and guarantee a fair market at fair prices for small- and medium-scale farmers in Central America. Hortifruti travels to each country to perform a study of the marketing chain in effect, especially for fruits and vegetables. Based on the profile of the country and the type of product involved –grains, vegetables or fruits– it then decides whether to support the first link in the chain, which is the farmer. If the type of product and the economic conditions are favorable, the company also seeks out processors to do all the work of sorting, washing, packaging and in some cases, distribution.

Once a structure has been studied for beginning operations in that country, the *Tierra Fértil* Program can be set up, as seen in Diagram 4.1. On the right side of the diagram are all the trademarks and supermarket formats that the group has in Central America. These are the stores that Hortifruti supplies with fruits, vegetables and grains every day of the week, every week of the year from 8:00 until sometimes midnight, during which time no store shelves must ever be empty. Hortifruti needs to go out and find nearly 300 farm products from micro- and small-scale farmers. In order to train these farmers, it depends on government agencies and nongovernmental organizations (NGOs) in each country.

The model was first tried in Costa Rica around 30 years ago and has produced admirable results in Nicaragua and Honduras. Other supermarket chains depend on intermediaries to bring in whatever they have. While supermarkets are unable to control all the variables that are listed in the lower part of the diagram, Hortifruti controls them through the *Tierra Fértil* Program. The supermarket takes care of stocking its shelves, monitoring product quality on the shelves, and serving consumers who enter the store. It manages any product wastage caused by shoppers and has something very important: backward market information.

Diagram 4.1 Tierra Fértil Model



SOURCE: Jorge Cavallini, Seminar presentation.

Hortifruti focuses exclusively on generating a fair price for farmers: training them, through NGOs and government agencies, in all aspects of good agricultural practices, good manufacturing practices, food safety with consistent clean production, protecting the environment and especially, making sure they meet global production standards. This is necessary if the farmers hope to take the next step: entering the Central American regional market and subsequently, moving into the European and North American markets. The NGOs focus on organizing farmers, training them, seeking financing and, very importantly, keeping them informed of current market prices.

The program focuses exclusively on small- and medium-scale farmers, working in many cases with farmer associations. It has 1,633 suppliers in Costa Rica, 550 in Nicaragua and 350 in Honduras. Farmers are given quality standards for fruits and vegetables, with full specifications for size, shape, color, flavor, ripeness and hygiene.

It is very important for farmers to identify with today's consumer demands for food safety and to share stockholder concerns for worker safety and environmental protection. This is why Hortifruti maintains a risk department that passes along these consumer demands to the entire agricultural chain, both Hortifruti points of sale and to farmers. As part of this process, products can now be traced with the use of a bar code indicating the production area it came from, the name of the farmer who delivered it and the day it was harvested.

3. Marketing and finance models

This section outlines three marketing and finance models, and general financial features of each one are summarized in Table 4.1. The first applies to marketing and bank financing of rice in Costa Rica. Program objectives are: (i) Guarantee Hortifruti a higher share of “shortfall” quotas granted by the Corporación Nacional Arrocería; this government commodity broker uses a quota system to manage undersupply of rice, and any company that wants access to duty-free imported rice must also supply a stipulated amount of locally grown rice. (ii) Increase the supply of locally grown rice to meet growing demand by supermarket chains that are experiencing rapid expansion. (iii) Support small- and medium-scale producers as part of the program’s emphasis on socially responsible businesses.

The format is simple: it begins with a grain supply department –the fields of farmers in all the rice and bean producing areas of Costa Rica. It also includes an array of allied industries that industrialize, process, clean and package. Then there is Hortifruti that manages the product by virtual means. Without ever touching the grain, it provides operational logistics, manages labor, nutritional and environmental risks, and once the product is in the supermarket, performs marketing and sales services.

Table 4.1
Hortifruti financing models

BANK FINANCING FOR RICE GROWERS	NON-BANK FINANCING FOR RICE AND BEAN GROWERS	NON-BANK FINANCING FOR RICE AND BEAN PROCESSORS
1. Hortifruti. Guarantees purchase of crop through contract with BAC San José.	1. Hortifruti. Finances farmer using company resources (30% of production cost); guarantees purchase of crop under contract; charges no interest (pays advance on purchase of the crop).	1. Hortifruti. Advances payment against future delivery of processed goods; buys industrial equipment or raw material.
2. BAC San José. Finances 60% of production costs; requires no collateral pledge; requires crop insurance policy.	2. Supply houses. Deliver inputs to farmer (agrochemicals, seeds, smaller equipment).	2. Processor. Pays loan gradually by processing products; signed contract with Hortifruti provides access to credit; guaranteed stable, long-term commercial relationship.
3. Processor. Pays farmer’s debt to the bank and supply houses, with part of the value of the crop.	3. Farmer. Signs pledge to deliver crop.	
4. Supply houses. Finances 35% of production cost, via inputs.	4. Working capital and inputs. Delivered to the farmer based on advance payment for crop.	
5. Farmer. Signs pledge to deliver crop to rice mill; becomes creditworthy with BAC San José.		

SOURCE: Jorge Cavallini, Seminar presentation.

Five different parties are involved in financing rice growers, as seen in column one of Table 4.1. (i) Hortifruti guarantees that it will buy the crop under a contract it signs with a private bank, BAC San José. (ii) BAC San José finances 60 percent of production costs; it requires no collateral and asks only for a crop insurance policy. (iii) The processing plant pays the farmer's debt to the bank and pays the supply houses as part of the price of the crop. (iv) The supply houses finance 35 percent of the cost of the crop in the form of inputs. (iv) Finally, the farmer signs a commitment to deliver the crop to the mill and builds a credit history with the bank once the debt is fully paid.

The second column shows a non-bank financing program for rice and bean growers. In order to meet its local quota, Hortifruti draws on its own resources to finance rice farmers, covering 30 percent of the cost of the crop, interest free, in coordination with supply houses that finance 35 percent of the crop by providing inputs. The farmer signs a pledge to deliver the crop and receives inputs as they are needed.

There is also a non-bank financing program for processing plants. This model has been used only rarely. On occasion Hortifruti has wanted to try new packaging or adopt innovative systems to differentiate the product, requiring equipment from other countries. In such cases, it has used its own capital to finance equipment imports for the processing plant. In one case, the processor gradually paid off the loan with assembly operations and has now imported two more machines with its own funds, thanks to this system. Even so, financing for rice and bean processors typically comes from banks; in such cases, Hortifruti's only participation is to sign a contract for assembly with the processing plant. The plant takes the contract to the bank, and the bank, based on this contract, provides short- or long-term financing.

In Nicaragua, financing is obtained through various NGOs that provide farmers with support in the form of inputs, technical assistance and credit. The farmer's obligation is to have at least 1.5 hectares of farmland, to live on the farm and to have an access road. The program receives support from USAID, which finances an NGO to provide technical support. Additional assistance comes through a project of the University of Michigan. Similar arrangements have been set up in Honduras, with the Covelo Foundation and with a state bank, the Banco Nacional de Desarrollo Agrícola.

4. Conclusions and challenges

Based on its experiences with linkages and financing, Hortifruti is convinced that this model is a dynamic agent capable of promoting and facilitating social change in the agricultural sector of Central America. Other lessons learned:

- Micro- and small-scale producers can be financed efficiently through transparent partnerships between stakeholders with a shared interest; this requires clear quality standards, and farmers need to understand what is expected of them beforehand, and not after their crops are already half-grown.

- The role of private businesses in an agri-chain should be to develop non-traditional mechanisms for providing fast, direct financing to these micro- and small-scale businesses.

Hortifruti and the Tierra Fértil Program face the following challenges:

- To create payment capacity for those small- and medium-scale farm producers who are not yet creditworthy; training is important, and the government, the NGO and Hortifruti need to work together.
- To incorporate more producers in the countries of the region into the Hortifruti business model.
- To foster the concept of sustainability in production models used by small-scale farmers; this will counteract the fragility that is usually their lot, transforming them into true agricultural entrepreneurs who grow stronger every day.
- Today, when the agenda in the region is dominated by the customs union and the free-trade agreement between Central America, the Dominican Republic and the United States, it is essential to eliminate barriers to regional trade. Costa Rica should be serving a market, not of only 4.5 million people, but of 35 million.

It is also important to consolidate multisectoral partnerships through international cooperation agencies such as USAID and an array of international organizations and academic and research institutions.

B. INDACO

Carlos Melosevich

The presentation on INDACO is divided into three parts. The first summarizes the background and growth of the company and the scope of its activities. This is followed by a discussion of several value chains, especially for cacao and peanuts. It closes with a case study of Credinka, a regulated financial institution owned by the agricultural consortium.

1. History of the company

INDACO, or Industria Alimentaria La Convención, was founded in 1994 as a business initiative of Cáritas, an outreach organization of the Roman Catholic Church. The partners are a consortium of public and private institutions interested in furthering agroindustry development in the region. Stockholders of note include the Provincial Municipality of La Convención, an association of cacao farmers (Aprocav) and the Mateo Pumacahua cooperative of coffee growers.

INDACO is involved in seven broad areas of activity: (i) It has a dairy processing plant. (ii) It has a plant to process concentrated food products used in local government food aid programs. As part of this project, it introduced such products as soybeans and corn into the production habits of local farmers.

This is the second-largest processing plant of its kind in Perú. (iii) It has a plant to produce nutritionally balanced animal feeds, the only one of its kind in Perú, that manufactures fortified concentrates for the agricultural industry of the region. (iv) It has a plant for processed meat products in partnership with another large group in the province, a federation of cooperatives called COPLA, and also with the provincial municipality. (v) It has a poultry plant with 35,000 birds. (vi) It has a peanut processing plant. (vii) Finally, unlike Hortifruti that works in strategic alliance with a bank, INDACO owns a financial company, a rural savings and loan association (or CRAC) called Credinka.

The INDACO area of influence is La Convención Province, the chief supplier of tropical crops for both local and regional markets. The most important product is coffee, and the local federation of coffee cooperatives is the world's fourth largest producer of organic coffees. The area is also one of the few places in the world that produce and process fine cacao. La Convención is home to around 16,000 small-scale farmers working on family plots and producing several different crops simultaneously.

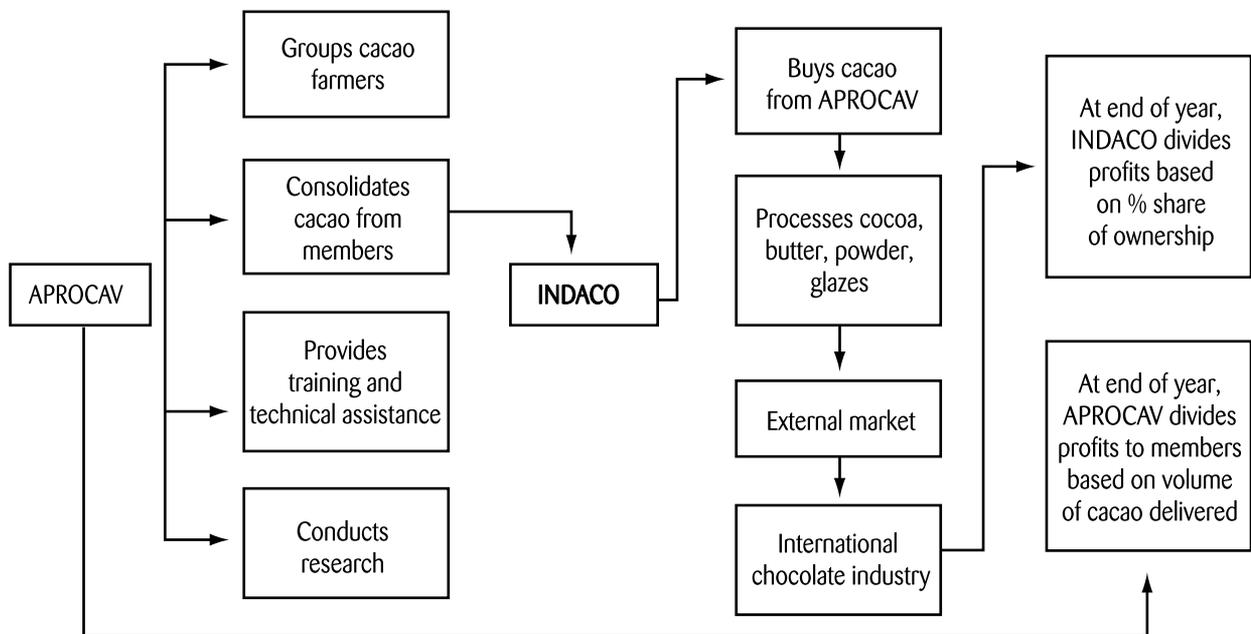
2. Value chains for cacao, peanuts, soybeans and corn

Small-scale cacao producers in La Convención know how to produce. With their experience and their knowledge of cacao production, they offer great potential. They have enough production capacity on their farms to fill large orders of coffee, cacao, annatto, peanuts, soybeans and corn. Their geographic and climatic conditions are excellent for high-quality production.

Even so, farmers in La Convención face many interrelated problems that have prevented them from producing and marketing their crops profitably and competitively. (i) Marketing and production are very disorganized because of the structure of marketing in the region. Small-scale producers have no incentive to combine their efforts and organize wholesale harvesting, storage and sales operations. (ii) Productivity levels are very low. (iii) Market information is difficult to obtain. (iv) Finally, farmers lack access to higher-value markets where they would be able to capitalize on the high quality of their crops and sell processed products in a more demanding market niche.

The chains are very different in cases where INDACO is involved. Diagram 4.2 shows the value chain for cacao, with the participation of INDACO. Aprocav, majority shareholder of INDACO, is made up of 3500 members who are cacao farmers. This organization consolidates the crop, lends technical assistance and sells the harvest to INDACO, which process it into cocoa butter, cocoa powder and glazes. INDACO's largest project, the cocoa plant, embodies an investment of over US \$1.5 million and was built with support from the Inter-American Development Bank.

Diagram 4.2 Cocoa value chain with participation by INDACO



SOURCE: Carlos Melosevich, Seminar presentation.

The situation is similar for peanuts. Ecomusa is a community enterprise that buys and consolidates the crop from its members, native peanut producers. Its services are similar to those of Apropiad –training, technical assistance and research. The bulk peanuts are transferred to INDACO to be processed and marketed.

All the farmers, including members of Procad and Ecomusa, plant a little bit of everything on their plots: coffee, cacao, peanuts, soybeans and corn. All soybean and corn production is sent to INDACO to be processed in the feed plant.

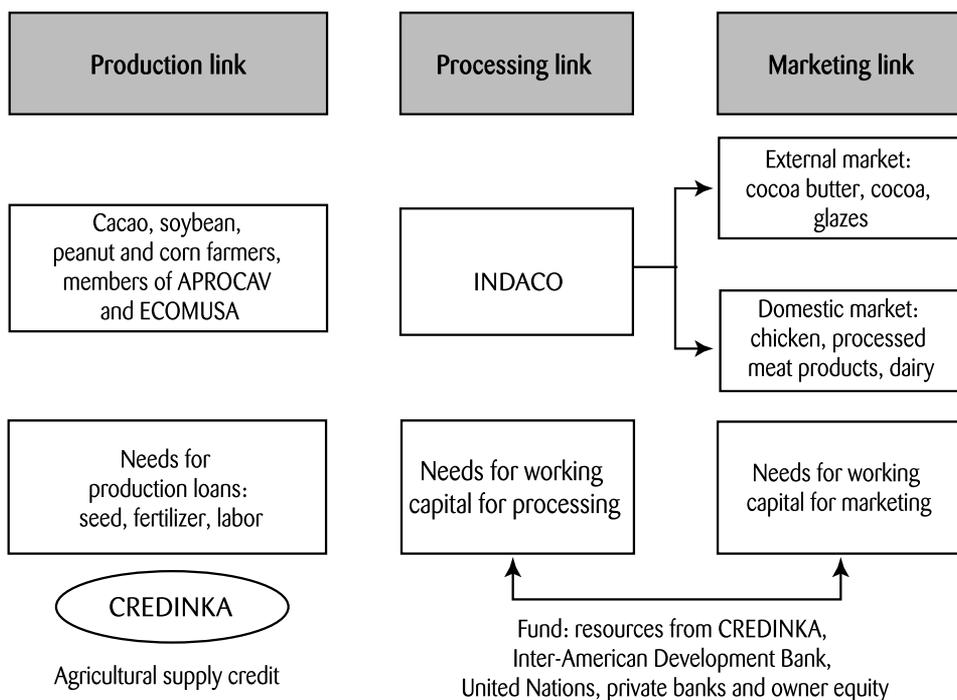
3. Credinka

Credinka is a rural savings and loan association (CRAC) founded in 1994 by the federation of coffee cooperatives. After two or three years, INDACO and Aprocav joined the savings and loan and today are the second largest group of shareholders.

The savings and loan is under the supervision of the Superintendence of Banks and is a member of Perú's formal financial system. It has equity worth approximately US \$2 million, making it the fifth largest of the 12 CRACs in Perú. It has four offices, 82 employees, more than US \$11 million in deposits and nearly US \$14 million in loans.

Credinka provides agricultural supply loans of up to US \$3,000 for farmers who are members of producer associations. Specifically, in order to receive their credit, farmers must be members of Aprocav or Ecomusa and have the backing of either of these institutions (see Diagram 4.3).

Diagram 4.3 Credinka: Production, processing and marketing links



SOURCE: Carlos Melosevich, Seminar presentation.

Loans are guaranteed by the farmers’ sponsoring institutions and are regulated by means of a report that is prepared and submitted by the technical personnel of the different associations, stipulating the amount to be lent. In order to obtain their loan guarantee, farmers must sign a contract with the association, pledging to sell the entire cacao, soybean, peanut and corn crop in exchange for an above-market price that pays a premium for production quality.

Aprocav and Ecomusa sell the crops to INDACO to be processed and marketed. Finally, the associations repay Credinka for the loans to farmers, and the balance is deposited directly in the farmers’ account with the rural savings and loan.

For processing and marketing, INDACO has set up a fund with resources from Credinka, the United Nations, the Inter-American Development Bank, private banks and its own equity.

C. Dos Pinos Dairy Cooperative

Célamo Soto

This section will examine the role played by the cooperative *Cooperativa de Productores de Leche Dos Pinos* (Dos Pinos) in financing agricultural value chains. It is divided into two parts. The first summarizes the growth of the company, while the second introduces its financial services, some of them provided by certified financial intermediaries with support from the cooperative, and others offered directly by Dos Pinos.

1. Background

Cooperativa de Productores de Leche Dos Pinos was founded in 1947. Its three original objectives are still valid today: (i) to provide dairy farmers with their own sales outlet that pays a fair price for their milk; (ii) to give them ownership in the supply house where they buy the inputs they need for their farms, and (iii) to promote industrial and commercial development in Costa Rica.

The cooperative's first activity was production and distribution of feed concentrates. Dairy production per se began in 1951 with the processing and sale of 400 bottles of milk daily. Today the cooperative produces one million liters every day and has achieved sales of around US \$300 million per year. Of this total, 80 percent is sold on the local market, and the remaining 20 percent is exported to the rest of Central America and to México, the United States and the Caribbean. Per-capita milk consumption in Costa Rica is the third highest in Latin America (233 liters), far higher than its neighbors in Central America. This means that growth opportunities abound in this region.

As its name suggests, the company was created as a cooperative. The highest governing body is the Assembly of Members that appoints an Administrative Board, which in turn appoints the CEO. Dos Pinos has seven separate departments, two of which are of particular interest for the purposes of this seminar: the Department of Member Services and the Finance Department. Both are involved in providing financial support for small-scale producers and members in general.

This company is fully staffed by Costa Ricans, and company equity is entirely local. All technology, all technicians, all workers and all producers are Costa Rican. It is a strictly national undertaking that has brought great progress to agrarian development in this country.

The cooperative has 1,300 member producers, 530 member workers and 3,000 employees in Costa Rica and abroad. Most member producers are small farmers: 61 percent deliver up to 500 liters of milk per day. Only five percent of the members could be considered large farms, producing over 2,000 liters of milk every day.

2. Financial support

The company provides farmers with everything they need to produce, including animal feed, equipment and chilling tanks. It also provides direct and indirect financing (see Table 4.2).

Much of the financing for members is supplied by the producers themselves and by the workers through their contributions and savings. This offers a number of advantages because there is no need to seek resources from financial markets. Dos Pinos has access to funds from the cooperative sector, international sources and the local financial sector, but because it can rely on its own equity, it is able to select the best conditions on the market.

Table 4.2

Dos Pinos direct and indirect financial services

Direct financing

1. Dos Pinos Card

- Revolving line of credit
- Purchases from Dos Pinos agricultural, veterinary and service centers; national and international medium of exchange
- Maximum credit limit depends on each producer's payment capacity and capital contributions: 22.5% of subscribed and paid-in capital for internal expenditures and 2.5% for purchases from companies outside the cooperative
- Financing plans for purchases from companies outside Dos Pinos with timetables and annual interest rates according to client preferences: from one week (0%) to 99 weeks (24%)
- Weekly statements
- Automatic payments deducted from settlement of milk payments

2. Special Financing

- Amount: depends on credit record
 - Working capital: two years for purchase of inputs and supplies
 - Investment: five years for purchase of chilling tanks, certificates of paid-in capital, milking equipment and animals
 - Share of investment: 100% if equipment is purchased from the cooperative
-

Indirect financing

- Provides information on services available in the formal financial system
 - Collects weekly payments deducted from settlement of milk deliveries
 - Fund transfer to producer account
-

SOURCE: Célmo Soto, Seminar presentation.

The company has two direct financing services: a credit card and loans. The credit card was set up with two objectives. First, members can use it in the company's 18 farm and veterinary stores. This provides not only an efficient service, but also allows for greater control, less paperwork and lower costs as transactions are performed online. In the second place, members can use the card to shop in other stores for services or products not available in the Dos Pinos stores.

The farmer loan program finances working capital and infrastructure investments, such as storage facilities, equipment and chilling tanks. As seen in Table 4.2, this special financing is offered with payment schedules ranging from two to five years.

The Finance Department sets guidelines for granting credit to members, including such features as payment schedules, credit limits, payment for milk deliveries, interest rates and credit record. The Finance Department stipulates the levels of authority for approval of loans and is responsible for program administration, oversight and collections. It has access to daily information updates on the status of loans granted by the cooperative.

When members seek indirect financing, financial institutions attach special importance to the cooperative's collection programs. Dos Pinos pays its members on a weekly basis and withholds loan amortizations or other payments when there is a direct contractual relationship between cooperative members and finance institutions.

The cooperative also has a system for demand deposits and fixed-term deposits. It has three of its own offices for this purpose and also relies on the national banking system's network of branch offices.

It has invested a great deal of effort in technology and in managing communication and information resources. As a result, its credit monitoring and oversight operations are very efficient. Dos Pinos also has a call center that provides fast answers to questions on credit and deposit operations.

D. Agromantaro

Juan Arrieta

This section describes a company that is part of the value chain for export artichokes. Over the past five years it has seen major development, and today it is attracting the attention of many farmers in the traditional export regions of Perú and in the highlands. I will describe the history of the company, background information on agriculture in the Peruvian highlands, the artichoke chain and the characteristics of the international markets in which it operates. Finally, I will discuss a financing program under the development financing agency, Corporación Financiera de Desarrollo.

1. History of the company

The company Agroindustrias del Mantaro (Agromantaro) is located in the central highlands of Perú and started operations in April, 2005. It processes fruits and vegetables for export to international markets. It holds contracts with local farmers for raw material supply and technical assistance and operates a continuous production line of artichoke hearts and bottoms. The processing plant is located at 3,250 m above sea level in a region stricken by high levels of poverty. Production areas can be found throughout the Mantaro, Tarma and Huánuco Valleys. The packing plant is located about six or seven hours by truck from El Callao port.

The company was created and gained its first few years of experience at a time when conditions were quite favorable for Perú's export sector. Over the past five years, Peruvian exports have been growing strongly, especially in mining, but also in agriculture. Among other things, this is the result of a heavy emphasis on product diversification over the past 10 years. The most important products are coffee, asparagus and artichokes. Artichoke exports have already hit nearly US \$40 million, with sales expected to double over the next three years.

2. Agriculture in the Peruvian highlands

The Peruvian Highlands, home to Agromantaro artichoke suppliers, is an agricultural region characterized by:

- Fragmented production, with farm plots less than one hectare in size
- Traditional products for the local subsistence market
- No access to modern technology
- Low levels of productivity
- No access to financing
- Low income levels

Why did the Agromantaro entrepreneurs ever go to such a place? The region has a competitive advantage: a favorable climate that yields good crops for much of the year and gives plantations a longer useful life.

3. International markets

What kinds of international market conditions face a company such as Agromantaro, which operates in a region of extreme poverty? This question casts light on the two extremes of agroindustrial export businesses:

- *Cash rich time poor.* This is the typical quality of European and US consumers: they have enough money, but never enough time.
- Volume. They require large volumes.
- Sophisticated and demanding. They want variety, quality, wholesomeness and food safety.

How can an exporter meet these demands of international markets, working with a supply base where agricultural practices are impoverished?

4. Artichoke value chain

Highland producers deliver their products to Agromantaro for processing, and buyers deliver the final product to international markets. All this requires **strategic alliances** where backward linkages are critical for product supply, and forward linkages are essential to meet demand.

Agromantaro practices what it has dubbed the “CLIP strategy,” a concept that is helpful for understanding an agroindustrial export project. CLIP stands for: **C**ommercialization or marketing, **L**ogistics, **I**ndustrialization and **P**roduction. The four elements need to proceed in this same order, never the reverse. This flies in the face of the general Latin American practice whereby project analysis begins with production.

The people of Agromantaro, after starting off with an analysis of the market, then decided to create a strategic alliance with two other companies –a multinational and a Peruvian operation with links to local producers and Spain-based marketers. The multinational company provided technical support for developing a line that had already been tested against all the food safety conditions demanded by sophisticated consumers.

European shoppers go to the supermarket to purchase a product whose actual agricultural value is only 20 percent of the final price, as can be seen in Diagram 4.4 for the artichoke value chain. Much attention focuses on how to solve the problem of the 20 percent, but any analysis of the business of food product marketing needs to focus instead on the final 100 percent. Strategic alliances are useful for consolidating all these stages. The traditional view of export businesses was that all responsibility ended FOB, at the shipping port. That was before. Today, responsibility ends on the consumer’s table.

Table 4.3
Share pertaining to economic agents
in the artichoke value chain

AGENT	PRODUCT VALUE AT THE END OF EACH PROCESS (PERCENT)
Farmer	20.8
Processor	38.5
Logistics/distribution/marketing	61.5
Consumer	100.0

SOURCE: Juan Arrieta, Seminar presentation.

Logistics are very important, especially with oil prices expected to reach US \$100 per barrel. Ignoring this when planning a business based on an agricultural value chain is a recipe for trouble. The same is true for distribution and final marketing. Note that 62 percent of the shelf price paid by the consumer goes into logistics, distribution and marketing, which includes advertising and sales. This is because the final goal, what the Americans have accurately dubbed a **share of the consumer's stomach**, cannot be won without a battle, and the same thing is happening everywhere. You may not always know who your direct or indirect market rivals are, but you do know that you need stay on top of consumer preferences.

Going back to the 20 percent of value that goes into raw material supply: What has Agromantaro done? It works in decentralized production zones in a region where climatic conditions favor this crop. It holds strategic alliances with farmers and NGOs that provide technical assistance, including TechnoServe and the PRAS project under USAID, as Anita Campion explains in Chapter 6. It also has alliances with financial institutions such as the development finance agency, Corporación Financiera de Desarrollo (COFIDE).

5. Sources of financing

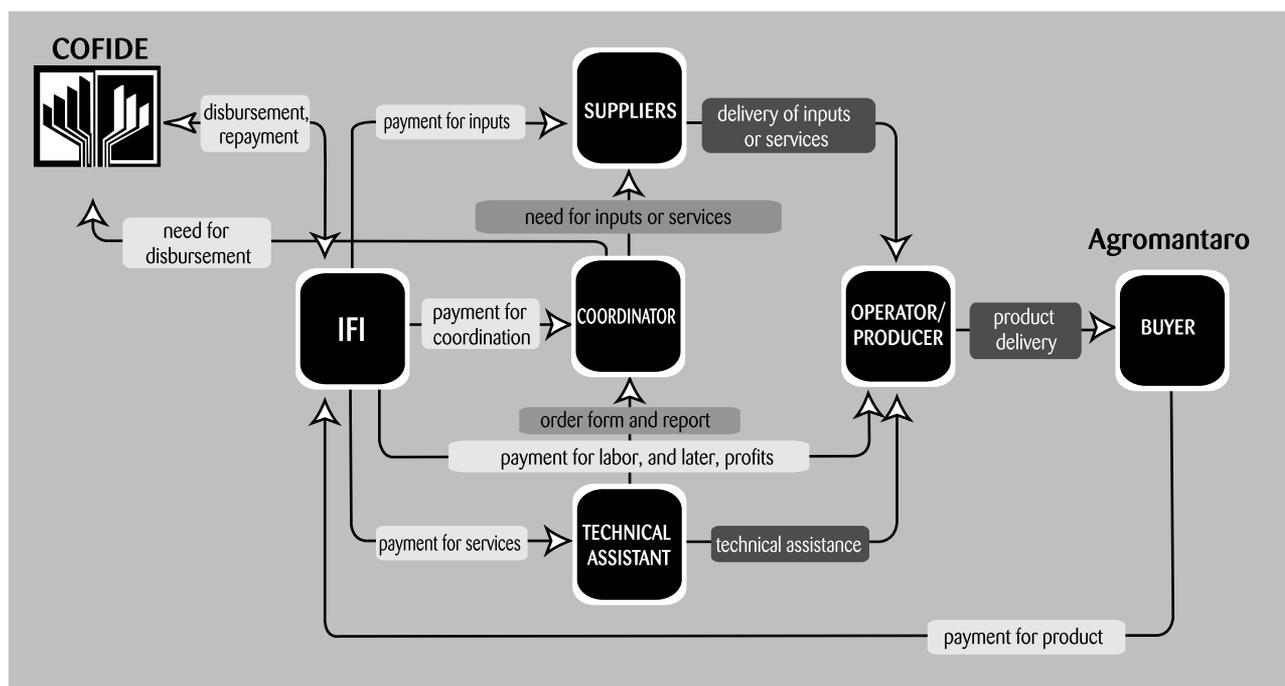
Sources of financing for participants in the artichoke value chain vary by type of stakeholder:

- Logistics/distribution/marketing
 - Suppliers
 - International banking system, factoring
 - Shareholders
- Processor
 - Suppliers
 - Local banking system, factoring
 - Shareholders

- Farmer
 - Input suppliers
 - COFIDE
 - Rural savings and loans

The Corporación Financiera de Desarrollo offers an intriguing product to farmers, known as the Structured Financial Product (PFE) illustrated in Diagram 4.4.

Diagram 4.4 COFIDE. Structured financial product



SOURCE: Juan Arrieta, Seminar presentation.

The diagram illustrates the process of the Structured Financial Product, which is the mainstay used by Agromantaro to guarantee its supply of raw materials. The boxes labeled “coordinator” and “technical assistance” are critical for the development of these activities. The product is channeled through a first-tier financial entity that provides a comprehensive solution to financing needs in the value chain. It covers input suppliers, technical assistance, coordinators, the buyer (Agromantaro) and, of course, farm producers.

The company could never have posted its current growth rates without the sources of financing available under this PFE and other similar programs. At present it works with three consolidation centers, 450 hectares of land, 250 small farmers or contracts to administer, raw material purchases of up to 7,000 metric tons, equivalent to US \$2 million, and an annual FOB production value of US \$9.6

million. If Agromantaro hopes to meet the goals set forth in its business plan for 2006-2011, it will need to double today's finished production values to US \$20 million, and this cannot be done without much more financing.

E. Bounty Fresh

Raúl Romero

This section will examine the experience of Chestnut Hill Farms, a division of Bounty Fresh that markets fruits and vegetables. It will examine the company's experience with agricultural value chains and demonstrate how important it is for marketers to consider their risk exposure. It will also offer suggestions for better farmer financing.

1. Background

Chestnut Hill Farms markets, and in some cases produces, asparagus, mangoes, melons and pineapples from Arizona, Brazil, California, Costa Rica, Ecuador, Guatemala, Honduras, Perú and Puerto Rico.

Its customers are supermarket chains in the United States. Over the past four or five years, the company has also been selling to the fresh processed fruits and vegetables sector and supermarket chains in Europe, as well as wholesalers.

Its main objective is to add value to production, packaging and marketing. The company handles four trademarks, including "Perfect Melon" and "Perfect Pineapple." Consumers are given a "satisfaction or your money back" guarantee. This helps remove the company from the mass market of generic products, or **commodities**.

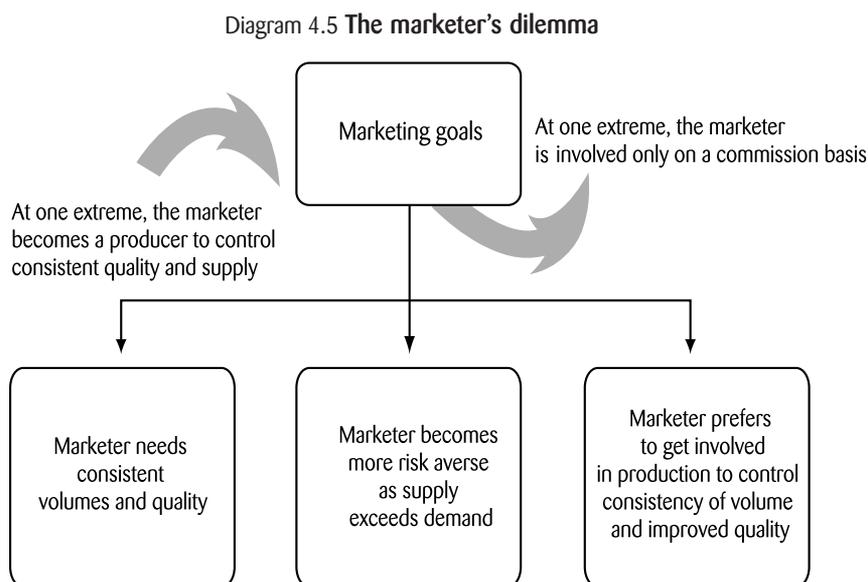
The overall United States market offers a clear picture of the outlook for Chestnut Hill Farms. It has grown by 12 percent since 2000, and imports now account for 16 percent of the vegetable market and 44 percent of the fruit market. The total value of imported fruits and vegetables in 2004 was US \$8.3 billion.

2. Risks

How can anyone survive for so long in this business? New threats crop up every day, including risks associated with agricultural variables, climate, market demand, and more. In simple terms, Chestnut Hill Farms sees production and market risks as two opposing forces. When production risk is high because of bad weather that undermines volume, market risk is extremely low because prices rise.

When the weather is good and production risk is low, it becomes clear that no producer is an island. All the farmers in the region have the same good weather and produce a bumper harvest. If one farmer has a good May pineapple crop, everyone else has it too, so that when production risk is low, market risk is extremely high.

Diagram 4.5 gives a summary of the marketer's dilemma. At one end, on the left side of the diagram, marketers become producers as well and can control product consistency, quality, wholesomeness and safety.



SOURCE: Raúl Romero, Seminar presentation.

Marketers at the other end prefer to stick with marketing only, earning their commissions and operating in the spot market. Chestnut Hill Farms did not choose this path. Because of its client base, the company found itself with the need to demand consistent volume and a high-quality, durable product over a longer portion of the year, and therefore had to become partially involved in the agricultural operation.

3. Financing

As Vice President of Costa Rica Kevin Casas said in the opening ceremony of this seminar, the commercial banking sector supports low-risk sectors, but agriculture is a high-risk proposition. So what did the company have to do? It had to do a little bit of everything, and most of all, it had to get very involved in financing some of the crops. As a result, in one of the four products it markets, it has succeeded in developing a production chain that is solid from the very beginning. The specific case of pineapple in Costa Rica began five years ago, when exports were running around one or two

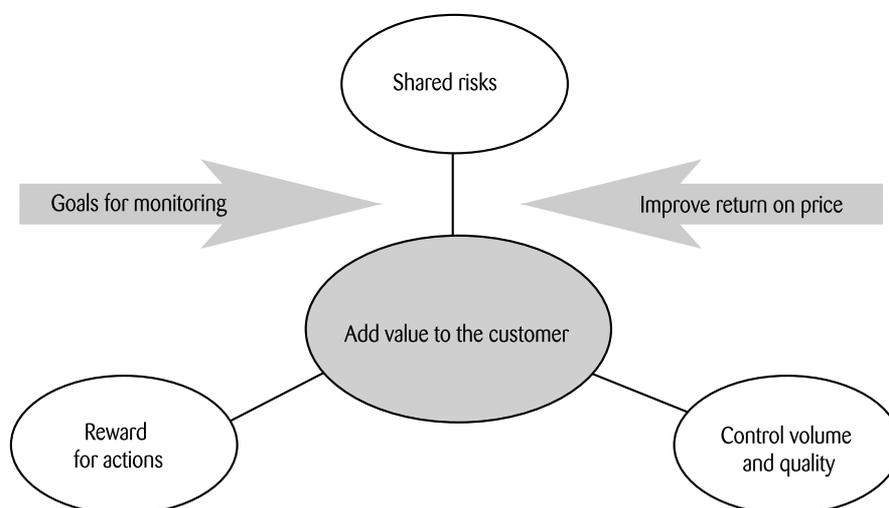
containers per week; by last week, it had risen to 70 containers. Another reason why the company achieved this kind of growth was that it was in the right market at the right time. There was no overproduction, and in general, both production and market risks were low.

The company also gives financial advances. A budget is drawn up before planting begins, and the money is disbursed gradually as planting progresses. Funds are delivered against shipping documents, once products have arrived safely.

Chestnut Hill Farms also provides agricultural inputs and participates in investments in equipment, infrastructure and materials. Each different case requires a separate analysis. All these relationships need to be transparent, as we have already said so many times in this seminar. This is the signal that banks are looking for. Chestnut Hill Farms is not a financial entity, but it has learned to read signals about where it can and should take risks with the farmers.

Looking to the future, competition is becoming more and more global. Anyone who wants to continue in this business needs to find financing structures to keep growing. Faced with the financing gap, marketers have needed to get involved, but financial structures will have to change in the future, perhaps as suggested in Diagram 4.6.

Diagram 4.6 **New financing structures**



SOURCE: Raúl Romero, Seminar presentation.

Under this model, marketer and producer work together and share risks and benefits. Much has already been said in this seminar about the age of globalization and how possible margins of error have been reduced to a minimum. In order to be successful, more attention needs to focus on production, logistics and marketing requirements. It is also useful to adopt a “niche” approach to markets and ask: What can this company do better than the others that are already established in the business?

Competition is now global. Many more countries are competing for the same business at the same time, and seasonality is a thing of the past. With all these considerations, it is now more important than ever to have a sound financial structure.

F UNIPRO

Rubén Chávez

The Unión Agrícola Regional de Productores de Maíz Amarillo así como de Otros Granos y Semillas (UNIPRO, or regional agricultural union of producers of yellow corn and other grains and seeds) is located in the very arid state of Chihuahua, northern México. This presentation will summarize its development and explain its role as a “para-finance” agent.

1. Background

UNIPRO is nearly five years old. It was set up in late 2001 in response to marketing problems that arose with the disappearance of CONASUPO, a federal government-owned marketing company that bought corn for around US \$200 a ton until it was eliminated 10 or 12 years ago. With the closing of CONASUPO, local farmers found themselves competing head-to-head with foreign producers, and overnight, prices plummeted by half to US \$100 a ton. Many local producers were squeezed out of the market entirely.

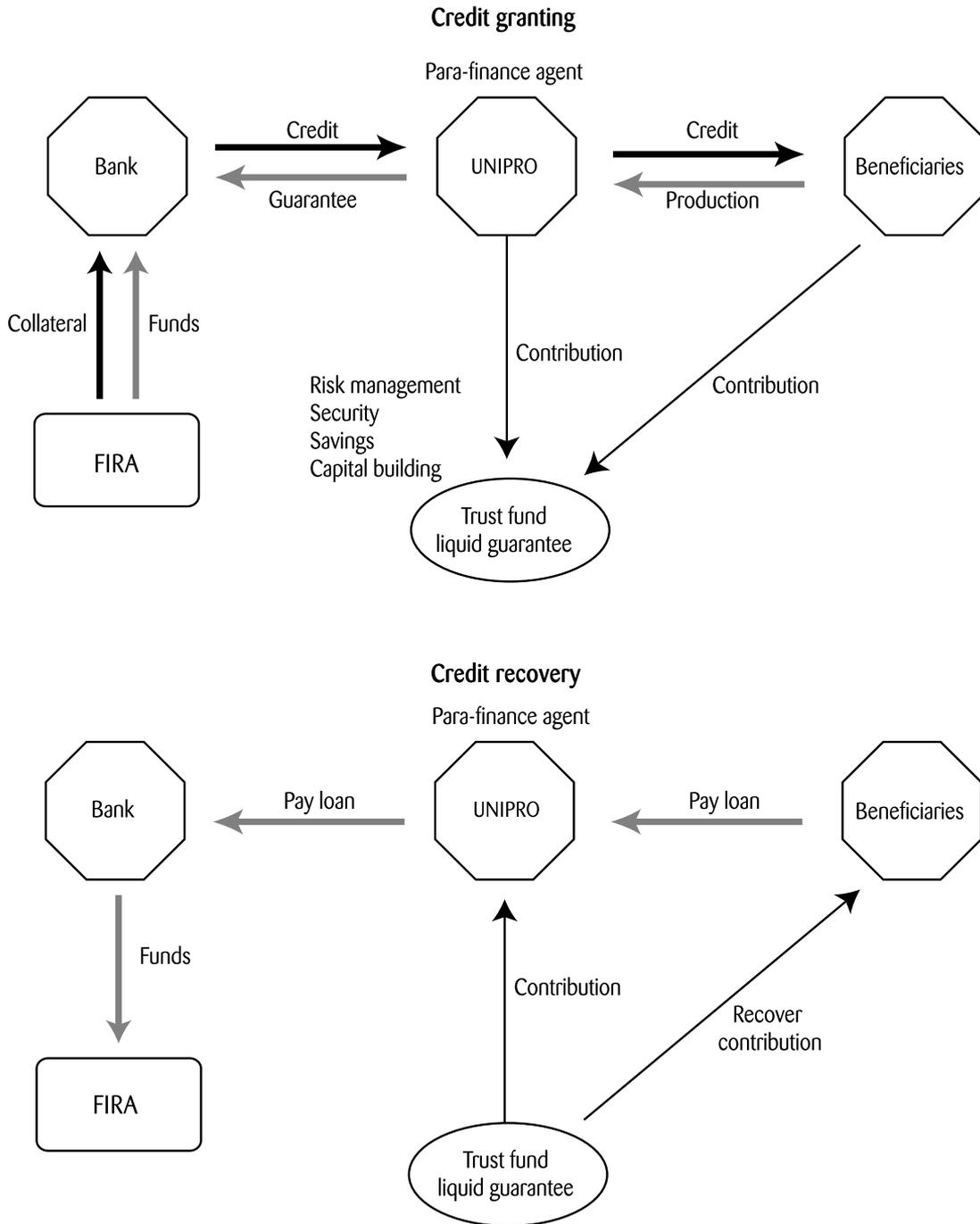
UNIPRO is a union of four associations of corn farmers. It groups together 1,340 member farmers who produce an average of 300,000 tons of corn per year using pump irrigation on around 36,000 hectares of farmland. The Union has access to 300,000 tons of storage capacity, 65,000 tons in its own storehouses and the rest in storage facilities it rents from members. It has two railroad spurs for shipments, which is critically important because its main clients are from 600 to 1,200 km away. If crops were trucked to market, UNIPRO would simply disappear from the scene.

2. Para-finance

In 2002, UNIPRO began serving as a “para-finance” agent. This term was coined by FIRA, a second-tier development bank oriented toward the rural sector, that works with UNIPRO in this program. An agent can be either an individual or a corporation. It provides access to bank credit for a group of beneficiaries with which it has established mercantile relations or a partnership under conditions of transparency.

The purpose of this model is to support small- and medium-scale producers whose particular characteristics bar them from obtaining bank credit. The natural and commercial relationships in the union provide a number of advantages for strengthening the development of value network alliances. Diagram 4.7 illustrates the operation of a para-finance agent.

Diagram 4.7 Basic para-finance operating model



SOURCE: Rubén Chávez, Seminar presentation.

There are several possible kinds of para-finance agents:

- Industrial processors. This arrangement applies to sugar mills, flour mills, tobacco processors and cotton spinners.
- Agribusinesses. These are the agro-industries, suppliers of agricultural inputs, machinery, equipment and the like.
- Service companies. These could be unions or associations such as UNIPRO.
- NGOs and savings and loan associations.

How does the model work? First, UNIPRO contacts FIRA to negotiate a line of credit. It then contacts the bank that will disburse the money. FIRA signs over to the bank the resources it will be lending to the para-finance agent. The bank then dispenses the money and UNIPRO distributes it to the beneficiaries.

FIRA gives the bank a guarantee and charges the costs to UNIPRO. In addition, a group of members of UNIPRO, the Board of Directors, put up their family equity as a guarantee for the money. They are also required to set up a trust fund with contributions from the farmer and the organization, for an amount equivalent to 30% of the total credit as a liquid guarantee. Finally, the bank carries around 30% of the risk of the operation.

When the producer repays the loan, UNIPRO pays the bank and the bank returns the money to FIRA. The trust fund returns the Union's contribution, and the Union returns the amount paid in by producers. In addition to financing programs operated through FIRA, UNIPRO has also worked with various first-tier commercial banks, including Banamex, Bancomer, Banorte and HSBC.

5

FINANCIAL ENTITIES AND AGRICULTURAL VALUE CHAINS: INNOVATIVE ARRANGEMENTS

*Dercí Alcantara, Enrique Martínez, Enrique Zamora,
Luis Corrales and Leonela Santa*

The purpose of this chapter is to compare the experiences of financial operators using agricultural value chains to supply services in new, dynamic ways at low transaction costs. Continuing with the “applied” approach used in other sections of the book, the financial organizations themselves will describe their experiences, difficulties, lessons learned and recommendations.

A. Banco do Brasil

Dercí Alcantara

Banco do Brasil (BB) is the largest bank in Latin America, with more than two centuries of history and 70 years of activity in support of agriculture. It has over 14,800 branch offices and service points, 22.9 million clients and total assets of more than US \$127 billion, equivalent to 15 percent of all the assets in the Brazilian financial system.

The Banco do Brasil credit portfolio is worth more than US \$46 billion, or 16 percent of total credit in the Brazilian financial market. The largest sector of economic activity in the BB credit portfolio is agribusiness, which holds 35 percent, followed by wholesale trade, 23 percent, retail trade, 18 percent, and small business, with 15 percent.

The rest of this section is divided into three parts. The first will discuss Brazilian agribusiness, the second, successful experiences in this industry in Brazil, and finally, recent BB projects involving agri-chains and their financing.

1. Agribusiness in Brazil

The most important sector of economic activity in Brazil is agribusiness, which generates 33 percent of the gross domestic product (GDP), 37 percent of exports and 30 percent of total employment.

As can be seen in Table 5.1, Brazil is among the world's largest producers and exporters of many agricultural products, including coffee, orange juice, sugar, soy compounds, beef, chicken and tobacco.

Table 5.1
Brazil's standing in worldwide agribusiness

PRODUCTS	PRODUCTION	EXPORT
Coffee	First place	First place
Orange juice	First place	First place
Sugar	First place	First place
Soy compounds	Second place	First place
Beef	Second place	First place
Poultry	Second place	First place
Tobacco	Second place	First place
Fruits	Third place	--
Corn	Fourth place	--

SOURCE: Dercí Alcantara, Seminar presentation.

Equally important is the role of agribusiness in Brazil's trade balance. In 2005, the country posted a favorable balance of US \$45 billion, and agribusiness, with its net positive balance of US\$38.4 billion, was responsible for 86 percent of this total surplus.

2. Successful agricultural chains

Agricultural production in Brazil has shown steady growth and increasing productivity over the past 15 years. From 1990 to 2005, while overall production grew by 114 percent, total land under cultivation increased by only 23 percent, to a total of 47 million hectares by 2005. Meat production has been one of the most successful chains over the past decade, with output rising by 69 percent (beef), 107 percent (pork) and 165 percent (poultry).

Alongside this strong growth, financing for agricultural investment has shown significant advances as well, reaching US\$26.7 billion by mid-2006. Half this amount (US\$13.6 billion) was financed by Banco do Brasil, which had a particularly strong presence in certain activities and covered 18 percent of total credit needs for beef production.

As a result of the freer flow of financing, overall production and chain structures made strong gains in soy, corn and cotton. Moreover, because successful agricultural chains are closely interlinked, surplus soy and corn are being plowed into poultry, pork and beef production.

Just to give a quick idea of growth potential in the Brazilian agricultural sector, the country has a total land surface area of 851 million hectares covered by Amazon forest (41 percent), pastures (26 percent), annual crops (6 percent), unused land (12 percent) and protected areas (6 percent), with the remaining 14 percent in perennial crops, cultivated forests, cities, lakes, roads and other uses. These figures suggest that production could be doubled or tripled, especially grain production.

Below are some of the characteristics of agriculture in Brazil, and how they are financed:

- i. *Smallholder agriculture.* Smallholders and their families produce around 30 percent of Brazil's agricultural output; figures are more extreme for certain crops, such as cassava, where this group holds an 84 percent share, as can be seen in Table 5.2.

Table 5.2
Small-scale farm producers in Brazil.
BB share in production and financing

CONTRIBUTION OF AGRICULTURAL SMALL HOLDERS TO AGRICULTURAL OUTPUT		BANCO DO BRASIL FINANCING FOR AGRICULTURAL SMALLHOLDERS	
Activity	Share (percent)	Year	Credit portfolio (US\$ billion)
Cassava	84	2000-2001	0.6
Beans	67	2001-2002	0.7
Milk	52	2002-2003	1.1
Corn	49	2003-2004	1.7
Poultry and eggs	40	2004-2005	2.1
Pork	58	2005-2006	2.9

SOURCE: Dercí Alcantara, Seminar presentation.

In 2002, when it was serving 660,000 small-farm families, Banco do Brasil began building partnerships to introduce simplified financial products, and by 2005 it had surpassed its goal of one million families served, with a credit portfolio of US\$2.9 billion.

One of the recent financial products is a renovated credit card, introduced as part of the National Program to Strengthen Family Farming. The Bank has issued more than 500,000 of these cards, at no cost to the families. Smallholders can use the card to withdraw money from a cash machine or make purchases in farm supply stores. In the near future, BB will add another feature to the cards: they will serve as a loan instrument whereby clients sign a single contract and collect loan disbursements through cash machines.

All this is part of a strong push to bring about social inclusion through income distribution. Even as it actively develops these programs, BB has maintained a healthy portfolio. Over the past five years, smallholder credit operations have posted losses of less than one percent, making this the bank's best-performing portfolio.

- ii. *Farm product note.* This instrument is known by its Portuguese acronym, CRP, a Government support program for loans to agribusiness. It is an unsubsidized loan granted at market interest rates against a note issued by the farmers and their cooperatives, committing them to deliver a specified amount of product or an equivalent payment on a future date. Banco do Brasil managed US\$2.3 billion in CPR funds in 2005.
- iii. *e-trade.* This service facilitates transactions by agribusiness traders over the BB website. The amount rose from US\$500 million to US \$1 billion.
- iv. *Support for regional development.* The objectives of this program are to promote social inclusion, democratize access to credit, encourage the creation of cooperatives and associations and boost standards of living. The program began in 2003 with 17,000 families, and by March, 2006, Banco do Brasil was serving 113,000. The Bank has a foundation that helps out with program logistics.

3. Other projects

Banco do Brasil is involved in a number of ongoing activities with the operation and financing of agricultural value chains. It constantly seeks new strategies to strengthen certain areas, including:

- i. *Futures and options markets.* Although these instruments are typically the province of larger clients, BB has introduced several arrangements for smallholder families as well. In one example, large companies in the poultry value chain are encouraged to offer option prices to corn producers who supply their raw materials. In a second arrangement, the Government extends options to smallholder families producing specific types of crops, such as rice. If prices drop below production costs, the Government purchases their crops.
- ii. *Farm insurance.* Farm insurance programs are one of the weaknesses in the Brazilian system and stand in need of improvement.
- iii. *Support programs for integration systems.* Support programs for integration systems are one of the most important program areas in Banco do Brasil, because the bank offers financing only if small-scale farmers are fully integrated into the chain. For example, it finances seven thousand families to produce castor beans, a biofuel that is processed and distributed by entities in the same chain.
- iv. *Reforestation programs.* Even though 41 percent of Brazil's land is forested, the rapid growth of timber and cellulose production is exerting considerable pressure on forest resources, creating a critical need for continuous reforestation.

- v. *Bonded warehouses.* The Bank holds a small share (five percent of its activities) in rural bonded warehouses, and is interested in improving the program.

Banco do Brasil is also interested in playing a larger role in a new biofuel production program. Even though Brazil produces large volumes of ethanol, the BB itself is just beginning to make inroads into this business.

B. Banorte

Enrique Martínez

Banco Mercantil del Norte (Banorte) is the only Mexican bank comprised of 100 percent Mexican capital. It was named México's Bank of the Year in 2005 by a prestigious business journal. Banorte recently acquired a small bank in the United States and took over a remittance company to get in on the business of transfers sent home by Mexicans living north of the border.

This section is divided into three parts. It begins with a brief description of financing in Mexican agriculture subsequent to the crisis of the mid-1990s. This is followed by an explanation of the bank's strengths that enabled it to seize opportunities arising at the time. It will close with a description of the main financing arrangements Banorte offers to the agri-food sector.

1. The current environment for agricultural finance in México

México experienced a severe crisis in 1994, but the agricultural sector had already begun to quake in 1993. Many financial institutions in México decided to drop the sector altogether. The result was a negative perception that agriculture was too risky, combined with an inappropriate legal framework that created uncertainty, and a very high unmet demand for financing.

Government-run development banks shied away from the active role they should have played in development. They chose to focus instead on commercial financing for large companies, which is more properly the domain of private banks. An attitude of "I won't pay" began to take shape as debtors banded together in organizations whose goal was to avoid payment, and banks were frightened away. In addition to all this, the agricultural sector was faced with looming globalization and market liberalization. In short, the situation for the sector looked very difficult.

2. Strengths of Banorte

As the larger financial institutions began to pull out of agriculture, Banorte spied an area of opportunity. Eager to withstand these adversities and seize the moment, the Bank developed strategies and clear, specific operating rules, also leveraging the many advantages it already had in this field, as seen in Table 5.3:

Table 5.3
**Advantages and strategies of Banorte for strengthening its position
 in agricultural finance in México**

ADVANTAGES AND STRATEGIES
<ul style="list-style-type: none"> • Knowledge of market conditions • Knowledge of production sectors • Specialized personnel with an average of 15 years experience • Identification of target markets: production chain • Evaluate the project before assessing collateral • Innovation and product diversification <ul style="list-style-type: none"> -- Financial leasing - Resources for opening credit operations in checking accounts - Arrangements for making mass credit available: New Holland, Basic Grains Program, Procampo for the short and long term, para-finance arrangements - Services to small- and medium-scale enterprise: Agroactivo program, etc. • Improve the risk profile <ul style="list-style-type: none"> - Regional and product segmentation - Short- and long-term portfolio balance • Inter-institutional coordination <ul style="list-style-type: none"> - FIRA - Government institutions (SAGARPA, ASERCA, CNA) - United States Government - Insurers - Agribusiness corporations • Quantifiable profitability indicators • Close supervision and portfolio maintenance

SOURCE: Enrique Martínez, Seminar presentation.

The Bank had people who understood the sector and had much experience, and fortunately, it gave them the opportunity. The program called for great innovation, which was one of the keys to its success. It introduced novel instruments that did not exist in the rural market at that time, such as leasing, a wide variety of loans, checking accounts, and programs to extend mass credit. It also made good use of Government subsidies. Even so, the Bank is not dependent on State funds, which make up a minority share of Banorte financial offerings.

The main target market was the production chain. In other words, Banorte financial services supported production chains in agricultural activities, both the primary sector (farming and ranching) and agroindustry and marketing of products, inputs and agricultural services.

The Bank built partnerships with agroindustrial corporations to bring down the cost of credit, and developed a number of indicators for use in closely monitoring its agricultural portfolio. As a result, these operations have become very profitable for the company. After starting with an agricultural portfolio of 418 million pesos in 1999, Banorte had pushed the balance up to 10.8 billion pesos (nearly US \$1.1 billion) by December 2005, and only one percent of these loans were in default.

Banorte agricultural financing activities, operated by 65 employees, now cover nearly the entire country. The Bank's agricultural division has operations throughout the entire agri-food sector. It is involved in: (i) primary economic activities in farming, ranching, forestry and fishing; (ii) manufacturing of foods, beverages and tobacco, as well as processing activities in meat and dairy, prepared fruits and vegetables, edible oils and shortening, sugar, beer and malt, and animal feed.

3. Financing arrangements

Banorte offers a variety of financing arrangements, some of them backed by Government programs, as follows:

- i. *FIRA*. As Rubén Chávez already explained in Chapter 4, FIRA is a second-tier State entity for financial and technology development that supports the agricultural sector. Banorte and FIRA enjoy an excellent business relationship that has been 40 years in the making; 70 percent of the funds it lends to the agricultural sector come from this institution. Its programs with FIRA include credit operations (financing for investment projects in México's rural and fishing sectors), guarantee programs (to supplement collateral requirements for loans) and an incentive program (Bank Incentive Program to support producers and strengthen agricultural structures).
- ii. *Agroactivo*. This program grants credit to be used as working capital or invested in fixed assets. It is an indexed product, authorized by system, for financing needs from US \$50,000 to US \$350,000.
- iii. *Para-finance*. A para-finance agent is a private-sector company that, because of its management capacity, bargaining power and positioning in the market, facilitates access, distribution and collection of loans. Similar to the companies described in the section on UNIPRO in Chapter 4,

they help Banorte make credit available on a massive scale. They get credit out to farmers, supervise loans, and when the harvest is in, they help with collection. The Bank discounts funds with FIRA.

The arrangement is useful for developing “tailor-made” projects, such as an irrigation system to finance the preservation, maintenance and modernization of infrastructure by means of working-capital financing (*avío*) secured with inventories or raw material or fixed-asset loans for purchasing machinery (*refaccionario*), secured with capital assets. One client is an association of irrigation users from the state of Sinaloa, in a project that serves more than 27,000 farmers working 200,000 hectares. Another example is financing for the acquisition of farm machinery and equipment with loans granted through para-finance agents. One such program, conducted through the New Holland company, benefited 18,600 farmers with 7268 authorized loans, and financed 9100 pieces of equipment (tractors, haying machines, construction equipment, farm tools, and the like).

- iv. *Basic Grains Program – Procampo*. These are financing operations for a specific use (grain planting and cultivation), guaranteed and endorsed with a Procampo subsidy granted by the federal government. Through this program, farmers have access to loans up to an amount equivalent to the Procampo per-hectare quota (discounting interest). The program also provides a way to obtain an advance, through a fixed-asset or *refaccionario* loan, on the subsidy that will be received over the next three years, backed by Procampo resources and natural credit guarantees.
- v. *Financial leasing*. This product is offered through the Bank’s leasing program to finance goods and services or equipment such as refrigerated shipping containers and processing machinery. The service is based on a contract under which the Banorte leasing institution grants the use or temporary enjoyment of a good to the lessee.

Banorte has other products and arrangements as well, such as:

- Credit unions
- Grain pledging program
- Inventory purchasing program (Ocean Garden)
- Livestock program
- Target income program for grains and edible oils
- Sugar cane production program.

These products no longer go to the Credit Committee. It is enough to submit the documents with joint signatures, depending on credit limits, for amounts of up to US \$3.5 million.

The grain pledging program, which is very important for Banorte, is conducted by means of certificates of deposit. The inventory program deserves special mention as an innovative product offered by no other bank in México. The Banorte warehousing facility purchases the crop and then sells it to the

producer. This service improves client operations by monetizing inventory. Obviously, it provides liquidity as well, improves the farmer's balance sheet and offers a contractual guarantee that the crop will be returned to him. The Bank has applied this arrangement to shrimp production, grain farming and, more recently, livestock. Some feel it is too risky because of problems with transporting animals, but Banorte knows the market and performs thorough screening of clients whose livestock is now being certified.

C. LAFISE

Enrique Zamora

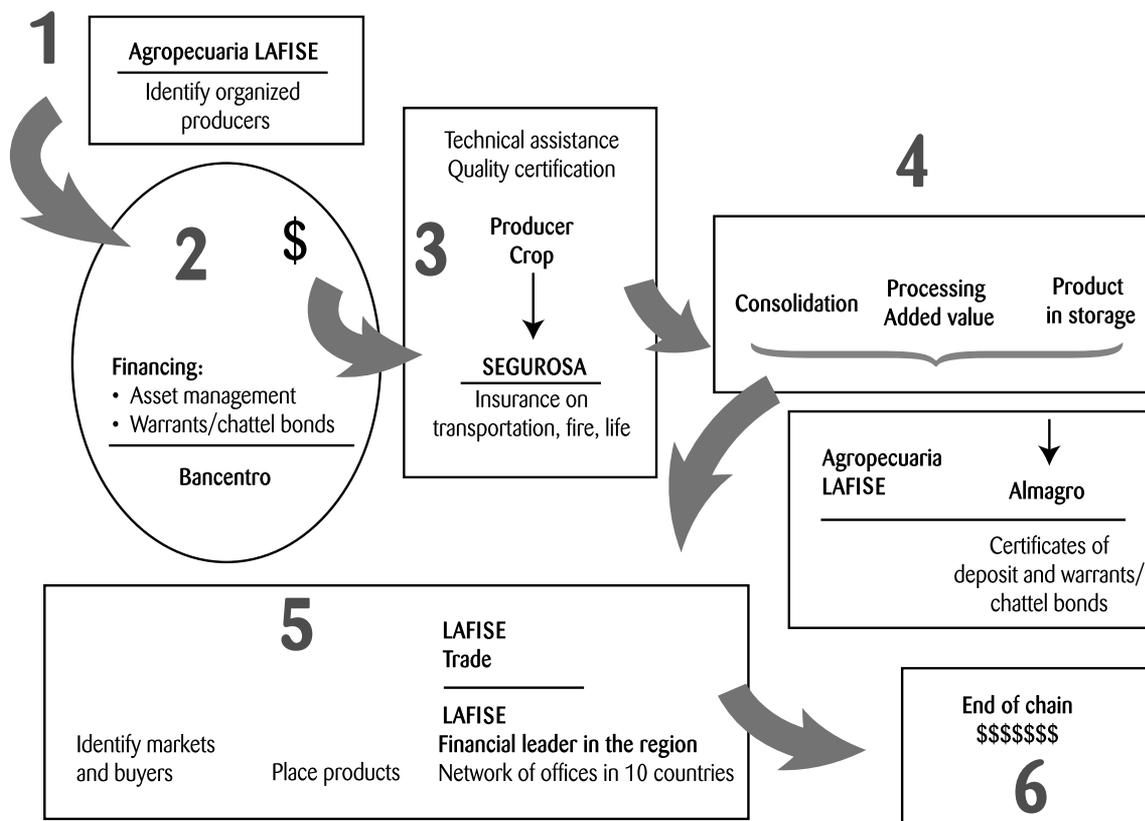
This section discusses activities by Grupo LAFISE to develop and strengthen agricultural value chains throughout Central America. It starts by describing the comprehensive structure of the support model, followed by examples of financial and nonfinancial programs and services.

1. Comprehensive support for the value chain

Grupo LAFISE works with farmers to position them for the free trade agreement between the United States, Central America and the Dominican Republic. Its agricultural division, Agropecuaria LAFISE, has launched a pilot plan for financing the agricultural production chain. It also provides financial resources and channels them through partnerships with other public and private organizations that lend technical assistance, training and institutional support to small- and medium-scale producers organized into cooperatives, guilds or associations.

LAFISE hopes to play a role at every stage of the value chain including financing, production, marketing and export (see Diagram 5.1). It draws on 20 years of experience, a presence in 10 countries of the Caribbean and Central, North and South America, and the services it lends through its own companies or its close partners in insurance, the stock market, investment banking, universal banking, currency exchange, agricultural commodities exchange, leasing and information systems. Also, with the involvement of Agropecuaria LAFISE, it guarantees product sale through its offices in Central America, México, Venezuela and the Dominican Republic and through LAFISE Trade in Miami.

Diagram 5.1 LAFISE model for financing the agricultural value chain



SOURCE: Enrique Zamora, Seminar presentation.

Grupo LAFISE support begins as soon as farmers receive their production loans and continues until they have collected the proceeds on their overseas product sales. It includes access to the office in Miami, which is responsible for visiting trade fairs and identifying buyers. As soon as a good potential buyer has been identified, paperwork is simple. The presence of Agropecuaria LAFISE reassures the buyer as to product quality, speeds up operations and safeguards collection for the seller.

2. Programs and partnerships

Grupo LAFISE operates many different kinds of support arrangements for agricultural value chains, from an array of financial products (credit and otherwise) to technical assistance and marketing services. Some of these are listed below.

- i. *Central American payment system.* Exporters have access to the network of offices in all the countries of the region and the assurance of stable currency conversion. As a result, they enjoy great flexibility and efficiency for receiving payment on products they sell in the countries of the Isthmus.

- ii. *Agricultural commodities exchange.* The Group has a seat on the agricultural commodities exchanges in various countries of Central America. Because these exchanges are certified by the ministries of the economy, many producers, especially cooperatives, can use them to handle domestic marketing of their products. Ideally, all agricultural marketing among the countries of Central America will take place through the commodities exchange. Producers will have the reassurance of selling their products for the best price, and buyers know that they are acquiring products that uphold quality standards and that have both a certificate of origin and a quality certificate.
- iii. *Warehouse.* LAFISE owns a warehouse operation in Nicaragua where farmers can negotiate a better price for their crops. The company trains producers to understand how much profit they lose when they sell immediately at harvest. They can either store their full crop or receive a maximum of 70 percent of the value two days after delivery.
- iv. *Investment fund.* The Group handles an investment fund of US \$30 million with resources from the Inter-American Development Bank, LAFISE and a Norwegian investor. The purpose is to support small businesses throughout Central America. In order to qualify, projects must employ fewer than 100 workers and post sales of less than US \$3 million per year.
- v. *Managed funds.* The bank manages funds for 21 national and international organizations. Because of restrictions contained in banking regulations, it is very expensive to lend money to farmers with little collateral. Therefore, the Group began a fund-management service for other programs that target small-scale farmers.
- vi. *Development of the marketing component.* Through strategic alliances with USAID, Michigan State University, the Inter-American Institute for Cooperation on Agriculture, Nicaragua's Instituto de Tecnología Agropecuaria and the Nicaraguan Commodities Exchange, the Group began helping producers of various products to sell their crops through the agricultural commodities exchange, which offers many advantages.
- vii. *Loans through food processing companies.* Banco LAFISE has begun to place loans through food processing companies or consolidators, having encountered considerable difficulty trying to reach small farmers directly. For example, the milk collection plant serves as an intermediary granting 400 loans of US \$5,000 each for purchase of inputs and animals, and it has reported a default rate close to zero.

Grupo LAFISE also provides technical assistance and even has a training program on export management. Its other services include leasing for the purchase of equipment and machinery, asset pledging (chattel bonds or warrants), guarantee trusts, discount factoring and micro-financing of exports.

D. BN Desarrollo

Luis Corrales

Banco Nacional began to offer development banking services only as recently as 1999 (BN Desarrollo). Even so, since 1914 the bank had an agricultural finance support program known as Juntas Rurales de Crédito (Rural Credit Boards), described in more detail below.

The bank created its Development Banking Division with a focus on sustainability, a long-term vision and the intention of remaining in place for a long time. Even though this section is not directly about BN Desarrollo, it will discuss one of its programs for promoting value chains, starting with a reminder of the bank's philosophy: promoting success.

As of today, the Development Banking Division has a balance of about US \$300 million in its portfolio and represents 20 percent of the entire Banco Nacional portfolio. Since it was created in 1999, it has placed more than US \$500 million in the hands of more than 90,000 customers.

1. The Costa Rican environment

It is important to understand a little bit about the environment in Costa Rica in order to see the whys and wherefores of certain processes in the Development Banking Division. The bank designed and implemented its development banking strategy as a function of specific underlying characteristics and with a focus on a wide variety of value chains or clusters. These features of the Costa Rican setting are:

- A disinclination of Costa Rican producers to work in association with one another.
- A traditional focus on stimulating employment.
- A weak focus on quality; tendency to ignore demand.
- Transition from transaction-based organizations to relationship-based organizations, or from supply to demand.
- Little penetration of Internet.
- Focus on the short term.

A first important consideration is that, because association is not natural in Costa Rica, financial institutions need to shoulder the task of promoting business formation. Although this could cause certain distortions in financial performance, it is also a good thing as the relentless process of competitiveness continues to emphasize the need for teamwork. In response, the Bank has involved itself in development promotion programs with rural communities.

Business development in Costa Rica has overlooked the agricultural sector. Indeed, the great majority of small-scale producers in this country do not consider themselves entrepreneurs. This is

unfortunate because the agricultural sector is not only a production sector in itself, but is also a critical source of inputs for other sectors that are vital for development. This is particularly true in such fields as rural tourism, agri-tourism, export activities and agroindustry.

While weaknesses in this field are undeniable, it is equally true that, little by little, the sector shows encouraging signs of maturing and evolving. Organizations that have focused only on transaction, ignoring relationship, seem to be entering a transition. An example is the coffee growing sector. In the past, a good manager of a coffee cooperative was a person who very clearly understood the cooperative's transactional production structure. Today, a good manager needs to grapple with commercial relationships, fly to Europe or any other country for negotiations and undertake a healthy business development process, starting with the tip of the iceberg, which is marketing.

We hear much talk these days about a gap between the "info-rich" and the "info-poor." This is why Costa Rica's low penetration of Internet is a critical issue. The country claims 23 percent coverage, compared to 70 percent in Sweden or 69 percent in the United States. Rural areas must not neglect this matter, so important for strengthening businesses and gaining access to new markets. Trade liberalization began some time ago, with or without free trade agreements, and financial institutions need to insist on this point and help their clients understand it.

A final issue is the focus on the short term. This is deadly in any strategy to promote development, especially in the matter of agricultural chains. Costa Rica already suffers from a serious weakness because producers are so reluctant to form associative enterprises, a problem that cannot be solved overnight. A policy designed to address an issue of this kind must never lose sight of the long term. This is why it was so important that the Banco Nacional development banking program began with a long-term vision.

2. Linkages

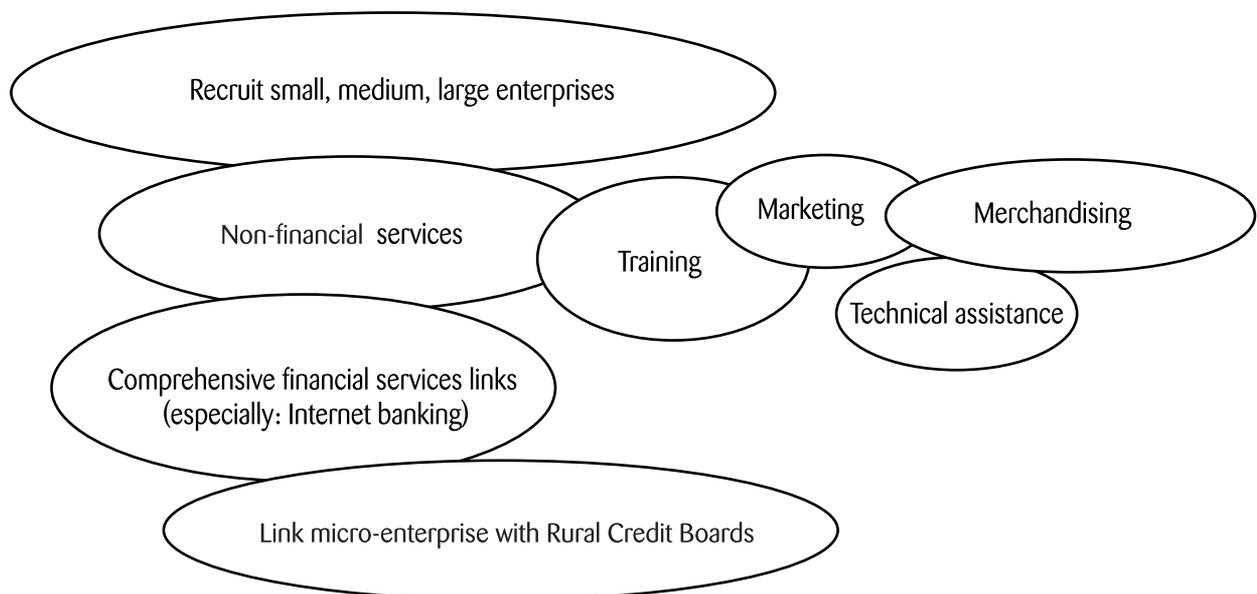
When *Banco Nacional* began to support value chains, it took the sensible step of combining the concept of micro-enterprise with the Rural Credit Boards. From the very beginning, the bank embraced the principle of supporting small businesses, which at that time generally meant small farmers. Times changed, despite the fact that Costa Rica still has in effect a 1948 law stating that farmers qualify as "small" only if they devote 100 percent of their time to farming, to the exclusion of other alternatives and opportunities. For this reason, Banco Nacional undertook a program for non-agricultural micro-enterprise, a sister to the Rural Credit Boards program, illustrated as a first link at the base of Diagram 5.2.

Credit is not the only difficult issue facing Costa Rican producers, who struggle with all the problem areas listed above. Therefore the bank also developed a line of non-financial services. One of the most useful areas that Banco Nacional has promoted, building on its technological platform, is Internet Banking. The owners of small-scale and micro-enterprises need encouragement to grasp opportunities that already exist and that may optimize their use of time. Very often the operators of

micro-businesses, having first learned to pay their telephone bills over the Internet, start to take a greater interest in using technology to improve their production processes. They also need training in the importance of saving. Producers often come into the bank to apply for large amounts of credit, but following its analysis of the operation, the bank slashes the amount to a fourth or even a fifth of the initial request. Credit analysts find that applicants actually need working capital, not money to purchase their rented property. In these cases, a critical part of the linkage process is having the opportunity and ability to guide clients in how best to manage savings and liquidity and optimize their time management.

In 2000, after the program was well underway, the Bank found that it needed to add a second objective to the development banking program: promoting non-financial services. It had an advantage in this area. It was already aware of some of its clients' weaknesses, and therefore was well positioned to help the providers of non-financial services, both public and private, to streamline operations and minimize logistics costs.

Diagram 5.2 Linkage strategy of BN Desarrollo



SOURCE: Luis Corrales, Seminar presentation.

Thus the bank has been building a corps of partners. It has worked with many of them for more than five years, albeit through an informal relationship, having signed no formal documents with these service providers. Results have been successful, as the credit portfolio clearly reveals: the rate of 90-day defaults has never exceeded 1.5 percent during the entire life of the development banking program.

An additional gear in this machinery involves luring medium-sized and large companies into the process. The Development Banking Division recently had the opportunity to pay an observation visit to the Veneto Valley in northern Italy, a place where small businesses abound. The region has a population comparable to Costa Rica's, with 4.3 million people who run 440,000 small enterprises. They feel that their model suffers from a specific weakness: it lacks a large company (or several large companies) that could serve as the "spearhead" in broad negotiations on global markets. This demonstrates that partnership with medium-sized and large companies plays a critical role.

3. Models for intervention

The first model I will discuss is from a Banco Nacional program in the Talamanca indigenous region, where the chain centers around small-scale farm women. The Association of Small-scale Farmers of Talamanca (APPTA) undertook a very interesting process some years ago, in which the Inter-American Development Bank provided a small grant to promote business strengthening processes. The IDB money also went for creation of a fund to guarantee up to 25 percent of the loans to these small farmers who export cacao and organic bananas to Europe. Already 22 farmers have received financing. Another 30 are currently receiving business training from one of the strategic partners in this field, who is teaching the indigenous women about globalized markets.

The program also covers issues of fair trade and environmental protection, and research is underway on handling cacao liqueur. It has conducted several specific experiments on product diversification. As a result, project farmers are now exporting tropical fruits to Switzerland for use in novel energy beverages produced with all natural ingredients.

Experiments of this kind are very encouraging, but they demand a change of attitude in the institution, and this takes time. In the Banco Nacional of 1994, people practically had to crawl in on their knees to beg for a loan. Fortunately, today most bank employees understand that if they do not provide good service, the competition will leave them in the dust. The bank has worked to engender this new attitude in the more than 200 executives working for the Development Banking Division. Now they even offer to travel out to Talamanca and get their shoes muddy so they can meet with small-scale indigenous farm women.

As part of its emphasis on supporting chains, in 2004 the bank began a project called Expocapacita ("expotraining") and Ruedas de Negocios ("business tables"). These activities offer business training

to bank clients and build bridges to connect micro- and small businesses with medium-sized and large companies. Several fascinating projects grew out of the work.

For example, in Guanacaste tourism centers, the bank is working with hotels and agricultural suppliers. Five large hotels are involved in the process, together with more than 20 local small businesses. A similar experience is underway in the region of San Carlos, with the additional appeal of agro-exports. These are not large hotels. For the most part, they are medium-sized, and it is interesting to see how small farmers no longer think only of supplying the hotel with fresh fruits. They are also finding ways to involve their families in maintenance, cleaning and laundry services.

Currently, the most complex *BN Desarrollo* project is a local development chain in Sarapiquí, with a mixture of conditions and horizontal and vertical linkages. Sarapiquí is one of the most backward regions of Costa Rica, socially speaking, but it holds great potential in the rural tourism cluster. Many people are involved in the project, including business owners, young people and children. Areas of action include hotels, export, handicrafts, transportation and other services.

It is a useful example and clearly shows that the challenge is to link, promote and set limits. Unfortunately, many projects overlook the matter of knowing our limits. Visitors attracted to rural tourism want space, peace and quiet, alternatives and diversification, and sometimes we forget that available offerings have limited capacity. It would be wonderful if we could bring 25 million tourists into Costa Rica, but quite likely they would never come back. This is why the first step in planning is to set limits, define a ceiling based on existing capacity to serve customers. Tourists are looking for quality and added value.

In closing, I would like to emphasize certain factors of success in financing value chains:

- Willingness (culture and attitude)
- Immediate action, with a long-term focus
- Many pitfalls: not a single-variable undertaking
- Build up rural tourism, export and diversification, using agriculture as input
- Introduce information and communication technologies
- Combine financial and nonfinancial services

All this requires a new culture and attitude. No planning program in this country has considered such factors as services, basic non-quantifiable needs, social fit, self-esteem. We need to salvage this kind of mentality because in a globalized market, the ability to take action and meet objectives is fundamental. This is what business training needs to encourage. It is not a matter of some identifiable variable; in reality, the potential pitfalls are many. This is why the promotion of agricultural linkages and rural development in general requires support far beyond mere financial services. Non-financial services are also critical. We need to promote them and make them part and parcel of all these

development processes, with a special focus on incorporating the use of information and communication technologies.

E. UNCTAD

Leonela Santana

Traditional methods of financing agriculture begin with the formal sector, including both government entities or programs and private financial intermediaries. The informal sector (friends, relatives, moneylenders) plays a role as well, along with the semi-formal sector made up of credit unions, community funds and savings and loan cooperatives.

With the liberalization of agriculture, governments began to eliminate their production and marketing agencies, and state credit programs began to dry up. When the private financial sector shied away from the risks of agriculture and chose not to meet demands for financing, agricultural producers lost much of their access to credit. Many countries now have a nontraditional alternative, using different kinds of arrangements. The rest of this section will introduce these forms of collateral-based financing.

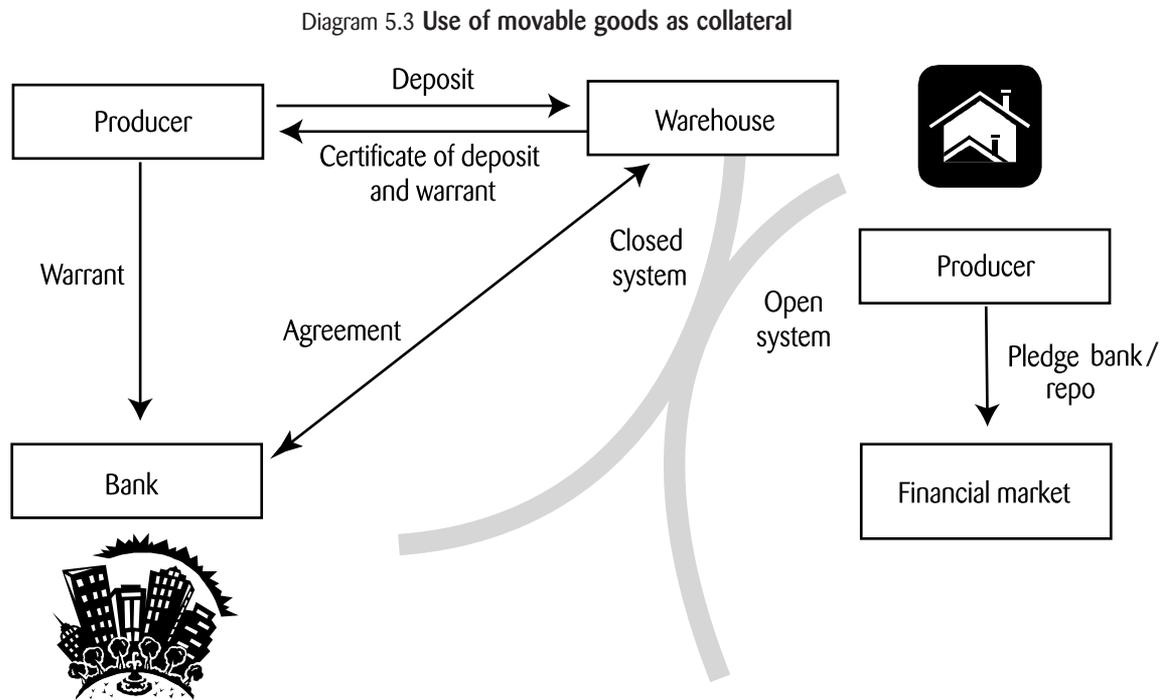
Collateral-based financing

The best-known forms of collateral-based financing use real estate as security or collateral. Under these credit programs, credit recipients mortgage their fixed assets such as plantations, plants or storage facilities.

Collateral may also take the form of goods and chattels or personal property, including commodities, livestock, forest products, manufactured goods or minerals, deposited in a warehouse as described in Diagram 5.3. The receiver of the goods issues a warehouse receipt certified for this purpose. In Latin America, these are two-part documents: (i) the warehouse receipt itself, confirming that the item has been received in storage, and (ii) a warrant or chattel bond that represents ownership of the item stored. Commodities can be converted into cash with the use of a mechanism for financial transformation that exchanges goods for paper.

This finance mechanism offers a number of advantages:

- Default rates on payment of non-real estate collateralized loans tend to be low. The borrower (producer) repays the loan with earnings on sale of the product.
- If the borrower, or depositor of the merchandise under warrant, does not pay, the creditor can call on the warrant company to execute the good given as security, normally by means of public auction. If the law makes no provision for such a measure, the alternative is “repo.”
- If anything happens to the goods on deposit, the warehouse assumes responsibility.
- In the case of disputes between creditors, the law grants precedence to a title of ownership.



SOURCE: Leonela Santana, Seminar presentation.

Colombian Livestock Bonds serve as a useful example of this arrangement:

- The Exchange designed the model. It selects regions (based on security and a tradition of developing animal fattening systems); it selects ranchers (experience, specialization in animal husbandry); it selects ranches (infrastructure, pastures), and it selects animals (branded and by weight).
- It then signs irrevocable contracts that yield ownership rights on unfattened animals and commit ranchers to fatten them by grazing over the next 11 months at the most.
- Overcollateralization: bonds are issued for 75 percent of the value of the assets.
- Insurance against theft and terrorism, independent inspection and oversight and guarantee (100 percent of value) for asset management
- Ranchers can repurchase the animals (repo) or take them to auction at the Exchange.

Financing through collateralization of personal property poses an interesting opportunity for banks, in three ways:

- i. It replaces part of the asset management for companies active in the commodities sector. Many companies have much of their working capital tied up in stock –commodities, income, replacement parts, merchandise ready for shipping. By working with an independent overseer,

the bank can more effectively manage working capital needs, thus freeing up the company's capital. In many cases, the bank can also refinance itself on the international market.

- ii. It gives a mandate for “independent collateral overseers,” or *collateral managers*, so that instead of waiting for a client, a bank can approve an independent manager (for example, storage plants or specialized firms) up to a certain credit limit. Then the bank can announce that, on a first come, first served basis, companies (or producers) that deposit commodities in the warehouses controlled by collateral managers can obtain loans for up to “x” percent of the value of the collateral, at a given rate. This means that the collateral managers can serve as agents of the banks.
- iii. It creates the possibility of securitizing assets. Institutional investors, both local and international, may like to invest in bonds backed by a continuously renovated portfolio of warrants (chattel bonds)/repo's. This opens the way for off-balance-sheet loans and for gaining access to low-cost, long-term sources of financing.

Finally, it is important to understand that, even though globalization and the liberalization of agriculture have impinged on the role of the State, governments can still serve as facilitators by providing: (a) efficient rules and regulations, (b) stable agricultural policies and support for sustainable development, (c) a coherent legal system, and (d) active participation in developing knowledge of these techniques, including the sponsorship of pilot projects.

6

TECHNICAL ASSISTANCE, RISK MITIGATION AND ACCESS TO FINANCIAL SERVICES

Julio Flores, Andrew Medicott, Peter Torrebiarte and Anita Campion

This chapter will examine several real-life technical assistance programs designed to help the members of agriculture chains build up their operations, reduce risk and thus improve their access to financial services. In some of these cases, a single entity lends technical assistance, financing and marketing services. Others involve training programs that teach management and production skills, and while lacking any direct tie to a financial institution, nevertheless improve creditworthiness, as explained in Chapter 3.

A. Fondo de Desarrollo Local

Julio Flores

This section is divided into three parts. The first gives a general description of the Fondo de Desarrollo Local (FDL). The second explains how the Fund visualizes the subject of agricultural value chains, technical assistance and marketing. The last section gives some examples and indications of how the program is working.

1. History of the FDL

The Fondo de Desarrollo Local (Local Development Fund) is a non-profit association created in 1990 by the Instituto Nitlapán, a research and development center of the Universidad Centroamericana. At the time the program was created, Nicaragua was in the midst of a major political and economic transition. Sweeping transformation in the country's economic structure and financial sector led to the creation of a private banking industry, and state banks gradually shut down as a result of their own inefficiency and because the economic model had changed.

The Instituto Nitlapán, whose mission consisted of research and development projects, watched as these changes in the economy created a wide gap in financing, especially in the rural sector. Agriculture continued to be in the hands of thousands of small- and medium-scale land-owning

farmers, but services formerly available to these farmers and tailored to their needs were rapidly disappearing.

In response, this university-affiliated institute decided to set up a professional microcredit institution with a particular focus on the rural sector. Its goal would be to fill the financing gap that had cracked open during those years as a result of structural changes.

The institute used an already existing financing program, but starting in 1997, initiated proceedings to change its legal standing. The redesigned FDL acquired a new governing structure and transformed into an institution specialized in microcredit, primarily to serve the rural sector of Nicaragua. Nitlapán continues to be active in research activities, and it organizes nonfinancial services for the rural sector in close association with the micro-credit work of the Local Development Fund.

As the structural changes took hold, the Fund decided to focus its work in rural areas because of the high development potential there. Nicaragua is still an eminently agricultural country, and much of its gross domestic product comes from agriculture.

In the second half of the 1990s, the FDL tested a new method for working with the agricultural sector using methods unlike those of the banking sector. It demonstrated that farm credit is a viable undertaking that offers financial sustainability combined with an impact on development. In short, the FDL emerged as a sustainable credit entity able to serve thousands of small farmers who formerly had no access to credit.

As of April 2006, the institution had 32 offices nationwide and was operating in 14 of Nicaragua's 17 departments. It had a portfolio of US \$36 million and more than 52,000 clients receiving its services all over the country, 60 percent of them women. It is considered Nicaragua's largest farm credit institution, holding 70 percent of the total rural portfolio and 57 percent of the loan portfolio for agricultural production.

The distribution of the portfolio by payment calendar is especially revealing: 42 percent of the loans have terms of less than 18 months, 30 percent are loans of up to 24 months and nearly 25 percent have terms of 25 months or more, mostly to finance investment in production sectors and especially in agriculture.

2. Value chain approach

In addition to its research work, Nitlapán currently runs development programs that emphasize training and technical assistance for clients interested in obtaining FDL financial resources for agricultural production.

Nitlapán also has programs for land titling, a very serious problem in the Nicaraguan countryside. Nearly 50 percent of small farmers lack title to their land, which limits their access to services and long-term loans. Sixty percent of Nitlapán's technical assistance programs are financed with resources

from current FDL budgets, while the other 40 percent comes from resources that Nitlapán obtains through various cooperation agencies. The Fund invests six or seven percent of its annual budget to cover this 60 percent share of the costs for technical assistance to producers.

What is the reasoning behind this? Small-scale producers generally have limited access to services and market information, especially those who are very remote from cities and located in far-flung communities. The existing services market is imperfect, fragmented and served by very few government institutions. This holds true particularly for technical assistance and other necessary services such as roadways and infrastructure.

The production sector targeted by the Fund needs to adopt better practices if it hopes to compete, even if this means extensive reconversion. Some cases require technology upgrades to improve production activities, and many others need to diversify their product lines. The looming Central American Free Trade Agreement with United States will affect some agricultural activities more than others; many producers will find themselves with expanded market opportunities. This type of support will make it possible to carry out profound reconversion so that the largest possible number of farmers can seize newly emerging opportunities.

We have also heard in this Seminar that credit alone has little impact, as farmers need efficient access to other services as well. The FDL has therefore built partnerships with various institutions, especially its mother institution, Nitlapán. It has vigorously pursued other partnerships as well, including:

- Comercializadora Atlantic, a program that combines FDL credit for coffee growers with Atlantic coffee marketing services.
- Clusa, a company that lends training and technical assistance to growers of green vegetables and plantains, with FDL financing.
- TechnoServe also provides technical assistance for vegetable and plantain growers, while the FDL provides credit.
- Servitec offers technical assistance for livestock producers.
- INTA, Aldea Global, Nitlapán. Four institutions recently created a partnership that included the national agricultural research bureau (Instituto Nacional de Tecnología Agropecuaria, INTA), to verify and certify bean seeds. Aldea Global does the marketing, while Nitlapán gives technical assistance and the Fondo de Desarrollo Local offers credit.

Plans for 2007 include a project with 600 producers in the northern zone of Nicaragua. The FDL continues to develop financing arrangements for beef, dairy, coffee, vegetables and red beans.

3. Examples of financial products

In order to have a greater impact on development and farmer training, the FDL created a portfolio nearly two years ago, called “financial products for development,” to finance working capital for producers. More recently, it added credit for livestock investment, called the “green package.” Producers receive training and technical assistance in eight different subjects. They learn to replace their extensive livestock management systems with semi-extensive systems, both for beef and dairy production. They use techniques such as the introduction of forage trees, feedlot rotation, planting improved grasses, haymaking, and acquiring new tools such as grass choppers and better cattle pens. The Fund offers loans with suitable payment terms to facilitate needed investments. Irrigation equipment is available for lease to small farmers, who also receive technical assistance in handling the equipment, identifying sources of water and diversifying production, especially with green vegetables.

A credit program targeting poor rural women organized in solidarity groups also includes technical assistance. Most of these women receive two or three working capital loans before seeking investment credit.

The FDL also offers working capital credit for small-scale, high-elevation coffee growers whose farms are located over 1,000 m above sea level. This elevation, in combination with the right variety of coffee, qualifies growers to deliver specialty coffee at a premium price. However, their current production practices are detrimental to coffee quality, and by the time their products get to market, the price advantage is gone. The partnership provides them with technical assistance and teaches them to make changes in their handling methods so their coffee will be eligible as for the price premium. The credit portfolio consists of 18,000 clients. Of these, 2,000 joined in 2005 with these development products.

The livestock sector in Nicaragua generally features extensive production systems, good prices for beef and dairy and healthy demand on the domestic and external markets. However, production needs to become more environmentally friendly and producers should develop higher quality standards.

In its target areas, the FDL has promoted these changes in beef cattle production, encouraging breeders to adopt semi-intensive management practices. The Fund offers loans specifically tailored for reconversion processes. Nitlapán lends technical assistance and follow-up and markets through a contract with the industrial plant. The plant pays a price premium for high-quality stock fattened under the faster systems introduced through the project. All this firms up the organization of the production chain and leads to more environmentally friendly her management practices.

The agribusiness that collects milk in Nicaragua usually buys from large producers through high-volume collection centers, while thousands of small-scale producers have problems delivering their product. So Nitlapán organized a collection company, the FDL provides financing, and farmers receive training to deliver high-quality milk. As a result, larger volumes are available in one place, the processing plant is now willing to send its own trucks to collect the milk, and farmers receive stable

prices all year long. The challenge is to provide the technical assistance farmers need to deliver a high-quality product, and to help small-scale producers become organized. This is something the agribusiness definitely cannot do so.

B. Rural Economic Diversification Program

Andrew Medicott

The Rural Economic Diversification Program (RED) is a technical assistance project financed by the United States Agency for International Development (USAID) and implemented by Fintrac Inc. It is a new program that will remain in operation until 2008 to tackle some of the problems of traditional agriculture.

Traditional farmers in Honduras generally plant any which way, with no use of technology. This behavior is common in most countries of Central America, although Costa Rica appears to have regions where small farmers have adopted other practices. Working near these traditional farmers are a few producers who practice agriculture in protected environments with high-technology greenhouses. Financial entities target producers who lie somewhere in between these two extremes. Some have irrigation and others have greenhouses, but they often fail to use them effectively. Traditional agriculture commonly produces low volumes with poor quality and inadequate customer service. The sector is plagued by a perception that there is no market, vulnerability to catastrophic losses due to pests, floods and drought, lack of financing, planting by tradition, no records and unawareness of real cost.

The program works with traditional producers interested in making the transition to a more professional form of market-driven agriculture that uses operating plans of several years' duration, technology to maximize yields, cost reduction methods, crop diversification, markets and buyers, access to financing and recordkeeping.

1. Background and scope of the project

The RED project is a continuation of the Center for Agribusiness Development (CDA) that began in 2000 and lasted a little more than six years. Both projects have pursued the same central goal: to support economic development through nontraditional agriculture.

The CDA worked with fresh and processed products, seeking to increase farmers' gross sales and net income. It focused on smoothing income distribution over the course of the year, improving productivity and reducing costs, thus helping producers, exporters and processors to become more competitive.

In 2003-2006, the CDA reported accumulated new sales of a little more than US \$78 million and generated 8,300 new jobs. Clients saw their sales increasing by an average of 192 percent, ranging

from extremes of 15 to 600 percent. Clients invested more than US \$18 million in equipment over the three years, not including production costs, and boosted their yields by 25 to 200 percent.

The RED, a continuation and expansion of the CDA project, has added other sectors and activities in rural areas. In particular, it has extended the work to include linkages with other suppliers and participants in the value chains. It is mainly a technical assistance project, focusing on five main areas: marketing, post-harvest handling, processing, education and information technology. In each of these areas, it teaches producers to develop business plans, manage cash flows, work with market intelligence and research, and more.

The RED project has no credit fund, as its avowed specialization is not moneylending. As part of its emphasis on chains, it coordinates with financial institutions and helps the partners to develop. All members of the value chain need to take part in technical assistance activities, including financing institutions, input suppliers, equipment vendors, research, buyers and shippers.

RED clients run the gamut from small producers with annual gross sales of US \$2,000, to large companies that sell as much as US \$8 million. The smallest producers are farming half a *manzana* of land, or 3,500 square meters, while the largest have from 500 to 600 *manzanas*, as much as 400 hectares.

The project is active in 16 of the 18 departments of Honduras and covers a wide range of activities. As will be explained later, it places most of its emphasis on production systems in which producers adapt and plant what the market wants. Farmers may begin with a single product, such as lettuce, and later add a variety of other crops. RED operations take a long-term approach. Most traditional producers focus on a single crop and think mostly about what they are about to plant; they are not thinking about what to plant a few months later or next year. These farmers need to make investments to improve the operation of their farms; and because of their investments and the depreciation of their equipment, they need to start thinking about the long term.

The work of RED, summarized in a single sentence, is “to professionalize small- and medium-scale farmers and processors.” By professionalizing their operations, these producers can gain access to markets and financing and can have more profitable farms.

The project promotes the same technology used by large producers. Indeed, if small- and medium-scale producers hope to compete head to head with their larger neighbors, they need to use the same technology. Ultimately, the difference does not lie in the technology, but only in the scale. Small- and medium-scale producers have also penetrated local and export markets by building linkages with large and medium-sized companies, both for fresh produce and for processed products.

2. Production systems approach

Why the focus on production systems? Farmers claim their two biggest problems are lack of market and lack of financing. But what is the root of the problem? Quite simply, farmers go out looking for markets as soon as the harvest comes in. When they show up, they find nothing but problems because buyers pay what they please, buy less than expected, or want nothing at all.

A closer look reveals the real problem: lack of planning. If we know who will buy our crops before we even plant, if we have contracts or sales agreements so we can plant what buyers want, then we see clearly that the market is not the problem. The focus needs to be on production. For example, the RED Project has one person in marketing and 18 agronomists in the field, because the hardest challenge is to produce what buyers want, “when they want it, how they want it and as much as they want.”

Producers also complain about problems with credit. We have been hearing in this Seminar that financing is not the only issue. We can lend money to farmers, but if they lack technology and markets, they will always lose. This is why RED believes that technology comes first, together with the market. Once we have both, we can lead producers to the bank, but not before. That is, once they are certain they can handle the technology and meet their obligations, financing follows naturally.

For example, RED Project farmers receive technical assistance in the following subjects:

- Profitability analysis (level of technology, crop selection, proper use of production indices, investment plan, market knowledge)
- Risk analysis (project feasibility, location of production, experience, market)
- Contingency plans (breakeven point, developing scenarios and procedures for each case, good measurement parameters)
- Production systems (mechanization, cost reduction, production efficiency, post-harvest management and marketing)
- Farming practices (soil preparation, windbreaks, seedbeds, pruning, drip irrigation, nutrition, plant protection practices)
- Certifications (Eurep, BRC, ProSafe, SCS)
- Input management
- Environmental protection

These changes are introduced gradually. As was said earlier, RED Project clients generally begin with a single crop. By working with production systems and adopting modern technology, they can incorporate other crops fairly easily as they acquire experience and receive technical assistance and training. Crop diversification places producers on a more sustainable footing by reducing market and production risks. At the same time, it allows many farmers to maximize the use of their land and

continue to produce all year round. This increases gross sales, reduces fixed costs per individual crop and provides uninterrupted employment.

C. Starbucks Coffee Agronomy Company

Peter Torrebiarte

This section is divided into two parts. The first explains why a coffee buyer and roaster is attending a seminar on financing agricultural value chains. The second introduces the subject of sustainability. Basically it discusses an integrated management system built on several different pillars, including the Farmer Support Center and a buying program known as “C.A.F.E. Practices.”

1. Starbucks and agricultural value chains

The mission of this global company is to establish Starbucks as the premier purveyor of the finest coffee in the world while maintaining an uncompromising adherence to six “guiding principles:”

- Treating associates with respect and dignity
- Diversity
- Excellence
- Customer service
- Communities and the environment
- Profitability.

When company executives first developed these principles, they said they would rigorously adhere to the first five, knowing that the sixth would naturally ensue. This is what Starbucks tries to do –grow responsibly.

The company consciously seeks out a wide diversity of suppliers, which in the coffee market is easy to do. It currently buys coffee in more than 127 countries, the majority of it from Central America. The company has developed a detailed set of socially responsible standards. Starbucks operates supplier certification programs both for agricultural products (C.A.F.E. Practices) and for non-agricultural products (such as glasses and napkins used in the restaurants).

The Starbucks company has 11,800 shops all over the world, where 112,000 employees serve approximately 35 million customers walking through its doors every week. The company does not buy from all coffee producers, but it is interested in developing a direct relationship with its growers, and this is something it is trying to strengthen.

The industry where Starbucks operates, coffee production, consists of more than 25 million people all over the world. Fifty percent of the world’s coffee comes from small-scale producers, as occurs with

other agricultural products as well, and 80 percent of the coffee comes from Latin America. Starbucks itself buys 70 to 80 percent of its coffee from Latin America, selecting only arabica coffee in what is one of the most volatile commodity markets in the world. Coffee prices have been experiencing a marked downward trend since 1997, with a slight rebound only recently.

Coffee has traditionally been purchased through commodities exchanges at market price plus a markup for specialty coffees or minus a markdown for less-than-fine coffees. The company could have prospered financially and made a great deal of money by following this purchasing model. However, more concerned about allaying risk, it decided to develop a different arrangement and buy for a fixed price negotiated directly with farmers. The idea is to work out a price that is fair to producers regardless of current trends in commodity markets. For example, in 2005, Starbucks paid an average fixed price of US \$1.28 per pound FOB, about 23 percent higher than the average price during that same period on the New York futures market.

2. Sustainability

The company understands sustainability as integrated management, including the following factors:

- i. *Premium prices.* If it could do nothing else, the most important gesture the company can make for small farmers, and coffee growers in general, is to pay a premium.
- ii. *Certified and conservation coffees.* In 2005, Starbucks purchased 11.5 million pounds of Fair Trade Certified™ coffee, 9.2 million pounds of certified organic coffee and 1.9 million pounds of shade-grown coffee. The latter, known as conservation coffee, came from projects managed by Conservation International in Perú and México.
- iii. *Access to credit.* Starbucks was interested in supporting farmer access to financing but did not wish to do so directly. It decided to invest in such organizations as Verde Ventures, EcoLogic Finance and Calvert Foundation, whose mission is to finance cooperatives of coffee growers. Although not necessarily cheaper than bank loans, this credit is much more flexible. Farmers need only show their sales contract with Starbucks to be considered creditworthy. It is typically very short-term credit for survival until harvest. In several recent cases, farmers have also used credit to invest in infrastructure and to improve wet processing equipment.
- iv. *Social programs.* The company supports social programs all over the world, especially in health and education. It is also involved in projects to build production infrastructure.
- v. *Farmer Support Center.* The Farmer Support Center is a regional office located in Costa Rica. Its purpose is to guarantee a steady supply of high-quality coffee to sustain the company's rapid growth. Instead of taking the easy route of pressuring current suppliers to increase their production, even clearing forests if necessary, Starbucks has preferred to seek out producers already located at the right elevation, with the right microclimate, who are growing arabica varieties but have not received technical assistance. These farmers know how to grow high-quality coffee, but they never had a buyer who would pay enough of a premium to make investment worthwhile.

- vi. *C.A.F.E. Practices*. This performance-based incentive offers preferential purchasing. Anyone can take part, including large estates, farmer associations, processors that sell on the market, and cooperatives. Potential members need to meet prerequisites involving coffee quality and financial transparency. When coffee fails to meet quality standards, it does not fetch a price premium, and sellers are unable to pass higher prices along to farmers. Moreover, there is no sense in paying a good premium to the exporter or the manager of the cooperative, unless the money actually benefits farmers. Finally, the company considers a number of factors for those who wish to become part of the C.A.F.E. Practices program. These include social responsibility, working conditions, occupational health, decent wages and environmental standards, both on the coffee farm and in the processing plant.

In the same vein as Andrew Medlicott explained for Honduras, one of the main tasks that Starbucks has undertaken is to help small farmers become more orderly. Many of them display good practices, but they are not systematic. Coffee purchases through these specific programs have been growing. For example, in 2005, 24 percent of the company's total purchases took place under the C.A.F.E. Practices arrangement, and this figure is expected to grow to 50 percent in 2007.

D. Agromantaro

Anita Campion

This section presents examples and lessons learned from projects and studies conducted in Perú by Chemonics International with financing from USAID, particularly in the artichoke value chains. Perú has been growing strongly in recent years, but most of the people in rural areas register high levels of poverty, so there is still much room for growth. This is reflected in the financial sector, where only three percent of formal credit goes to agriculture. Many banks claim outright that they prefer to avoid agricultural financing altogether, and the few that are willing to get involved work only with medium-sized and large agribusiness. A number of rural banks and microfinance institutions are starting to appear on the scene, but most continue to concentrate on underserved urban areas.

Most farmers have from one to five hectares of land, generally without title, and a poor credit history. Government interventions have worsened the situation of agricultural financing through such programs as "agricultural rescue" for the banks and subsidized loans by the *Banko Agrario*.

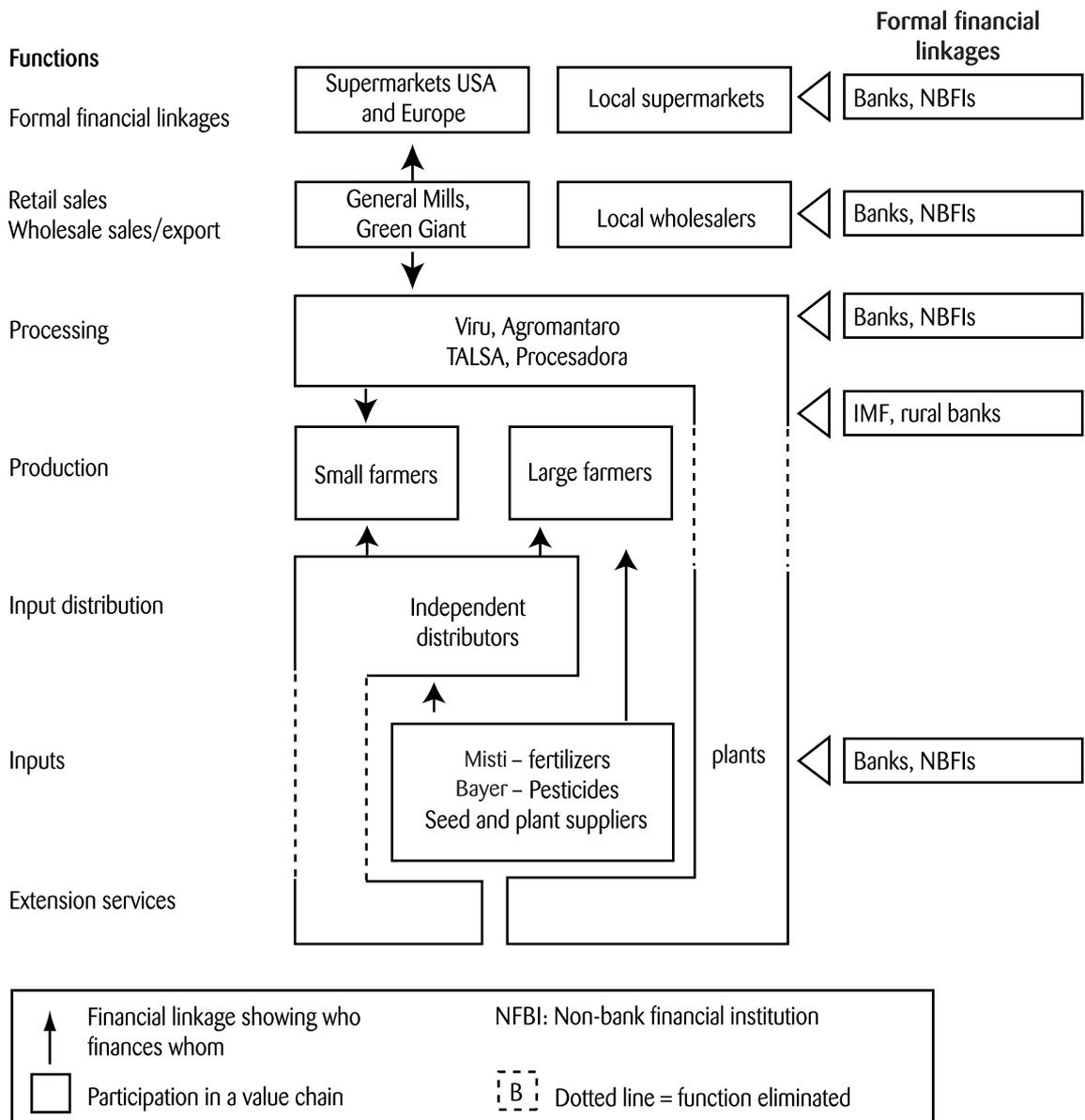
1. The artichoke market

Worldwide demand for processed artichokes has more than doubled over the past 20 years. The largest supplier is Spain, which covers 92 percent of the market, followed by Italy, with five percent. Perú has been trying to capture part of the European market and is well positioned to do so, given its labor cost advantages.

Diagram 6.1 shows the value chain for Peruvian artichokes. Note that it begins with retail sales, unlike other value chain diagrams. All too often this sector (retailers) is positioned at the end, when in fact it should be considered a starting point because this is where demand originates.

Arrows in the diagram indicate the direction of financial flows in the value chain and give an idea of why the formal financial system became involved in financing the chain. More details can be seen below in Table 6.1.

Diagram 6.1 Artichoke value chain



SOURCE: Anita Campion, Seminar presentation.

To begin with, retail sales actually take place outside Perú, in the United States and Europe. Large wholesalers may offer some supplier financing for retailers, but the purpose of the diagram is to emphasize what is happening in Perú.

The representatives of wholesalers operate in Perú directly with processors and prefer to work with a small number of large companies rather than many small ones, so as to assure a steady supply. They offer a contract specifying the exact price they will pay for the largest volume of processed artichokes their suppliers can produce. The largest supplier in Perú is Viru, followed by two medium-sized suppliers (Agromantaro and Talsa) and, in a distant fourth place, Procesadora.

Because processors have a contract and a fixed price, they know exactly how much they can pay farmers for the product. Much like wholesalers, they would prefer to work with a few small producers, but because most of the land is divided into small parcels, processors generally buy from small farmers. This crop is new, unfamiliar and apparently risky, so processors need to go out and convince small farmers to produce for them. For this purpose, they offer:

- A contract
- A fixed price
- Seedlings
- Technical assistance.

The idea of the seedlings and technical assistance is to minimize production risks. Farmers do not pay for seedlings until harvest, so in this sense, the processor is involved in financing the crop. Fertilizer companies supply farmers by selling to independent distributors and offering them volume discounts and commercial credit, just as they do with the “large” producers. The distributors then extend commercial credit to “small” farmers for payment a few months later when the harvest comes in. They also provide free technical assistance on optimizing the use of inputs, which in turn reduces the risk of default.

Thus artichokes serve as a good example of financing and technical assistance within a chain structure. Very little formal credit goes to agriculture in general. However, when word got out that this chain was working well, non-banking financial institutions began to take an interest, especially rural credit unions, municipal credit unions and the Edpyme Confianza. They started to offer direct loans to small farmers, thus releasing processors to use their capital for expanding their own investments.

Table 6.1
Availability and need for financing

PARTICIPANT IN THE VALUE CHAIN	FINANCING WITHIN THE CHAIN	FINANCING BY FINANCIAL INSTITUTIONS	PENDING NEEDS
Wholesaler	Contracts and advances to processors	Bank loans	NA
Processor	Credit sales and technical assistance to farmers	Bank loans, 100% collateral	Long-term investment financing
Farmer	NA	Contract-based loans from NBFIs	Long-term financing for tractors, irrigation and land
Input distributor	Credit sales and technical assistance to farmers	NA	Short-term loans for working capital
Commercial farm supply store	Volume discounts to distributors and large farmers	Bank loans, 100% collateral	NA

SOURCE: Anita Campion, Seminar presentation.

Table 6.1 clearly shows where current financial linkages are, both inside and outside the value chain. It shows, for example, that processors had some access to bank financing, but not as much as they would have liked. Collateral requirements were so stiff that company employees found themselves drawing on their personal assets. The table also shows unmet needs. The most important one, reflecting other cases described in earlier chapters, is the need for long-term financing for investment and medium and long-term loans for fixed assets, such as tractors and irrigation systems.

2. Agromantaro

As was said, Agromantaro is the second or third largest artichoke processor in Perú. In the beginning it produced asparagus. At one point, it had considered expanding into artichokes in coastal areas, but with support from the USAID/Chemonics International Poverty Reduction Assistance Project (PRA), the company decided instead to invest heavily in the highlands. In this region, artichokes can be grown nine months of the year, whereas the growing season lasts only four months near the coast. When the PRA had talked with wholesalers in the past and asked them to explore other opportunities in Perú, artichokes had come to the fore.

PRA technical assistance providers knew the farmers and were familiar with local cultural considerations of which Agromantaro representatives were unaware. Their support was critical for convincing farmers to take the risk of cultivating artichokes, thus overcoming the first great obstacle. Eventually Agromantaro began to hire several of these technical specialists to work directly for the company. After two years, 200,000 additional workdays had been generated.

3. Lessons learned

Many of the projects and many of the countries here seem to be drawing the same lessons. Below is a summary of what we have learned through the projects in Perú.

- Participants in agricultural chains are motivated more by the desire to expand markets than by making profit on financing. In other words, they end up providing technical assistance and loans in order to boost production so they can buy or process larger volumes or sell inputs to more farmers. Unlike formal financial institutions, they are not overly concerned about profiting from their financial operations, and even see them as zero-cost propositions. Certainly this is not the case, but in any event, they do not see their loan activities in the same light as a financial organization would.
- Farmers need access to a “complete package” of technical assistance and financing services. Financing has been available in Perú for a long time, but it did not solve all problems. Technical assistance has also been available without financing, and while it is helpful, its impact is necessarily limited. Instead farmers need comprehensive support in order to enjoy all the benefits of an upgraded chain, even if this means changing their way of doing things and learning to grow nontraditional crops.
- Cooperation among companies can make the value chain more competitive. If all participants in the chain join efforts, they can make a big difference, and their overall chain will become more competitive. A leader in the chain may serve as the catalyst. For example, an association of exporters that is involved from the very beginning of the chain may share information about which seeds are best in each region, generally creating systems for the free flow of information.
- A lack of financing may prevent the value chain from becoming competitive or prevent participants in the chain from seizing opportunities that arise unexpectedly or temporarily.
- Companies in value chains are often better informed than financial institutions. They have market knowledge. They can anticipate changes. Processors get to know farmers and build connections with them. All this helps reduce risks in ways that financial intermediaries cannot.
- Financing is often seen differently when it is supplied within the value chain, than when it comes from a financial entity. Loan conditions often prove difficult to quantify if financial products are subsumed within other non-financial services. As a result, the costs of external financing do not compare easily with the costs of financing provided within the value chain.
- Financing through the value chain tends to take the form of short-term loans for working capital more than long-term financing for fixed assets. Even so, this seminar has offered some encouraging examples of value chains that now offer more medium- and long-term financing for fixed assets or investment.
- Value chains frequently lead the way for formal agricultural credit operations. When successful financing activities begin to grow within a value chain, the demonstration effect attracts financial intermediaries into direct agricultural credit. Part of this outcome is facilitated by the use of

contracts, but in many countries, even though contracts exist, they are not easily enforceable. What really makes the difference, as Claudio González Vega explained in his presentation (see Chapter 3), is a transparent, stable, functional relationship between members of the chain.

I would like to close with a question. Should we be developing ways to induce formal financial institutions into offering wider financial services? Or instead should we keep our focus on obtaining financial services per se, regardless of whether they come through the value chain or from outside? In either case, the ultimate goal is to stimulate markets and create more employment opportunities. The basic need is to bring about more medium- and long-term financing so that value chains can seize any opportunities that may come their way.

7

DIALOGUE WITH DONORS AND INTERNATIONAL ORGANIZATIONS

*Calvin Miller, Geoffrey Chalmers, Mark D. Wenner, Juan Fonseca,
Ronald Martínez, Raul Hopkins and Pauline Tiffen*

The intent of the seminar session reflected in this chapter was to encourage interaction with representatives of international cooperation. The idea was to: (i) give officers from these organizations the opportunity to enlighten participants about grants or financial projects and programs in the field covered by the event and in related areas, and (ii) give speakers the opportunity to learn more about the needs of participants in agricultural value chains for consideration in designing future international organization projects. The presentations are summarized herein.

A. Food and Agriculture Organization of the United Nations

Calvin Miller

The FAO was created in 1945, and its headquarters is in Rome. It has 188 member countries, five regional offices, one of them in Latin America, and national offices in 78 member countries. FAO does not revolve around grantmaking, and in fact the few grants it does offer are limited to start-up projects and cooperation with governments. For the most part, it serves as an international technical agency. Other international organizations are much more active in financing, including the World Bank and the International Fund for Agricultural Development (IFAD); FAO frequently cooperates with them in a variety of projects.

FAO is organized into eight departments, each one with separate directorates or divisions. The Agriculture and Consumer Protection Department has a section called the Rural Infrastructure and Agro-industries Division whose goal is “strengthening services in agri-food systems.” This division helps member countries develop policy, strategy and methodologies appropriate for agricultural support systems and services. It also helps them with technologies for rural development, production and postproduction in agriculture and food. Its technical support activities basically take the form of applied business development with a focus on the agricultural, agroindustrial and livestock sectors, running the gamut from small farmers to large enterprises. The division has two broad services that

offer project intervention: (i) the agriculture and food engineering technology service, and (iii) the agricultural management, marketing and finance service.

The finance section concentrates mainly on agribusiness, with a focus on developing financing and value chains. The main activities in this area in 2006-2007 are:

1. Promoting competitive agroindustry: development and financing for the value chain, promoting a favorable environment, strengthening the capabilities of small and medium-scale agroindustrial and enterprises (SMEs) and assuring food quality and safety.
2. Developing rural infrastructure: models and good practices, planning, design, management and financing of rural infrastructure. This is a new area that will work together with rural stakeholders, especially in financing rural industry with a focus on agribusiness.
3. Improving income, employment and the livelihood of small farmers through two specific activities: providing small farmers with better services and upgrading their market linkages, and building their skills to diversify production, develop entrepreneurial activities and generate added value. A special program supports producers, both women and men, either individually or through their organizations.

Three working groups are engaged in activities with agricultural value chains: marketing, rural finance and farm management. Some of the recent activities of these groups are:

- Marketing group
 - Marketing extension services: a guide for extension workers, and training videos on horticultural marketing, grain marketing, costs and margins.
 - Market information: FAO-Agrimarket 3 is a set of software guides for developing and upgrading market information systems.
- Rural finance group
 - A study of linkages between rural financial agencies and non-financial stakeholders
 - Regional Agricultural Credit Associations (RACAs)
 - Publications
 - MicroBanking System, MBWin
 - Rural Finance Learning Center (www.ruralfinance.org). FAO runs this project with funding from IFAD, the World Bank, GTZ and other organizations.
- Farm management group
 - Farm Management Systems series
 - Promoting diversification
 - Farm management training

- Agribusiness management training
- Analysis of farm production costs
- Initiative to strengthen farm-agribusiness linkages

Again, FAO is more a technical agency than a funding agency. Its field work includes, first of all, activities conducted in the framework of its regular program, especially technical assistance to member countries. In addition, research and dissemination take the form of studies, publications, expert consultations, events, statistical reports and monitoring of commodity markets. In the second place, it also conducts externally funded projects such as project design and implementation, emergency operations, special programs (SPFS) and the investment center (project identification and development).

FAO also offers opportunities for cooperation through publications and materials. People in the countries can submit specific requests through local FAO offices. In Central America, FAO is part of RUTA, along with IFAD and the World Bank. Finally, FAO also works closely with governments, and anyone can coordinate with a government to request support for specific projects, for policy development and review or for projects to improve the competitive environment.

B. United States Agency for International Development

Geoffrey Chalmers

The United States Agency for International Development (USAID) works in more than 70 countries, with an emphasis on the least developed countries. It is active in nearly all the countries of Latin America except Argentina, Chile, Costa Rica and Uruguay. USAID works with grants for the private sector and civil society associations. To a lesser extent it also cooperates with governments, but as partners rather than direct aid recipients.

Interventions in areas associated with financing agricultural value chains are based on a conceptual framework that seeks to analyze and improve the entire chain so as to create wealth in poor communities. The agency is interested in everything from production to retail demand. Even though it keeps a view of the overall chain, it always focuses more closely on those sections of the chain where opportunities are few and wealth, elusive.

In this approach, it always emphasizes the concept of sustainability. As applied to interventions in value chains, sustainability means whatever remains behind after the initial subsidy with public resources is gone. Because its goal is for something permanent to remain after the intervention is over, it seeks out partnerships with local stakeholders, especially in commercial sectors, such as service providers. These are the links that will never disappear in the sector or in the country. The best prospects are commercial interests that have a lasting economic incentive to stay where they are, supporting the sector.

This is the conceptual framework within which USAID has developed what it calls a “financial lens.” First, it defines ways of intervening in a value chain. Then it examines where the different sources of financing are, both inside and outside the chain. It narrows its focus to identify gaps in financing, and then builds partnerships with many different stakeholders, both inside and outside the chain, such as financial institutions. This is another way to add a degree of sustainability. Instead of simply figuring out how to get some money to patch up such and such a chain, the idea is to dig a bit deeper and find sources of long-term financing.

At a third level, building on the foundations of the first two, it adds the rural sector. Many speakers here have already emphasized that rural financing is very different from simple farm finance, and USAID has been experimenting to discover how true this is. The two are very closely interrelated, as the world of agricultural finance is clearly inseparable from that of rural finance.

The problems of rural financing can be solved only if we understand the entire chain, which is broader than just production. Many households in rural areas also have financial needs. In the view of USAID, the two concepts need to be considered within the same framework. The two –agricultural and rural– overlap in many ways, and if we consider one without the other, we may miss opportunities to see interrelationships.

USAID classifies rural financial markets into three groups: (i) rural finance, which covers financial services in rural areas available to people at all income levels; (ii) agricultural finance, or financing for activities directly related to agricultural production, from the field to the market; and (iii) microfinance, or financial services for poor and low-income people. Although microfinance has much in common with rural finance, many microfinance activities are located outside rural areas. The same is true for agricultural finance, especially when it targets agribusiness, because some of this production takes place in cities and is no longer rural.

This means that the microfinance portfolio has relatively little agricultural content. One of the objectives of seminars such as this is to find ways of expanding the overlap between microfinance, agricultural finance and the rural sector.

USAID is active in the following areas: research, implementation and training. The three are closely interrelated, especially in the past five years and in the area of rural finance, where explicit attempts have been made to link them together.

USAID works with different partners and uses a variety of tools in two broad dimensions:

- i. *At the country level.* Because the agency is present in 70 countries, it is highly decentralized. The local office in each country develops a local strategy, generally of several years’ duration, defines programs for that country, and seeks out local partners.
- ii. *At the global level.* Here too, USAID is on the lookout for innovation and pilot programs. The objective is not so much to advance certain things in a given country, as to draw lessons and identify better practices that can be disseminated afterward to many other stakeholders.

It generally uses competitive bidding processes, especially for work at the global level. In every country where it works, USAID issues several calls to bid every year, usually for relatively low amounts.

Some of the global programs have only one strong focus –to learn from the experience, which is then documented in papers and findings and shared freely over the Internet at www.microlinks.org. The website contains two broad areas. The first, enterprise development, covers all kinds of chains with an emphasis on both agricultural and urban chains of small-scale producers. The second area is financial services, combining rural finance with other financial topics.

C. Inter-American Development Bank

Mark D. Wenner and Juan Fonseca

The IDB group is divided into three parts:

- i. The Inter-American Investment Corporation (IIC), whose mission is primarily to serve small- and medium-sized enterprises in the private sector.
- ii. The Bank itself (IDB), whose clientele is mainly the governments of the countries of Latin America and the Caribbean, a total of 26 countries.
- iii. The Multilateral Investment Fund (MIF), founded in 1993 as a dynamic, innovative entity serving the private sector.

The Bank uses a variety of tools for its activities, especially loans through technical cooperation projects targeting governments in the region. The MIF has a very broad spectrum of intervention mechanisms: grants, equity investments, loans, guarantees, participation in investment funds, and more. The Corporation (IIC) has a much broader array of tools in its arsenal: loans, credit guarantees, issue underwriting, equity investment, quasi-equity investment, syndicated loans, participation in investment funds and co-financing with other entities.

In practice, IDB activities most commonly consist of financing public goods through governments, networks and trade groups. As an example, a project in Haiti lends financial support to the Ministry of Agriculture to build up its capacity for research and technology transfer to small farmers, extension services and health services.

The Corporation mostly targets the leader of the chain for its financing projects. For example, it often seeks out a large agricultural processor in the target country, on the understanding that this plant probably finances small and medium-sized farmers through contracts. The IIC offers short-, medium- and long-term financing under competitive conditions, as well as support to improve environmental impact, access to financing and corporate governance.

The MIF uses a more holistic, assertive strategy. It emphasizes financing and creating clusters and value chains. Its focus is more on how to optimize, how to associate producers, how to train them and how to coordinate the entire chain or cluster to make it more integrated and efficient.

The MIF decided to work with clusters to make its interventions more efficient. Each cluster is supported by one or two technical experts who pay regular visits to all the projects in the group, encourage the projects to share their experiences with one another, and facilitate implementation as much as possible.

The emphasis on groups or clusters of projects leads to better project design and implementation. It helps promote communication and exchange between agencies and sectors frequently facing the same challenges. It also brings implementing agencies together in a network to share experiences and resources. Finally, when projects are gathered into clusters, valuable lessons can be identified more easily, and provide useful feedback for improving the design of new projects.

The IDB group contains a fourth area relevant to this seminar, a part of the Bank itself, that works to support chains. It is the division of micro, small and medium enterprises that operates through the Social Entrepreneurship Program (SEP), previously known as “Small Projects.” Created in 1978, the program promotes economic development and social equity among poor or marginalized groups by financing small projects that lend financial, social and community development services efficiently and sustainably. It has a long history of financing small agribusinesses, farmer groups and associations or cooperatives of women. Over the past two years, it has changed its approach somewhat. Seven or eight years ago, it was financing many urban microfinance institutions (MFIs). Today, faced with the difficulty of locating rural MFIs, it has been financing value chains. The program portfolio fluctuates from year to year, depending on resource availability, and ranges from 13 to 25 projects with a value of US \$20 to 32 million.

The IDB uses three basic models for financing agricultural value chains:

- Credit funds
- Pre-financing for cooperatives or producer groups
- Loans to agricultural processors who subcontract small farmers

As an example of these models, it may offer a loan to a cooperative or small agro-enterprise that in turn sets up a revolving fund and extends its own loans to partners or nearby small farmers. Another example is support for EcoLogic, a financial institution in the United States specialized in sustainable trade. EcoLogic raises low-cost capital in the United States from socially responsible investors, usually at around two or three percent, and offers loans in Latin America at six or seven percent to finance organic coffee production. It also helps producers obtain certification and sell their products. The group works closely with Starbucks and Green Mountain Coffee, which are also working to consolidate the market for their group of farmers.

D. Central American Bank for Economic Integration

Ronald Martínez

The Central American Bank for Economic Integration (CABEI) offers agricultural finance for projects designed to:

- i. Improve profitability of current activities
- ii. Develop and diversify production activities
- iii. Boost exports
- iv. Introduce technology changes
- v. Encourage processing and added value.

To become eligible, projects should ideally possess eight specific qualities:

- i. Profitability
- ii. Value chains
- iii. Economies of scale
- iv. Employment generation
- v. Attraction of investments and co-investments
- vi. Horizontal and vertical integration
- vii. Promotion and diversification of exports
- viii. Technology innovation.

As a concrete example, Costa Rica has a project that meets all these criteria. It is developing production in controlled environments, usually known as greenhouses, and featuring different kinds of technology that maximize and drive production and farmer income.

Controlled environments have proven successful in many countries, especially in Europe. When CABEI decided to bring the idea to Costa Rica, only one financial institution was interested. This country already has a large number of rustic or very rustic greenhouses, covering around 180 hectares of floor space and belonging to approximately 340 producers.

The project was a joint effort by an outreach institution –a local farmer association– together with a trader and supplier who plays a strategic role, CABEI, a financial institution, and advisory agencies sponsored by the Ministry of Agriculture and a government vocational institute, the Instituto Nacional de Aprendizaje.

The overall objective of the project was to build and operate greenhouses containing 102,000 m² of floor space for planting, developing, harvesting and marketing farm products. This is very easy to say but quite difficult to do.

The specific objectives were to set up production modules in controlled environments, meeting all requirements for legal compliance, certification, market standards and environmental protection. The products were not for local sale, but for an export market where standards were strict and unyielding. This called for very costly investments. No farmers could afford to run such a risk only to find that, having made the investment, their products were not eligible for international sale.

The second objective was to endow production units with sufficient working capital and infrastructure to develop the production process effectively. The third objective was to introduce green vegetables into markets in the United States and Canada. A final objective was to teach farmers entrepreneurial and technological criteria for quality and safety management, standardization and certification.

The project called for a total investment of US \$7.2 million, of which CABI provided 57 percent, producers, 26 percent and the financial institution, 14 percent. The remaining three percent came from the government in the form of technical assistance.

An experimental laboratory was set up to minimize risks. It ran for several weeks in an area selected specifically for its conditions. The idea was to discover what problems would likely arise for producers of this kind. It proved a useful technique for generating a first stage of development, which eventually gave the project the momentum it needed.

Despite these precautions, problems did crop up in the implementation process, some of them serious. Throughout the process, however, effective technical assistance was available, and indicators and standards were managed well. In the end, the project yielded many benefits. (i) It created high-quality jobs. (ii) It contributed to development in the region. (iii) Small farmers became involved. (iv) The project created, promoted and diversified export products. (v) It created multiplier effects. (vi) It developed production linkages. (vii) It attracted new investments. (viii) It developed horizontal and vertical integration. (ix) Finally, the project promoted technology innovation.

This project perfectly reflects the Bank's interest in working with small farmers and developing activities within the value chain structure. The chain was extensive enough to accommodate production, consolidation, marketing and consumption of the product, and it operated with the assistance of a financial institution and using inputs from suppliers and institutions, in this case from the Government.

E. International Fund for Agricultural Development

Raúl Hopkins

The International Fund for Agricultural Development (IFAD) is a United Nations specialized agency that works to reduce rural poverty. Founded 28 years ago, it has 163 member countries. It is currently running 192 projects with a value of more than US \$6 billion.

Recent figures from the Economic Commission for Latin America and the Caribbean (ECLAC) reveal that 63 percent of the rural dwellers in Latin America and the Caribbean earn incomes that place them below the poverty line. It is important to remember what the Vice President of Costa Rica said about the pressing need for balanced development.

This international emphasis on reducing rural poverty is clearly linked to the subject of value chains. IFAD feels that the key to overcoming poverty is to treat rural poor as producers, as citizens with rights and responsibilities. The way for them to get out of poverty is by diversifying and increasing their production.

IFAD has set three strategic objectives for giving the rural poor new opportunities to escape from poverty:

- i. Capacity building for the rural poor and their organizations
- ii. Promote more equitable access to natural resources and technology
- iii. Increase access to financial services and markets

Financial services appear to be one of the core problems. In this field, the main instrument available to IFAD is its loan programs. As an international agency, it belongs to the countries, and they grant loans to IFAD under conditions that vary according to their per capita income. Of the US \$550 million disbursed annually, 90 percent takes the form of loans. The remaining 10 percent consists of grants in support of research programs and institutional development.

Something IFAD has learned, that has come up repeatedly in this seminar, is the importance of promoting high-quality investments. A dollar well invested with certain characteristics could be very profitable for society. International organizations do not have just one dollar to invest, but many dozens or millions of dollars, and unfortunately, many have been invested with very low productivity.

As for rural financial services and value chains, IFAD agrees that lack of access to financial services is one of the key reasons why rural poverty is so persistent. It originally believed that the cause of the problem was the dynamic created by state-owned banks. IFAD therefore involved itself in radical transformation or even removing the state from rural areas altogether; but the private sector did not move in as quickly as expected.

So are value chains an alternative? IFAD believes they are, but certain obstacles cannot be ignored. These include: (i) dispersion of producers, (ii) quality problems, (iii) lack of information, and (iv) high levels of risk. This means that in certain cases, the value chain approach can and must be supplemented with other mechanisms.

IFAD works with value chains in ways that resemble the work of micro-enterprise development projects. It begins by identifying obstacles, and depending on what it finds, projects may include activities for training, information and technical assistance to improve the operation of the chain.

With all this, IFAD has often observed a point that merits further discussion: the importance of social and institutional conditions. The way to reach large numbers of small farmers is by working through their own organizations. A concept that IFAD has used successfully in several projects is what it calls “economic corridors.”

Its experience with value chain projects has also yielded differentiated development by region. IFAD has seen significant progress in the Division of Southern and Eastern Africa and in some countries of Eastern Europe. Several countries of Latin America (Venezuela, Brazil, El Salvador and Perú) are paying more and more attention to linkages among different participants in a value chain.

These experiences have taught several lessons:

- i. Financial constraints are not the only limitation, and often are not even the most important one.
- ii. We still need a better understanding of the connection between types of value chains and poverty reduction.
- iii. Value chains and their financing mechanisms could become a tool for fighting rural poverty; but this calls for specific complementary measures.
- iv. Poor farmers face barriers involving product quality, standards and contract-based farming systems.

Finally, I see four possible areas for joint action by governments, donors and the private sector: (i) conducting pilot experiments; (ii) studying regulatory issues; (iii) supporting product-specific meetings between the private sector and farmers, and (iv) promoting an analysis of linkages between value chains and poverty reduction.

F. World Bank and International Finance Corporation¹

Pauline Tiffen

The World Bank has several programs in Central America. This presentation will discuss two of them. The first is part of the “Commodity Risk Management Group.” It consists of two components, climate risk and price risk, and specifically addresses commodity price volatility. The project has created a commodity exchange, which serves as an international benchmark.

The second is just beginning. Conducted in coordination with other international organizations under the rubric “Commodity Management Group,” it is a new program for parametric insurance in Central America. Financial institutions have been showing heightened interest in the region in recent months. They have now developed significant, very interesting models for offering risk management services.

1. Mrs. Tiffen was originally asked to present two sessions. For reasons beyond her control and that of the seminar organizers, these two sessions were combined into one, and as a result, part of the material prepared for this session had to be omitted.

Various case studies are available on the International Finance Corporation (IFC) website, and a consultant project is currently underway to collect information from stakeholders in Central America, to be used in designing a strategy for the next three years.

The Bank is also interested in playing a new, more intense role in coordinating production and marketing strategies for sustainable products in the region. It is building a “Central American Consortium” that will bring together all interested parties, and a management process is now operating for the overall sector. The first pilot study focuses on cacao cultivation.

The challenge is to move quickly and develop appropriate financing options at a time when new, attractive structural changes are taking place in the region’s cacao market. As we have seen, technical assistance projects are numerous. Some originated outside the region but have gained a foothold here; however, the sector still lacks a stable medium- and long-term strategy. The Bank also takes great interest in the coffee sector, which holds out many valuable lessons, both good and bad. We need to give these lessons their due weight when developing strategies to regenerate the industry.

8

SUMMARY AND CONCLUSIONS

Mark D. Wenner

It has been a great honor for me to have participated in this very enlightening event.¹ I believe we are contributing to a change of paradigm. We are pioneers seeking a better tomorrow for the rural population of Latin America. The organizers have given me a particularly difficult task: make a summary and draw conclusions from the many excellent presentations and from the provocative comments made by our two rapporteurs. I will divide this summary into four sections: old and new realities, theory, promising practices, and most important, implications for the different stakeholders –governments, international organizations, farmers and financial institutions.

A. Changing realities

In his keynote presentation, Ken Shwedel told us that the world really has changed and we need to adapt to the new conditions outlined in Table 8.1. I will briefly summarize the now-outdated conditions as they existed in yesterday's rural financial markets and the rural sector in general, and to which we had grown accustomed. Rural areas in many parts of the world witnessed famine and malnutrition in the 1960s and 1970s. The policy response was to focus strictly on production. Much research was done, many grants were made, a great deal of money was spent to raise the productivity of certain crops, without much thought about where to sell these products. Nor was anyone emphasizing product quality, product differentiation or environmental protection. These were not so important. In those days, agrarian structures were dualistic but chains were integrated for at least a handful of traditional crops, mostly due to heavy intervention by the State. The countries adopted agricultural policies that distorted everything, financial markets were repressive, and nationalized banks were everywhere. I can sum it up very briefly by reminding you of what Rubén Chávez of México told us –that UNIPRO was created after the elimination of the government marketing institution, CONASUPO.

1. This chapter is a literal transcription that preserves the oral style of the presentation.

In other words, for corn producers in México, the market was not some gringo in the United States or Europe; it was CONASUPO. I remember being here in Costa Rica as a Peace Corps volunteer in the 1980s. The corn farmers in this country had one market only– the Consejo Nacional de Producción, or National Production Council, a government marketing agency that set fixed prices for grain purchases. Government banks extended loans, and commercial banks had to meet maximum limits for lending to the specific crops.

Table 8.1

The world of rural development yesterday and today

YESTERDAY	TODAY
<ul style="list-style-type: none"> • High rates of famine and malnutrition worldwide • Focus on production • Quality, environmental protection, safety and differentiation were not important • Dualistic agrarian structures and integrated chains • Distorted agricultural policies • Repressive financial markets • Presence of State banks 	<ul style="list-style-type: none"> • Food surplus and trade flows growing every year • Focus on demand • Quality, environmental care, traceability, safety are paramount. • Dualistic agrarian structures and fragmented chains • Too few sources of price and market information • Financial markets liberalized but fragmented • Few financial intermediaries in rural areas

SOURCE: Mark D. Wenner, Seminar presentation.

All this has changed. The world we live in today is a place of food surplus. The focus is on demand, with an emphasis on quality. We face consumers who have become very exacting, and among other things, this requires product differentiation. Consumers no longer care solely about the cost of the product, but also about its appearance, size, year round supply, fast delivery. High income consumers have no time so they are interested in convenience –pre-packaged ready to cook meals. In this new world, we are witnessing a major transition in agricultural systems and structures.

Unfortunately, dualistic structures are still common in Latin America and much of Africa and Asia. Poor people remain trapped in their poverty, while a few lucky ones have found an escape route by producing for nontraditional export markets. The bad news is that most of the chains are very fragmented. They are fragile, and I think the presentations over these past two days have clearly shown that they are still little more than experiments, or chains that are barely beginning to take shape. From INDACO in Perú to the programs in northern México, all of them are still nascent, having accumulated only five to eight years of experience. They are very young, and we have discovered that even the financial markets, having gone through liberalization, are themselves still very fragile and fragmented.

Even México's UNIPRO survives mainly on the strength of FIRA subsidies. We have seen the case of Banco Nacional here in Costa Rica. We are seeing the role of the United States Agency for International Development (USAID) and its subsidies to Fintrac Inc. in Honduras and the PRA project in Perú. We are also seeing a severe shortage of price and market information. It is in fact a very thorny problem, as this type of information is not flowing freely. Isabel Cruz and many others have pointed out the alarming lack of financial intermediaries in rural areas.

B. Theory

We find it difficult to talk about new financing for value chains when no intermediaries are around. Because we live at a difficult time of changing paradigms, I would like to talk a little bit about theory to help us understand this awkward position.

Claudio González-Vega has enlightened us. I will summarize his presentation by saying that we can finance chains so long as we remember certain key variables:

- In-depth information about the chain
- Risk management systems that are more robust than the ones we have today
- Minimal transaction costs
- Effective chain governance. I think financial intermediaries shy away from producers who are dependent on an open market, a spot market. They really feel more comfortable working with someone who has a sales contract. They prefer a hierarchy in the chain, either explicitly or perhaps a quasi-hierarchy, with good incentives, either arising from the nature of the market structure itself, or based on a long-standing relationship. Perhaps you need to sell to this person, and there is no other way out of it, no escape (monopsony). In other cases you can assure repayment through a purchase order by an exporter or a processing plant. Bob Fries found it unfortunate that we said so little about contract enforcement, and indeed, the subject did not come up in the presentations.
- *Ability to develop partnerships.* Quite a few presentations placed great emphasis on the importance of developing partnerships –partnerships of all kinds, both vertical and horizontal.
- *Well-designed financial products.* Obviously, the financial products available at present are not good enough, and we face the great challenge of designing better ones. We need products that to serve the different interests and meet the many needs for managing risk all through the chain.

Farmers have three choices if they hope to survive and prosper in this world of globalization and market integration. (i) They need to fit themselves into dynamic, efficient chains in order to continue farming. (ii) They can migrate. (iii) They can try to shift away from farming and move into non-agricultural rural activities.

If the great majority of farmers remain outside dynamic chains, they will be condemned to poverty. The value of participating in dynamic, efficient value chains is self evident. It mostly entails access to market information, transfer of knowledge and technology, access to financing, reduction of risks and many opportunities to benefit from collective action. For example, a group of farmers may get together to minimize costs by making high-volume joint purchases of inputs at a lower cost.

C. Promising formal practices

Anita Campion showed a helpful slide that clarified financing within the chain and financing from outside the chain. I will not talk about financing within the chain, as I believe it is already happening quite spontaneously. I think we need to take more of an interest in spreading the practice. This means three things: finding ways to encompass more people, especially small farmers; finding ways to make chains more efficient; and finding ways to make them stronger. So we have three objectives: expanding participation or the size of chains, expanding coverage, and strengthening chains. To accomplish these objectives, we need financing from outside the chain, which means financing from banks and non-banks. I believe that, through the formal practices we have seen illustrated here, financing can be extended to the leader of the chain, a large supplier who has collateral and who can tend offer loans to others or sell inputs on credit to other actors in the chain.

In the second place, we can finance organized groups of farmers or individual producers if they have assured markets. For example, farmers can present their sales contracts, and financial entities can accept them in place of collateral. If the chain includes an agricultural processor, the financial intermediary can talk to the manager, who confirms that farmers are working with him, that they can be trusted and he stands behind them. These things can work, can improve access to financing and, at the same time, can improve access to technical assistance.

The third category is something we saw in two extremely interesting cases of clusters or integrated companies that have their own financial institutions: INDACO in Perú and the Lafise group in Nicaragua, that are nearly self-financing.

In the fourth place is the linkage model that finances semi-formal intermediaries who are close to farmers. These are institutions that have the advantage of local information and in-depth knowledge of agricultural production but link up with capital from larger, outside organizations. The examples come from México: BANORTE and UNIPRO. Finally, we have the type of structured financing practiced by Agromantaro and COFIDE in Perú.

D. Implications

I will divide my conclusions and implications into four groups, according to whether the responsibility lies with governments, farmers, financial institutions or donors.

1. Implications for governments

Governments need to support the development of market information systems. They should invest in technology research and adaptation for the agri-food sector. They should reform regulatory frameworks to create openings for innovative financial products such as leasing, factoring, bond issues, certificates of deposit, futures exchanges, parametric insurance, payment systems that recognize electronic currency, and credit reporting agencies. I was very impressed with developments in this field in Brazil, and I think we should try to copy what they are doing.

We also need to develop more streamlined legal systems to help with improved contract enforcement. Finally, governments should finance and support value chain coordinators as well as extension and technical assistance services. Governments can do this directly through the ministries of agriculture or can channel it by contracting a non-governmental organization (NGO) or consulting firm; in any case, someone has to do it.

2. Implications for farmers

Farmers need to adopt a more businesslike mentality. They have to seek out information and technology and boost productivity and quality. They need to manage risks, gain access to financing and improve management of their agribusiness. They need to keep records, plan, evaluate and analyze. They need to take action in an opportune manner. I cannot help but recall the presentation by Andrew Medicott of Fintrac, a project we should be cloning and passing along to all the other countries.

3. Implications for financial institutions

Financial institutions need to change their perceptions of the rural sector. Rural financing holds many opportunities. I think this was very clear in the presentations by BANORTE, Rabobank and Banco do Brasil, who told us that money can be made in this area, but you need to know how to get moving and how to measure risk. Financial organizations need to have a better knowledge of value chains. They need to design new, more appropriate products, and they must learn to work in partnerships and groups.

4. Implications for donors

Now I will discuss the things we donors need to do, along with technical agencies and research institutions. This includes FAO, IDB, IFPRI, USAID, CABI and the World Bank. I think we need to improve our analysis. We should start by studying examples of different ways to include small farmers and to improve the interaction between banks and leading agribusinesses. We can develop and

document promising models, improve dissemination and develop guidelines for standards and market codes. As it happens, supermarkets and other large companies are the ones who have started to set standards, instead of governments. International cooperation needs to work together with governments to improve policies and incentives for the agricultural sector.

Isabel Cruz has set before us an important challenge of improving access to term finance. I believe that donor organizations have a significant role in financing facilities or lines of credit to improve the granting of long-term credit. We also have much work to do, in conjunction with national governments, finding ways to mobilize more domestic resources or savings in the countries.

Appendix 1

Participants

A

Ludwyng Mauricio Acuña

Fondo Nicaragüense para el Desarrollo
Comunitario-Nicaragua
sharonmargarita@yahoo.com

Francisco Acuña Alfaro

Banco de Costa Rica-Costa Rica
acuna@bancobcr.com

Navil Agramont Akiyama

Save the Children-Bolivia
nagramont@savechildren.org.bo

Marco Aldana

Catholic Relief Services-United States
aldana@crs.org

Ileana Alfaro Álvarez

Universidad de Costa Rica-Costa Rica
ileanaa@cariari.ucr.ac.cr

Jaime Almonte

Embajada de México-Costa Rica
jalmonte@ser.gob.mx

Gabriela Álvarez

Ministerio de Agricultura y Ganadería-Costa Rica
magabriela_alvarez@yahoo.com

Jairo Andara

Fondo Nicaragüense para el Desarrollo
Comunitario-Nicaragua
marioaba74@yahoo.com

Carlos Humberto Aquino

Mercy Corps-Guatemala
caquino@gt.mercycorps.org

Guillermo Antonio Argueta

Patronato para el Desarrollo de las Comunidades
de Morazán y San Miguel-El Salvador
chiogava2005@hotmail.com

B

Harold Baldizón Vega

Consejo de Desarrollo Departamental de León-
Nicaragua
hbaldizonv@yahoo.com

José René Banegas Vides

Asociación Pilarh-Honduras
rbanegas@pilarh.com

Paola Bellotti

Forestry Department FAO-Italy
paola.bellotti@fao.org

Job Blijdensteins

Faceta Central-Guatemala
faceta@terra.com.gt

Eduardo Bresnyan

RUTA-World Bank-Costa Rica
bresnyan@worldbank.org

Enrique Brooks

Ministerio de Desarrollo Agropecuario-Panamá
ebrooks@mida.gob.pa

Carlos Cáceres Martínez

CEPRODEL-Nicaragua
ccaceres@ceprodel.org.ni

Gonzalo Cambefort

Instituto de Mercadeo Agropecuario-Panamá
mt_alcazar@ima.gob.pa

Wilson Carrasco López

TRIAS-Ecuador
wilsoncar17@hotmail.com

Rafael Celis Umaña

ProDesarrollo Internacional-Costa Rica
rcelis@amnet.co.cr

José Cerdas Chavarría

Programa Ecopymes ASI REA-Costa Rica
jacerdas@hotmail.com

Alfredo Chaves

Ganadera La Tabla-Costa Rica
alfredchaves@costarricense.cr

Ricardo Cortés Carvajal

ADRA-Bolivia
rcortes@adra.org.bo

Orlando Cortés Maravilla

CEPRODEL-Nicaragua
ocortes@ceprodel.org.ni

Octavio Cortés S.

Mennonite Economic Development Associates-
Nicaragua
ocortes@meda.org

Isabel Cruz Hernández

FOROLAC-México
isacruz@prodigy.net.mx

Mercedes Cuadra

SERFIRURAL-Nicaragua
serfirural@ruta.org

D**Rafael Delgado**

Netherlands Cooperation Service SNV-Honduras
rdelgado@snvworld.org

Joao Diniz

World Vision International-Costa Rica
oao_diniz@wvi.org

Leana Divine

Citizens Development Corps-United States
ldivine@cdc.org

Thomas Divney

Rainforest Alliance-Costa Rica
tdivney@ra.org

E**Amy English**

Mercy Corps-Guatemala
aenglish@mercycorpsfield.org

Carlos Escala

Planificación MIDA-Panamá
cescala@mida.gob.pa

F**Ana Fallas Quirós**

Banco de Costa Rica-Costa Rica
afallas@bancobcr.com

María Angélica Fauné

UNIFEM-United Nations-Nicaragua
afaune@cable.net.com.ni

Fernando Fernández

Proyecto AFIRMA-México
fernando_fernandez@dai.com

Ignacio Fiestas

RUTA-Costa Rica
ifiestas@ruta.org

Robert Fries

ACDI/VOCA-United States
bfries@acdivoca.org

Carlos Fuentes

MAG-FRUTALES-IICA-El Salvador
carlos.fuentes@iica.org.sv

G

Mario José Gaitán

Agros International-Nicaragua
mariog@agros.org

Armando José García Campos

ACODEP-Nicaragua
acodep@acodep.org.ni

Héctor García Espinoza

Banco de Costa Rica-Costa Rica
hgarcia@bancobcr.com

Ricardo García Tafur

FAO-Perú
ricardogarciatafur@yahoo.com

Alberto Garvey Rojas

Central Azucarera Tempisque-Costa Rica
algarvey@catsa.net

Oscar Gasca Brito

SAGARPA-México
ogascab.sfa@sagarpa.gob.mx

Ana Isabel Gómez

SEPSA-Costa Rica
anagodemigue@costarricense.cr

Alejandra Guevara Corrales

BAC San José-Costa Rica
pfernandezf@credomatic.com

Abinadad Gurdíán

Fondo Nicaragüense para el Desarrollo
Comunitario-Nicaragua
sharonmargarita@yahoo.com

Iván Gutiérrez

Redcamif-Nicaragua
redcamif@cablenet.com.ni

Santos Gutiérrez

PADECOMSM-El Salvador
fundacioncampo@navegante.com.sv

H

Carlos Hernández

Fondo Nicaragüense para el Desarrollo
Comunitario-Nicaragua
sharonmargarita@yahoo.com

Gioconda Hernández Montiel

ACODEP-Nicaragua
arrhh@acodep.org.ni

Danilo Herrera

IICA-Costa Rica
danilo.herrera@iica.int

Sarah Hirsch

GTZ-Promype Project-Honduras
sh@promype.hn

Hellen Hoffmann Madrigal

Banco Cuscatlán-Costa Rica
hhoffmann@cuscatlan.cr

John S. Horton

Inter-American Development Bank-United States
johnho@iadb.org

I

Javier Ignacio Ibarra

Instituto Nacional de Tierras-Venezuela
ignacio2020@hotmail.com

J

Hans Jansen

RUTA-Costa Rica
hjansen@ruta.org

Luis Roberto Jiménez Padilla

FINCA-Costa Rica
ljimenez@fic.or.cr

L

Jean Paul Lacoste

The Ford Foundation-Chile
j.lacoste@fordfound.org

Denis Lapoutre

TRIAS-Ecuador
Denise.Lapoutre@triasngo.be

Walberto Lazo

Fundación Campo-El Salvador
elsyjeff@gmail.com

Yorleny León Marchena

Programa Ecopymes ASI REA-Costa Rica
yorlenyleon@asirea.org

Patricia Lobo Durán

Redcom-Costa Rica
direccionejecutiva@redcom.or.cr

Norlan López

Asociación Pueblos en Acción Comunitaria-
Nicaragua
harold@apac.org.ni

Franklin Lozada

Swisscontact-Ecuador
fl@swisscontact.com.ec

Raúl Lozán Cangalaya

Financiera de Desarrollo-Perú
rlozan@cofide.com.pe

Manuel Lugo

TechnoServe-Honduras
manuel.lugo@tnshn.org

M**Federico Madriz Víquez**

Banco Crédito Agrícola de Cartago-Costa Rica
federico.madriz@bancreditocr.com

José Leonel Martínez

Asociación Pueblos en Acción Comunitaria-
Nicaragua
harold@apac.org.ni

Minor May M.

Banco Popular-Costa Rica
rmiranda@bp.fi.cr

Héctor Medina

Instituto de Cooperación para la Agricultura-Costa
Rica
hector.medina@iica.int

Sharlyn Meléndez

BAC San José-Costa Rica
smelendez@bacsanjose.com

Luis Mesalles

Granja Avícola Monserrat-Costa Rica
mesallesbaker@ice.co.cr

Shirley Mesén

FOMIC-Costa Rica
fomicsc@racsa.co.cr

Antonio Mira

CARE-El Salvador
amira@care.org.sv

Norman Montenegro

TechnoServe-Honduras
norman.montenegro@tnshn.org

David Myhre

Ford Foundation-México
d.myhre@fordfound.org

N**Ubaldo Núñez**

Ministerio de Desarrollo Agropecuario-Panamá
ubaldo_56@yahoo.com

O**Juan Carlos Ordóñez Tercero**

Secretaría de Agricultura y Ganadería-Honduras
jcordonez@sag.gob.hn

Lourdes Ortiz

Fundación Sierra Madre-Guatemala
enchufados4@yahoo.com

Douglas M. Ostrov

The QED Group-United States
dostrov@qedgroupplc.com

P**María Martha Padilla**

FINCA-Costa Rica
mmpadilla@fic.or.cr

Rafael Paredes

TechnoServe-El Salvador
rparedes@integra.com.sv

María Pascual

AGEXPRONT-Nicaragua
Maria.Pascual@agexpront.org.ni

Rubén Pasos

PENCE/ DFID-Nicaragua
relave@ice.co.cr

Diorset Pecou

Asamblea Legislativa-Costa Rica
dpecou@asamblea.go.cr

Harold José Pérez Santana

Asociación Pueblos en Acción Comunitaria-
Nicaragua
harold@apac.org.ni

Lilliana Pozzo

Enterprising Solutions-United States
lpozzo@esglobal.com

R**Octavio Ramírez**

FAO-Costa Rica
oramirez@faocr.org

Kerlin Ramírez Sánchez

Banco Cuscatlán-Costa Rica
jfallas@cuscatlan.cr.com

Stephen Rannekleiv

Mennonite Economic Development Associates-
United States
stever@meda.org

Orlando Reyes

Canadian Centre for International Studies and
Cooperation-Guatemala
orlandor@ceci.ca

Iván Rodríguez

Swisscontact-Honduras
swisscontact_ivan@cablecolor.hn

Orlando Rodríguez

Banco Hipotecario de El Salvador-El Salvador
orlando.rodriguez@hipotecario.com.sv

Perla Rosales

PROMIFIN-COSUDE-Nicaragua
prosales@promifin.org.ni

Juan Emilio Ruiz Miranda

Asociación Pueblos en Acción Comunitaria-
Nicaragua
juan@apac.org.ni

S**Eddy Salgado**

TechnoServe-Nicaragua
esalgado@tns.org.ni

Álvaro Samayoa Pira

Banco G & T Continental-Guatemala
alvsamayoa@gytcontinental.com.gt

Luisa Santur Alberca

NGO Fomento de la Vida-Perú
luisa@fovida.org.pe

Geralyn Sheehan

Opportunity International-Nicaragua
gsheehan@opportunity.net

José Luis Sorto

Banco Hipotecario de El Salvador-El Salvador
jose.sorto@hipotecario.com.sv

T**Rosa Tablada**

Fondo de Crédito Rural-Nicaragua
rtablada1956@yahoo.com

Edgar Talavera

Asociación Coordinadora Indígena y Campesina
de Agroforestería Comunitaria Centroamericana-
Costa Rica
produccion@acicafofoc.net

Leda Isabel Talavera

Asociación Pueblos en Acción Comunitaria-
Nicaragua
harold@apac.org.ni

V**Huberth Valdivia Murillo**

Agencia de Desarrollo Económico y Social-
Nicaragua
huberth2000@yahoo.com

Miriam Valverde

RUTA-Costa Rica
mvalverde@ruta.org

Corstiaan Van Aalsburg

Asociación Pueblos en Acción Comunitaria-
Nicaragua

corstiaan@apac.org.ni

Pedro Pablo Vargas Sarria

FUNICA-Nicaragua

ofichi@cablenet.com.ni

Juan Vega

PROMIFIN-COSUDE-Nicaragua

jvega@promifin.org.ni

Roberto Antonio Vega Lara

TechnoServe-El Salvador

rvega@telesal.net

Marta Villegas

SEPSA-Costa Rica

mvillegas@mag.go.cr

W

Christine Woda

GFA/GTZ-Honduras

cwoda@web.de

Appendix 2

Speakers and moderators

A

Rommel Acevedo

Secretary General
Latin American Association of Development
Finance Institutions (ALIDE)
sg@alide.org.pe

Dercí Alcántara

Director
Agribusiness Department Banco do Brasil
emersonw@bb.com.br

Juan Arrieta

Independent Consultant
arrieta02@terra.com.pe

B

Alan Bojanic

Representative
FAO Mission in Costa Rica
FAO-CR@fao.org

C

Anita Campion

Finance Specialist
Chemonics International
acampion@chemonics.com

Kevin Casas

Vice President
Republic of Costa Rica
kfernandez@mideplan.go.cr

Jorge Cavallini

Manager of Agricultural Development
Wal-Mart Centroamérica
jorge.cavallini@latam.wal-mart.com

Geoffrey Chalmers

Development Finance Advisor
USAID Mission in México
gchalmers@usaid.gov

Rubén Chávez

Chief Executive Officer
UNIPRO
ruben.chavez@unipro.org.mx

Luis Corrales

Corporate Director
BN Desarrollo
lcorrales@bncr.fi.cr

D

Carlos da Silva

Agribusiness Economist
FAO Agricultural Management, Marketing and
Finance Service
carlos.dasilva@fao.org

F

Julio Flores

Chief Executive Officer
Fondo de Desarrollo Local
floresc@ns.uca.edu.ni

G

Eva Gálvez

Economist
 FAO Agricultural Management, Marketing and
 Finance Service
 Eva.GalvezNogales@fao.org

Miguel Gómez

Director
 Regional Unit for Technical Assistance (RUTA)
 mrgomez@ruta.org

Claudio González-Vega

Director
 The Ohio State University Rural Finance Program
 gonzalez.4@osu.edu

H

Raúl Hopkins

Regional Economist
 IFAD Latin America and the Caribbean Division
 r.hopkins@ifad.org

J

Ruth Junkin

Rural Finance Specialist
 CATIE Center for the Competitiveness of
 Ecoenterprises
 rjunkin@catie.ac.cr

L

Eduardo Lizano

President
 Academia de Centroamérica
 elizano@academiaca.or.cr

M

Enrique Martínez

Executive Director,
 Agricultural Credit Banorte
 enrique.martinez@banorte.com

Ronald Martínez

Regional Manager in Costa Rica
 Central American Bank for Economic Integration
 rmartine@bcie.org

Andrew Medicott

Director
 Rural Economic Diversification Program (RED)
 andy@fintrac.com

Carlos Melosevich

Chief Executive Officer
 INDACO
 moncarlos@yahoo.com

Calvin Miller

Senior Officer
 FAO Agricultural Management, Marketing and
 Finance Service
 calvin.miller@fao.org

R

Jorge Requena

Representative
 Inter-American Development Bank Mission in
 Costa Rica
 jorgere@iadb.org

Raúl Romero

President
 Chestnut Hill Farms
 raulr@chfusa.com

S

Leonela Santana

Senior Economist
 UNCTAD Commodities Division
 Leonela.Santana-Boado@unctad.org

Ken Shwedel

Director of Agribusiness Analysis
 Rabobank International Regional
 ken.shwedel@rabobank.com

Célimo Soto

Director of Finance
 Cooperativa de Productores de Leche Dos Pinos
 csoto@dospinos.com

T

Pauline Tiffen

Consultant
World Bank and International Finance Corporation
ptiffen@worldbank.org

Peter Torrebiarte

Chief Executive Officer
Starbucks Coffee Agronomy Company
ptorrebi@starbucks.com

V

Alfredo Volio

Minister of Production
Republic of Costa Rica
avolio@macadamiacr.com

W

Mark D. Wenner

Senior Finance Specialist
Rural Development Unit, Inter-American
Development Bank in Washington
markw@iadb.org

Z

Enrique Zamora

Chief Executive Officer
Agropecuaria LAFISE
enriquez@lafise.com

Appendix 3

Program

Agricultural Value Chain Finance

Costa Rica, May 16-18, 2006

Hotel Real InterContinental

May 15– Jacarandas III Room

Registration (6:00 a.m. -9:00 p.m.)

- Registration of participants
- Receipt of materials

May 16 – Real I Room

Inauguration (8:00 – 10:15)

Moderator Miguel Gómez, RUTA

Welcome Kevin Casas, Vice President of the Republic of Costa Rica
Alan Bojanic, FAO Representative in Costa Rica

Keynote speaker Ken Shwedel, Rabobank

Discussion

Coffee

Lessons learned in agricultural value chain financing (10:15 -12:45)

Moderator Calvin Miller, FAO

Speakers

- Eva Gálvez, FAO
- Geoffrey Chalmers, USAID
- Mark D. Wenner, IDB
- Pauline Tiffen, World Bank

Discussion

Lunch (12:45 – 2:00)

Models of agricultural value chain financing (2:00-6:00)

- Moderator Carlos da Silva, FAO
- Speakers
- Claudio González-Vega, The Ohio State University
 - Jorge Cavallini, Wal-Mart Centroamérica
 - Carlos Melosevich, INDACO (Perú)

Coffee

- Célimo Soto, Dos Pinos (Costa Rica)
- Juan Arrieta (Perú)
- Raúl Romero, Bounty Fresh (USA)
- Rubén Chávez, UNIPRO (México)

Discussion

May 17 – Real I Room**Financial entities and agricultural value chains: Innovative arrangements (8:00 – 11:00)**

- Moderator: Rommel Acevedo Fernández de Paredes, ALIDE
- Dercí Alcantara, Banco do Brasil
 - Enrique Martínez, Banorte (México)
 - Enrique Zamora, LAFISE (Central America)
 - Luis Corrales, Banco Nacional de Costa Rica
 - Leonela Santana, UNCTAD

Discussion

Coffee

Technical assistance, risk mitigation and access to financial services (11:00 – 12:30)

- Moderator Ruth Junkin, Center for the Competitiveness of Ecoenterprises, CATIE
- Julio Flores, Fondo de Desarrollo Local (Nicaragua)
 - Andrew Medicott, ADC (Honduras)
 - Peter Torrebiarte, Starbucks
 - Anita Champion, Chemonics International

Discussion

Lunch (12:30 – 2:00)

- Moderator Jorge Requena, IDB/Costa Rica
- Speakers
- Calvin Miller, FAO
 - Geoffrey Chalmers, USAID
 - Mark D. Wenner, IDB/Juan Fonseca, CII
 - Ronald Martínez, CABEL
 - Raúl Hopkins, IFAD
 - Pauline Tiffen, World Bank/ IFC

Discussion

Coffee

Closing (4:00 – 5:00)

Moderator	Eduardo Lizano, Academia de Centroamérica
Conclusions	Rapporteur 1: Isabel Cruz, Forolac Rapporteur 2: Robert Fries, ACDI/Voca Mark D. Wenner, IDB
Closing	Alfredo Volio, Minister of Production of the Republic of Costa Rica Calvin Miller, FAO

May 18**Visits to companies (8:30 to 3:00)**

Option 1	Dairy processor/exporter: Cooperativa de Productores de Leche Dos Pinos El Coyol, Alajuela
Option 2	Coffee processor/exporter: Coopedota Santa María de Dota



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The Program to Support Rural Financial Services (SERFIRURAL) is a regional program that offers technical assistance in rural finance. Created with a donation from the International Fund for Agricultural Development (IFAD), SERFIRURAL is active in the subregion of Central America, Mexico and Panama. Its objective is to provide the rural poor with broader access to sustainable financial services, thus helping to improve the quality and coverage of services lent by financial institutions.

www.serfirural.org



In these days of dizzying change, when a new business rival could appear on the scene at any moment or in any corner of the world, successful farmers must constantly acquire new skills and knowledge. The need to learn, to obtain information and to compete drives every actor in the chain to build closer linkages with other actors and generates new demands for financial services.

Independent farmers, faced with dramatic price risks, will eventually become broken links in fragmented chains, unable to survive competition or remaining forever in poverty. With the onset of structural transformation and the transition to modernized globalization, today's markets require integrated systems of differentiated production in which farmers, processors and marketers work interdependently. These producers can become and remain competitive if they have modern, well-organized chains and dynamic, flexible financial services.

This book examines the transformation of agriculture, the consolidation of agri-food chains, and new trends in financial intermediation.

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