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Economic Liberalization and Evolution of Rural Agricultural Sector in Peru

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Institute of Developing Economies
IDE-JETRO

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The Latin America Studies (L.A.S.) series aim at disseminating research results by the Area Studies Department II of the Institute of Developing Economies, Japan External Trade Organization (IDE-JETRO). This report is an outcome of a joint research “Economic Liberalization and Evolution of Rural Agricultural Sector in Peru” that was carried out in Lima, Peru, during the fiscal year 2001. The research group consists of three researchers: Carolina Trivelli, director of Institute of Peruvian Studies (Instituto de Estudios Peruanos: IEP); Manuel Glave, researcher at Analysis Group for Development (Grupo de Análisis para el Desarrollo: GRADE); and Tatsuya Shimizu of IDE-JETRO and visiting researcher at Research Center in the Pacific University (Centro de Investigación, Universidad del Pacífico: CIUP).

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Introduction

After the liberalization of economy in the 1990s, the environment that surrounds agricultural sector in Peru has significantly changed: The termination of the state monopoly in distribution of agricultural inputs and products; the liberalization of possession, use and sales of agricultural land; the promotion of registration of private ownership of land, etc. As a result, in some sectors of agriculture, especially in the coastal region, modernized intensive production of export crops was introduced, and production has expanded. However, the retrieval of the government activities in rural agricultural sector has negative effect for its development. The sector has lost source of credit and technology transfer. Thus, it is not certain how much impact the liberalization of economy had on rural agricultural sector or if the over all impact was positive or negative.

The objective of this research project "Economic Liberalization and Evolution of Rural Agricultural Sector in Peru" is to illustrate changes in rural agricultural sector in Peru in the context of the liberalization of the economy. What is going on in rural agricultural sector in Peru today, and how is it different from ten years ago? How has the liberalization affected farmers in terms of production, and how are they trying to adapt to the changes? Does the liberalization have positive or negative over all effect in the medium and long term? Each researcher chooses a specific topic within these themes. At the same time, in order to familiarize readers about the evolution of agricultural researches in Peru, one section briefly explains about trends of the researches on agricultural economy and rural development in Peru.

The report is composed of the following four chapters. The Chapter 1 by Carolina Trivelli explains about the research trends on agricultural economy and evolution of agricultural sector in Peru during the 1980s and 1990s. Because of emergence of macroeconomic crisis in Latin America and expansion of terrorist activities in rural areas in Peru, the focus of the research in agricultural sector had shifted from micro economic behavior of rural household to macro economic policy. At the end of the chapter, the author describes the current situation of poverty in the country.

Chapter 2 by Carolina Trivelli discusses a topic of rural finance. She focuses on the relationship between formal, semi-formal and informal lenders in rural areas. Her analysis shows that there is both complementary and competitive relationship between formal and semi-formal lenders. Therefore she emphasizes the importance of consideration in policy making to not only formal sector, but also semi-formal sector of rural finance.

In Chapter 3, Tatsuya Shimizu tries to describe present status of small-scale farmers in Peru's mountain region. Although rural area is integrated into the market economy through inflow of consumer goods and immigration of labor force to urban cities, it is still isolated from the rest of the national economy in terms of selling its agricultural products to national market. Through a few successful cases presented in the chapter, the author emphasized the importance of farmers' capacity building in order to take advantage of the integration into the market economy.

Chapter 4 by Manuel Glave and Ricardo Fort focused on economic organizations by small farmers. For successful articulation with market economy, economic

organizations plays an important role for small farmers. There are two case studies of the organizations: one is a cooperative of coffee producers in the central jungle region, and the other is an association of onion producers in the southern coastal region. Through these studies, the authors analyze factors that determine success or failure of the organizations. They point out quality of human resource that manages organizations and financial independence as two key factors for development of organizations.

The trend of liberalization and globalization of economy is irreversible. However, the rural sector in Peru is far from being benefited from them yet. The micro level studies presented here are some examples of attempts to understand how rural and agricultural economy works in context of liberalization and globalization, and the researchers are trying to find how the rural sector can be integrated better into the market economy.

Tatsuya Shimizu
Coordinator

CHAPTER 1

RESEARCH ON AGRICULTURAL ECONOMY IN PERU IN THE 1980s AND 1990s

Carolina Trivelli[1]

Introduction

The first years of the 1980s brought a number of changes in the economic and social environment in the country, which affected the agrarian research agenda. The international debt crises imposed serious restrictions on small countries like Peru and it became bottlenecks for most efforts aimed at managing or solving the economic crises of those years. Inflation began to be a persistent and growing problem. Macroeconomic analysis became the most appealing need. In this sense, agrarian researchers had to answer a number of questions about the role, potential, needs, and impacts of different macroeconomic scenarios in the sector, as well as the contribution of the agricultural sector to the macroeconomic stability (generation of foreign currency, jobs, prices).

In addition to this new economic setting, the increasing presence of Shining Path (Sendero Luminoso) mainly in rural areas in those years forced researchers to abandon fieldworks. This is important if we consider that during the 1970s and the first half of the 1980s, most of the work in agrarian research was based on fieldworks for microeconomic analysis on different rural activities. To complete the changing scenario, in 1983 we experienced a serious climatic distortion: El Niño. The effects of the climate changes were severe in most agricultural activities, and in the economy as a whole.

After 1985, with Garcia's government, new macroeconomic policies were implemented. During the first two years we experimented, as never before, favorable relative prices for agricultural goods, subsidized inputs (credit, fertilizers, etc.) and a number of "promotional" policies to induce agrarian growth. However, the whole macroeconomic management was poor and in 1987 an increasing inflationary process and the deepening of the economic crises began, a situation that remained unsolved until the 1990s.

In the 1990s, the new government applied a structural adjustment program that redefined all economic relations in the country. In the agricultural sector, the adjustment began vigorously, but slowed down and had unclear objectives after the first years.

Based on the context described, it is easy to understand why agrarian research was centered on macroeconomic issues (the agrarian sector seen as one productive

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sector), rather than continuing to study the microeconomic behavior of the different types of agricultural producers or rural economic strategies.

Agriculture and macro economy

Escobal (2000) presents a short and precise history of the evolution of the agricultural sector since the 1970s linking with major economic changes. The import substitution model adopted in the 1970s and the needs to provide reasonable prices for producers ended in a state managed marketing system. Most of the rural investments were held by the public sector. The public investments began losing significance as the economic crises appeared, but state control of important prices for agricultural development remained. The liberalization of the first years of the 1980s was truncated because of the international economic crises and by El Niño, among other factors.

With the new government, in 1985, input prices were fixed while the aggregated demand was expanding, bringing agricultural prices up compared to industrial prices (that were tied to the fixed exchange rate) (Escobal, 2000). Although increasing agricultural prices came together with subsidies for major inputs, this situation ended in 1988 because of the fiscal crises. This new setting did not change the situation for most rural producers. Escobal (1992) showed that subsidies favored only the richer producers and that all of them were counteracted by the inflationary process from 1988 (Escobal, 2000).

This complicated situation was reflected in the diminishing agricultural GDP in those years.[2] Escobal (2000) points out that, in spite of the recession, the smaller and poorer rural households did better. Their lack of market integration protected them from the crises (through crop diversification and self-support). However, at the end of the 1980s nearly 80% of rural population was below the poverty line. There was almost no investment (public or private) in the sector, and no sectoral policy.[3]

The 1990s began with a new government, which was faced with the challenge of redefining the economy to overcome the crises. The strategy adopted by the new government was to liberalize the economy and to promote a market oriented policy together with a structural adjustment. Agrarian sector was one of the most affected by the reforms adopted in the first two years. After 1992, reforms in agriculture became unclear and with mixed goals.

Reforms implemented for agriculture are presented in Table 1.

[2] Agricultural GDP experienced a contraction of 16.5% between 1988 and 1992 (Hopkins, 1999).

[3] GDP was decreasing as well as the importance of the sector in the economy. Hopkins (1999) shows that agriculture contributed with 23% of the GDP in the 1950s and around 12% in the late 1980s. At the end of the 1990s, however, INEI estimates that agricultural production represents only 6% of Peruvian GDP.

Table 1. Main Policies Implemented by the Government

Type of Policy	Macroeconomic instruments	Policies for agricultural sector
Price	- Price deregulation in goods and factor markets	- Withdrawal of price controls for foodstuffs and agricultural inputs
Fiscal	- Reform of tax system - Reduction in government deficits	- Reduction of personnel in Ministry of Agriculture
Monetary and Financial	- Floating exchange rate and elimination of preferential exchange rates (MUC) - Interest rates determined by market - Restrictive monetary policy	- Closure of Agricultural Bank - Interest rates determined by market
Trade	- Elimination of quantitative restrictions on trade - Reduction of tariff rates and their dispersion. From 56% on the average to two levels (15 and 25%)	- Additional protection rates for agricultural goods - Elimination of quantitative restrictions on imports
Institutional Reform	- Deregulation of goods and factor markets	- Elimination of public monopolies in foodstuffs and agricultural inputs - Creation of institutions specialized in natural resources and sanitary control (INRENA)
Investment and Property Rights	- Creation of institution to supervise intellectual property rights and free competition	- Investment Promotion Law, promoting private investment and the development of the land market.

Source: Hopkins (1999) p. 155.

Following Hopkins (1999) the impacts of the reforms could be discussed in three areas: prices and production, sustainability of agricultural growth and rural poverty. In terms of prices and production, after the reforms, agricultural GDP began a recovery trend. Dancourt and Mendoza (1994) show that immediately after the reforms, due to their negative effect on agricultural prices, agricultural output continued to fall. However, Hopkins (1999) shows that beginning in 1993 GDP began its recovery. Between 1993 and 1996 annual agricultural GDP grew around 9%. The trend continued in the next years but at a slower rate.[4]

As shown by Dancourt and Mendoza (1994) relative prices for agricultural products experienced reductions throughout the 1990s. Moreover, in year 2000 some nominal agricultural prices fell. This price behavior reduces profitability and investments in the sector, although it helps to avoid increases in poverty through cheaper consumption goods.

After the first years, the reforms in the sector began losing vitality and the orientation of the agricultural policy changed, smoothing some reforms, diffusing their impacts, or changing completely their original goals. Political power of some agricultural authorities could even obtain special measures for the sector, such as commercial protection or tributary exceptions, although they were against the whole economic orientation and strategy.[5] These measures affected the next issue of discussion: the sustainability of the growth trend.

[4] It is necessary to be careful with GDP data because of the known data manipulation in the last years of the decade.
[5] A brief description of this process can be obtained from von Hesse (2000).

Concerning sustainability of agricultural growth, Hopkins (1999) notes that together with the reforms and the economic stabilization some other key actions contribute to the goal of having sustainable growth in the sector. In this sense, the end of Shining Pass (Sendero Luminoso), the construction of rural roads, privatizations, reforms in key markets such as land and credit represent important issues. However, recognizing the improvements achieved in the last years Escobal (2000) points the need for further reforms, in almost all aspects and topics mentioned, in order to observe a sustainable growth trend in the agricultural sector.

Finally, the rural poverty problem has attracted great attention, mainly due to its magnitude and severity. As shown in Table 2, poverty in rural areas is a problem affecting almost all inhabitants in rural areas. In that sense, the viability of developing efforts based on the private initiatives through the market are very limited. Trivelli (2000) showed that non-poor rural households are nearer to being poor than being rich.

The research agenda developed in the second half of the decade of the 1990s was focused on measuring the impact of the various reforms, to understand the new context, and to open again the road to conduct more microeconomic analyses. After 1996 or 1997 the interest in the evolution of the sector as a whole began to lose attractiveness. The main reforms, with all their limitations, were done; most impacts were less important than expected (or desired), mostly due to problems in other sectors or specific market or to political interference; and, most reforms had been already evaluated. All this together with the absence of discussions on agricultural sector policy, favored researchers' option was to go back and to analyze microeconomic aspects of the agricultural and rural sector.

In this context, agrarian researchers began to look back at the microeconomic foundations, but not as a way to capture and understand behaviors but to study market integration practices, possibilities and limitations of different groups of producers and rural households. This new research agenda was defined as a natural consequence of the reform impacts analysis, of the new scenario that allows again field works and the existence of valuable data sets to make the first approach to the microeconomic analysis such as National Living Standard Survey (ENNIV) and the 1994 Agrarian Census.

Research on rural poverty

Studies of rural poverty in the sixties or seventies were general in nature. Only occasionally the particular problem of rural poverty was treated. Up to the 1980s, a large proportion of rural poverty studies was handled as a minor part of bigger evaluations on the health of the economy. There were two approaches to study rural poverty in these first decades: a) explain the distributive problem and the “dualism” of Peru’s economy and b) understand the relations at the core of the rural society.

The studies of wealth distribution and the definition of the relations between the modern and traditional sectors gave new insights into why economic growth was not sufficient to reach “economic success”. After the pioneer work of Webb and Figueroa (1975), the vision of a homogeneous social group of rural poor was

discarded because there was much inequality among them. This conclusion resulted in the surge of specific case studies.

With the economic crises of the 1980s and the upsurge of terrorism, the problem of poverty (which had been acquiring relevance in researches) couldn't become a major research theme. The emphasis of the studies centered solely in the economic problem, leaving behind the ethnographic-social component of the research.

The evolution of the name given in poverty studies to the individuals (from *indian* to *peasant*, and then to just *poor* in the last decade) showed that the process, by which poverty affects society, had become irrelevant. It doesn't matter what made them poor.

Finally, in the 1990s, there were two major approaches to the study of poverty: one is to quantify poverty with the help of living standards surveys and the other is to evaluate impact of different policies in certain groups of population.

Rural poverty studies

The majority of studies are based on the information given by the National Living Standard Survey (ENNIV). However, it is necessary to have in mind the big disparities between the different regions in Peru and that the national average could not represent the poor.

Distributive problems and their impact on poverty have returned to the literature after some decades but the conclusions reached are diverse. Some researchers say that wealth distribution has polarized while others say that the problem has ameliorated.

Several methods can be used to identify the poor. The most commonly used methods are poverty lines and the FGT. Both use the database of the ENNIV and an estimate of the basic products consumed by individuals. This type of database has some limitations but at the same time can give lots of information to the researcher.

A second group of methods is to use an indicator of unsatisfied basic needs (NBI) and the *integrated method*, which define several categories of poverty. Eguren et al. (1997) find that using this last method, only 13.3% of rural Andean households are located in the category *integrated*, which is a result of the lack of basic need.

Regional distribution of poverty

In absolute terms, the majority of poor are located in urban zones (where 70% of the population lives). Yet, extreme poverty is concentrated in the rural highland area (sierra). This is reflected in the statistics which show that for 1985, more than 3 million people did not manage to cover the basic consumption needs and had at least one basic needs unsatisfied. In 1997, the number rose up to more than 4.3 million.

The Peruvian heterogeneity compels the use of precise sources of information. In that sense, sampled information obtained by surveys does not always capture the particular characteristics of determined social groups. Yet it is necessary to have in

mind that an excess quantification might also result in a loss of subsidiary information. Furthermore, as the *non-poor* group is nearer to being poor than to being rich, a precise poverty line could be irrelevant in practice.

Looking at the statistics, there is a considerable proportion of *non-poor* that benefits from social programs of poverty alleviation such as the "Vaso de Leche" (free milk for breakfast) program. This speaks for the fragile situation of the *non-poor*. If they would not be able to continue to receive help from this type of programs, they might return to the category of *poor*. In the same sense, it is important to note that *non-poor* homes are **not** concentrated in areas integrated into the national economy, reaffirming the existence of a subtle dividing line between *poor* and *non-poor*. The ENNIV shows that as the level of income rises, the education level of the parents increases and the economic dependency ratio of the households decreases. Reflecting upon the situation of the rural inhabitants as a whole, it can be stated that to develop these areas there is an urgent need of public policies that include the poor **and** the non-poor. The precarious situation of the rural area is such that poverty-alleviation programs are not enough. There is a need for a strategic development program of peasants.

Public policies and rural poverty

There has been an evolution in the measure of poverty alleviation policies. Universal policies were encouraged in the 1970s but they were replaced in the 1980s by emergency programs that made distinction between social assistance programs and social policies. Finally, the last decade has seen the appearance of focalized social spending and poverty alleviation programs. This last approach to poverty reflects the absence of a unified fight against poverty and despises the inclusion of poverty-easing measures in macroeconomic policy.

Many researchers state that rural areas will only see a substantial improvement if there is significant and sustainable increase in real GDP per capita in rural area and especially in industries such as construction and agriculture. Jointly, the social assistance should continue its effort to bring permanent (investments in education and health) and temporal (poverty alleviation) support. In this sense, permanent expenditure in social programs has increased from the 1980s to the 1990s. Nonetheless, the expenditure for education and health has been unevenly distributed. In 1996 just 35% of the expenses benefited the 40% poorest population. This reaffirms that the distribution of social expenditure goes in hand with the distribution of population and not in hand with the distribution of wealth.

There has been an improvement in the quality of education brought to rural areas, but it should be articulated with other complimentary changes (e.g. incentives for teachers, fight against functional illiterates, etc.).

Table 2 Poverty by geographical zone (% of population)

	1994	1997	2000
Total			
Poverty	53.4	50.7	54.1
Extreme Poverty	19.0	14.7	14.8
Metropolitan Lima			
Poverty	42.4	35.5	45.2
Extreme Poverty	5.5	2.4	4.7
Urban Areas			
Coast			
Poverty	51.9	58.3	53.1
Extreme Poverty	12.2	7.6	8.4
Highlands			
Poverty	51.6	37.5	44.3
Extreme Poverty	14.6	7.4	6.6
Tropical Jungle			
Poverty	43.0	44.2	51.5
Extreme Poverty	12.0	7.2	11.6
Rural Areas			
Coast			
Poverty	63.4	52.8	64.4
Extreme Poverty	26.5	23.6	27.3
Highlands			
Poverty	64.7	68.1	65.5
Extreme Poverty	37.7	32.6	30.2
Tropical Jungle			
Poverty	70.1	64.9	69.2
Extreme Poverty	38.6	36.4	31.5

Source: ENNIV 1994, 1997 and 2000
Elaborated: IEP

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CHAPTER 2

NON FORMAL CREDIT FOR RURAL AGRICULTURAL AREAS: NEW EVIDENCE FOR AN OLD PROBLEM

Carolina Trivelli[1]

Abstract

The purpose of this paper is to show the complex relationship among different lenders in the agricultural sector. Formal, semi formal and informal lenders coexist, sometimes competing and at others complementing their activities to shape the financial markets for different sectors in the Peruvian economy. There is no difference in the agricultural sector, one the most affected by the lack of access to capital. This paper presents evidence of the activities of both sides, borrowers and lenders, in order to improve credit allocation and increase agricultural activity, and concludes on the need to consider the activities of crucial participants, such as semi formal lenders, in the design of an agricultural policy aimed at improving the development of the credit market relevant to this sector.

The article concludes by presenting evidence suggesting the existence of a complementary relationship between formal and semi formal lenders as well as competition between both types of lenders. This conclusion suggests that in order to develop the credit market for agriculture in Peru we need to consider not only the formal sector but also others, especially the semi formal lenders.

1. Market size: importance of non formal lenders

One of the problems faced by Peru's agricultural sector is the limited access to credit[2]. For a long period of time most credit for agriculture came from a State bank, the Banco Agrario (BA). The BA ended its operations in 1992 and, as part of a program of structural adjustment and financial liberalization, agricultural credit was supposed to come mainly from private formal lenders[3]. However, as we will discuss later, private financial lenders were not able to provide enough credit, so the problem of lack of credit continued and probably became worse.

A common question about credit market, at least in the case of Peruvian agriculture, continues to be the size of the market. Due to the intrinsic difficulties involved in answering this question, we usually use the total amount of credit allocated to the agricultural sector. However, the existing statistics report only credit allocated by the

[1] Director and researcher of Institute of Peruvian Studies (Instituto de Estudios Peruanos: IEP)I need to thank Johanna Yancari and Bruno Iriarte for their help in the preparation of this paper.

[2] This problem has been recognized by researchers and policy makers of all political tendencies. See for example Escobal (2000), Gonzales de Olarte (1997), Valdivia and Silva (1997), Trivelli (2000); Alvarado and Ugaz (1998), among others.

[3] For a review of the main features of the financial liberalisation of the early 90´s see Trivelli, Alvarado and Galarza (2001).

formal sector[4]. With this restriction, and considering only the amount of formal credit, we are clearly underestimating the total amount of agricultural credit. The question is how far is this number from the real value of credit going to the agricultural sector.

As shown in the table below (table 1), in the last decade formal credit to agriculture reached a peak of around US$ 500 million per year. Nevertheless, the agricultural sector represents a small portion of financial activities for most formal lenders. The total amount of formal loans allocated to agricultural activities represents around 12% of agricultural GDP, showing a reduction compared to the era of the BA (Trivelli, 2001). Estimates made by Valdivia (1995) show that the BA allocated during the 80´s around 20% of agricultural GDP in loans to the sector. Similarly, the number of agricultural clients (in the formal sector) in its last years was around 23,000. This figure shows another dimension of the problem when compared to more than 200,000 clients of the now defunct BA.

Table 1: Formal Credit to the agricultural sector
(US$ millions)

Time period	Banks	Financial institutions	CMAC	CRAC	Total formal sector
95.12	256.0	2.9	3.1	10.9	272.9
96.12	354.2	1.7	6.5	23.9	386.3
97.12	438.4	3.4	8.8	32.8	483.5
98.12	441.0	4.8	12.0	36.8	494.6
99.12	374.0	1.0	n.a.	n.a.	n.a.
00.03	375.0	0.9	n.a.	n.a.	n.a.
00.06	389.0	0.9	n.a.	n.a.	n.a.
00.09	393.2	0.9	n.a.	n.a.	n.a.
• Nº Institutions	23	6	13	13	
• % Agricultural loans/total loans	3.2%	1.6%	12.8%	63.6%	

Source: Superintendencia de Banca y Seguros
Taken from Trivelli 2001

In this context of limited resources flowing from the formal financial sector to agricultural activities, the obvious question is what about other credit sources?. Non formal lenders are quite important for several reasons and not just in the agricultural sector. However, in the Peruvian agricultural sector, the amount of resources allocated by these non formal lenders using different technologies, having a flexible supply of credit and considering the limited amount of formal credit suggests that there are sufficient arguments in favor of a non formal pool of credit suppliers that serve a significant portion of the agricultural credit market. Non formal agents by definition are difficult to identify, not only as group but also their impact and their

[4] Formal credit is that provided by formal financial institutions, which are under the supervision of the Superintendencia de Banca y Seguros (SBS). The formal institutions in Peru are: Banks, Cajas Rurales de Ahorro y Crédito (CRAC), Cajas Municipales de Ahorro y Crédito (CMAC), Financial Institutions and Entidades de Desarrollo de la Pequeña y Microempresa (EDPYME). For the meaning of acronyms, see the end of this chapter.

performance. However, their activities are crucial to understanding the agricultural credit market.

Before discussing details of non formal credit, we need to mention the importance of making use of term "non formal" credit instead of "informal" one. We differ from most studies (Hoff et al., 1993, Floro and Yotopoulos, 1991; Bell, 1990; Siamwalla *et al.*, 1990; Steel *et al*., 1997; McMillan and Woodruff, 1999;among others) as we do not use the common dichotomy between formal and informal credit markets. We recognize the importance of an "in between" type of lender: the semi formal one, with unique characteristics, different from informal as well as from formal lenders. The semi formal lenders together with the traditional informal lenders, are not recognized as financial intermediaries, so in that sense they are part of the "non formal group". Non formal lenders are also divided into two groups, semi formal and informal sources. The first group is defined as institutional lenders that are not financial intermediaries and the second group consists of individuals[5].

There are no estimates of the total amount of resources allocated by non-formal agents, but different studies show that these lenders are as important as formal lenders (and in some cases even more important). It is usually assumed that non formal transactions are very common but imply reduced amounts, specific purposes and a short maturity. We will come back to the products and their characteristics in the next section, but it is necessary to discuss two issues: coverage (number of clients) and total amount of resources lent.

As far as coverage of non formal lenders is concerned, and considering the many limitations of measures of credit access, national level surveys (ENNIV[6]) have shown that in rural areas non formal lenders are the most mentioned. Table 2 shows the reduced percentage of households that have had access to credit (from any source) in different regions of the country in the last decade, revealing a lack of access to credit in general, and more dramatically in rural areas.

Table 2. Households with credit: 1994, 1997 and 2000

Region	ENNIV 1994			ENNIV 1997			ENNIV 2000		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
With credit (%Households (hh.))	16.6	16.7	16.4	32.0	38.1	22.1	16.5	18.4	13.0
REGIONS									
Coastal (% hh)	13.0	12.0	18.2	36.9	38.7	29.3	16.7	17.0	13.3
Highlands (% hh.)	17.9	22.1	14.9	25.7	36.7	18.3	15.1	20.6	11.9
Jungle (% hh.)	22.2	25.9	18.0	30.2	37.6	22.6	20.2	24.6	16.2

Source: ENNIV 1994, 1997 and 2000
Elaborated: IEP

[5] In the semi formal lenders we have included the MAG loans (some in kind and some rotating funds) and the Banco de Materiales, which is actually not a bank in formal terms (it lends materials to build houses) but it is referred to in that way.
[6] Encuestas Nacionales de Niveles de Vida

Table 3 presents the main sources of credit mentioned by households with credit. As can be seen, only Banks, CMAC and Cooperatives are formal lenders, and these represent less than 23% of the sources mentioned in rural areas[7] for the year 2000. To emphasize the point, although based on general information (at household level), formal lenders work with a reduced percentage of households having loans in rural areas.

Table 3. Households with loans by source of credit: 1994, 1997 and 2000 (% of households with credit)

	ENNIV 1994			ENNIV 1997			ENNIV 2000		
Source of credit	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Individual	33.1	29.8	38.8	13.6	11.2	19.7	20.0	14.8	33.9
Bank	7.0	10.3	1.4	26.7	33.9	7.2	28.8	33.4	16.5
CMAC	0.0	0.0	0.0	0.0	0.0	0.0	4.7	4.7	4.7
Cooperative	5.2	7.3	1.4	5.0	5.8	2.9	6.0	7.6	1.6
Enterprise	12.5	16.3	5.9	8.5	11.3	1.1	3.1	3.7	1.2
Small store	14.2	20.9	40.2	39.7	29.8	66.9	30.9	29.1	35.7
Others	28.0	15.4	12.3	6.5	8.0	2.2	6.6	6.6	6.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: ENNIV 1994, 1997 and 2000
Elaborated: IEP

Case studies provide additional, and more precise, information about the importance of informal lenders to agricultural producers. Trivelli and Venero (1999) showed, for the case of the Huaral valley, a highly dynamic and integrated region, that 47% of farmers had access to credit. Of these loans 68.9% were obtained from non formal lenders. They also found that from the total number of transactions registered during their field work with a random sample of small farmers, 57% of the transactions involved non formal lenders. Boucher (2001) found that in four valleys of Piura nearly 67% of total loans came from non financial lenders. Alvarado et al (2001), based on random samples of rural households in two different regions (one on the coast and the other one in the highlands), also found that non formal transactions predominated in rural areas; around 87% of all loans in rural areas came from non formal sources.

The importance of non formal lenders in providing access to specific segment of credit client is recognized. Nonetheless, with respect to the amount of resources involved in non formal transactions it is usually assumed that they imply small sum of money (lots of small and micro credits). Based on this hypothesis, the importance

[7] Nevertheless, it is worth mentioning that formal lenders, mainly commercial banks, have significantly increased their presence in rural areas. Table 3 shows that in 1994 only 1.4% of rural households with loans mentioned banks as their main source of credit, while in 2000 this percentage was 16.5%.

of non formal lenders is limited to their impact in terms of coverage (number of transactions). However, Alvarado et al. (2001) found that this may not be the case for the Peruvian agricultural sector. Their research showed that, in contrast to the other two economic sectors in the study[8], in the case of rural households, non formal lenders were important in terms of number of transactions as well as in terms of the total amount of resources allocated[9]. Table 4 shows the significance of non formal transactions in a random sample of rural households from two different regions studied by Alvarado´s research team[10].

Table 4. Volume of credit transactions in rural households in two regions (US$)

Credit Source		Lenders	TOTAL CREDIT	Regions	
				Junin	La Libertad
FORMAL		Banks, CRAC, CMAC, EDPYME	114,897	34,064	80,832
NON FORMAL	Semi-formal	MAG, NGOs, Traders, Input stores, etc.	280,018	66,237	213,781
	Informal	Family and friends, individual traders, small retailers, etc.	82,748	12,447	70,302
	TOTAL		362,766	78,684	284,083
TOTAL CREDIT REGISTERED			477,663	112,748	364,915
% Non formal credit in sample			76%	70%	78%

Source: Alvarado et al. (2001)

From the evidence presented it is useful to remind two issues: a) Although the size of the agricultural credit market is not known, if we only consider formal transactions we are clearly underestimating the market's size. b) Non formal lenders are important not only in terms of number of transactions but also in terms of the amount of resources allocated, at least in the case of the Peruvian agricultural sector.

One remaining question is the relationship between formal and non-formal lenders. Are they competing or complementing each other? Do non formal transactions appear when formal lenders do not want to supply credit or when the formal sector is too small? Do non formal transactions constitute a different financial product (compared to the formal ones) so that they do not compete with the formal sector? If one or more of the answers to these questions is affirmative, then we could say that non formal lenders complement the formal sector's activities. However, it is possible that non formal lenders could be replacing formal ones as well, as when they offer similar types of credit to similar clients. In the next section we will discuss these issues to approach an answer to questions about the relationship between formal and non formal lenders in rural areas.

[8] Wholesale traders and micro-entrepreneurs.
[9] Trivelli and Venero (1999) and Boucher (2001) do not present information regarding the total amount of resources from each source. Both studies only work at the level of individual credit transactions.
[10] In each of the two regions a random sample of 200 households was examined, with a maximum error of 7%.

2. Formal and non formal lenders in rural areas: evidence and relationships

In order to understand the relationship between formal and non formal lenders, in this section, we will discuss the existence – or not – of common credit types offered by different lenders and whether their lending technologies are similar, based on empirical evidence from two Peruvian agricultural areas. Finally, we present a simple test based on a probit model to explore the type of relationship existing between formal and non formal lenders.

The following analysis is based on evidence collected in two rural areas during 2000 as part of the research presented in Alvarado et al (2001). The data base has 400 cases (rural households) selected at random in two agricultural areas, one in the coastal region and the other in the highlands. Both regions are well integrated with product and input markets. Agriculture is the main economic activity for most cases (94% of the households depend primarily on agriculture). The survey used to collect the information was carefully designed to capture credit transactions, especially the non formal ones.

From the 400 households in the sample, only 107 cases lacked any source of credit in the 12 months prior to the survey. Although this result, 73% of households with credit, shows that credit accessibility is significantly above national levels for rural areas presented in the previous section (based on ENNIV), the results are similar to those obtained by Trivelli and Venero (1999) and by Boucher (2001).

As mentioned before (table 4), non formal sources are the more important ones in terms of total resources involved in credit transactions. In the non formal sector, semi-formal transactions, those coming from enterprises and businesses not specialized in financial activities, are the most significant. In the case of the department of La Libertad this is especially significant due to the importance of rice mills that become important local lenders.

In terms of coverage the figure is quite similar, showing the predominance of non formal transactions. However, as predicted by the theory, informal transactions (credit from individuals) are more frequently reported. A total of 510 transactions was reported by the 293 households with credit, from these, 63 transactions came from the formal sector, 197 from semi formal lenders and 250 from informal sources.

Credit types and lending technologies

As usual, credits allocated in these two rural areas vary widely. Table 5 presents a summary of the characteristics of the reported credits by lender. As shown, formal credits imply significantly larger amounts. The median formal transaction is about US$ 1,156, compared to a median of US$ 477 for the semi formal lenders and less than US$40 for the informal lenders. Clearly, the size of loans varies considerably among lenders.

Table 5. Credit Technology

Description			Formal					Semi formal				Informal				Total
			Bank	Edpyme/ Coop.	CRAC	CMAC	Total	NGO	Private semi formal	MINAG/ Ban. Mat.	Total	Individual trader small retailer	Informal lender	Family and friends, neighbor	Total	
Credit amount (US$)		Me*	1499.2	925.4	3112.0	1155.2	1823.8	1450.4	1599.7	834.4	1421.5	33.6	759.1	358.7	331.0	936.6
		Med*	1300.6	740.2	3000.0	867.1	1156.1	433.5	708.1	433.5	476.9	14.5	173.4	86.7	37.6	231.2
Maturity (months)		Me*	10.8	5.1	10.2	7.8	8.6	6.9	5.9	70.2	19.4	0.9	4.3	6.1	2.9	10.0
		Med*	9.0	6.0	10.0	8.0	7.0	6.0	6.0	72.0	6.0	0.5	5.0	6.0	1.0	5.0
Selec-tion	Collateral (yes)	%	72.7	91.7	100.0	89.5	90.5	76.0	47.3	31.7	47.7		8.2		2.8	31.0
	Need Project (yes)	%	9.1		4.8	5.3	4.8	8.0	3.1	14.6	6.1	2.4	2.4		2.0	3.9
	Year knowing lender (years)	Me*	2.7	2.8	2.8	2.1	2.5	2.2	4.8	3.0	4.1	9.7	11.5	17.3	11.5	7.5
		Med*	2.0	2.5	2.0	2.0	2.0	1.0	3.0	2.0	2.0	6.0	6.0	10.0	7.0	3.0
Moni-toring	Visits	%	27.3	83.3	57.1	42.1	52.4	60.0	44.3	56.1	48.7		16.5		5.6	28.0
Reco-very	Actions taken															
	1	%	33.3	20.0	12.5		20.0	20.0	9.4	88.9	43.8	31.9	22.2	40.0	31.2	35.2
	2	%	16.7	40.0	37.5		30.0	40.0	59.4		32.8	61.7	66.7	60.0	62.3	44.8
	3	%	33.3	40.0	25.0		30.0	40.0	21.9	7.4	17.2					11.7
Default rate (late payments and default)		%	54.6	41.7	38.1	5.3	31.8	20.0	24.4	65.9	32.5	37.3	11.8	12.8	24.8	28.6
Time to obtain credit (days)		Me*	47.5	13.6	48.7	11.8	30.7	22.7	9.4	64.3	22.5	2.1	6.0	6.9	4.2	14.6
		Med*	44.0	2.5	28.0	5.0	14.0	14.0	2.0	32.0	4.0	2.0	2.0	2.0	2.0	2.0

* Me: average; Med: median.
[1]Actions: 1. Did not do anything, 2. Extend maturity and 3. Increase interest rate.
Source: Alvarado et al. (2001).

Loan maturity seems to be different as well. Although we did not find a significant difference between formal and semi-formal lenders, there is an important difference between these two and the informal loans (see table 5). The median length of a loan from formal lenders is 7 months and for semi-formal lenders is 6[1]. These subtle differences could be explained by the characteristics of the sector - fixed agricultural cycle, limited crop diversity in each region, etc. -. However, if one reviews specific lenders in each group important differences are found. Banks and CRAC on one hand had an average loan maturity of 10-11 months, while NGOs and traders had an average maturity of 6-7 months.

Credit offered by different lenders appear to be quite different. Formal lenders, as expected, make larger loans and lend for longer periods than semi formal lenders. Semi formal lenders make larger loans and lend for longer periods than informal lenders. Two additional characteristics of credit's transactions helped us illustrate the differences in the types of credit offered by different lenders[2]. In the first place, formal transactions are 99% in cash, while semi formal are 60% in cash and 40% in kind (inputs, services, etc.)[3]. Secondly, transaction costs are significantly different among lenders. As shown in table 5, the number of days required to obtain a loan from a formal source varies from 47 days in average for a bank loan to 11 days to obtain a CMAC loan, significantly above the 22 days required in a NGO and the 9 days to obtain a loan from a trader or input store. The extreme case, as expected, is the 4 day average required to obtain an informal credit.

In general terms one can say that there are significant differences in the credit offered by each lender. The extreme cases would be, on one side commercial banks in the formal sector and, on the other side, informal loans from family and friends. However, recognizing these differences, what we actually see is a range of options and types of credit that are not completely different. For example, some formal transactions are related to products offered also by some NGOs or traders; or repeated loans with a semi formal could be similar to a formal loan. We will come back to this issue after reviewing some aspects of the credit technology.

Table 5 includes interesting features about the credit technology used by each type of lender. In first place, it is clear that the selection technology marks important differences among lenders. These differences also imply "filters" for certain types of borrowers as we discussed in a other study[4]. As part of the selection process a formal lender requires collateral in more than 90% of the cases. This requirement, induced by current financial legislation[5], could represent an important filter for those

[1] Median without considering loans from MAG or Banco de Materiales (Banmat).
[2] We are leaving the price --interest rate—out of the analyses on purpose because no reliable data was obtained.
[3] In the department of La Libertad most semi formal lenders are rice mills that lend in cash and receive rice as payment. Probably in some other agricultural settings the percentage of cash transactions could be even lower.
[4] See Trivelli (2001).
[5] Financial law states that although loans can be granted without collateral, when certain types of collateral (houses, bonds, land, etc.) are included as guarantees, the required "provisions" that the lender has to make for that credit are significantly lower.

borrowers with no collateral and/or with interest in small scale loans[6]. Semi formal lenders ask for some type of collateral only in 50% of the transactions and informal lenders in the majority of cases, do not ask for collateral. Therefore, borrowers with no real collateral will probably decide not go to formal lenders.

A second characteristic of the selection technology that marks a difference is the relation between the borrower and the lender. As expected, in the formal sector we found that borrowers have known the lender for two and a half years, on average; the semi formal clients have known the lender for 4 years approximately and borrower and lender have known each other for 11 years on average in the informal sector. The more informal the transaction, the more time borrower and lender were related.

Monitoring credits is another distinctive part of the credit technology. However, the only significant differences arise when comparing informal transactions with formal and semi formal. We could not conclude that formal and semi formal lenders have different approaches to the monitoring of their credits.

Finally, on the action taken to recover overdue loans, we found interesting evidence of different approaches. Formal lenders usually increased the interest rate or extended the maturity to recover the credits, while semi formals did not take any actions and informals extended the date of payment.

What we have described shows that credit technologies differ among lenders in a similar way to types of credit. However, the differences in technology between formal and semi formal lenders are not as significant as one would expect, leaving open the option for some competition among these lenders for the same type of clients. These results, together with the comparison of the credits allocated by each lender, could suggest that while informal and formal lenders are completely different, seeking to serve different clients, with different types of credit and technology; semi formal lenders could be competing with formal lenders in some segments and complementing formal transactions in some others. If this is the case, the range of formal-semi formal transactions cannot be easily analyzed through the cut of "formality". We will need better instruments and in depth analyses to learn how the competing segment is defined and what marks the beginning of the complementing segment. The argument of the existence of both relationship, competition and complementarity among formal and semi formal lenders is also supported by several cases (18% of the households with credit had credit from more than one source, mainly one formal and one non formal).

The evidence presented shows that the non formal sector is a very heterogeneous one, and that it is more accurate to talk in terms of at least two major groups: semi formal and informal lenders. These two non formal lenders' groups have different type of relationships with the formal lenders. Clearly the informal lenders complement activities of formal lenders, serving clients with different types of credit with a extremely flexible technology. The semi formal lenders are the interesting

[6] Trivelli and Venero (1999) found that the for the average loan granted to a small farmer (5 hectares in average, loans around US$1000 per hectare) the cost of using their land as collateral represented a sunk cost near to 4-5% of the total loan received.

case, where credits (the type of credit offered) tend to be similar to the formal ones, but on a smaller scale and credit technology tends to go by the same path but with important differences for specific segments. We could say that semi formal lenders compete with formal lenders when the latter offers cash credits with a maturity of 6 months or more to clients with collateral and a known history. On the other hand, semi formal lenders complement formal activities when they lend to clients with no collateral, for short periods of time, when they sell inputs in advance, etc. One additional comment is that some semi formal lenders work with formal credit themselves, providing another source of complementarity among lenders.

If this is the case, any measure to increase the allocation of credit in the agricultural sector has to consider that formal and semi formal lenders work very closely or consider only the impact on the formal transaction side.

Relationship among lenders: using Probit estimations to understand predominant relation between formal and non formal lenders

Using the described data set we produced a probit model to illustrate which of the two types of possible relationship prevails among formal and non formal lenders: competence or complementarity.

The model is quite simple. We ran a probit function on the probability of having a formal credit over a number of variables, including one on having or not non formal credit. Similarly we ran another probit function to estimate the probability of having credit from a non formal source (with the same explanatory variables and the variable capturing if one has also formal credit). Estimated results include a *rho* coefficient which provides evidence on the type of relationship existing between formal and non formal credit suppliers[7].

The estimated results show a negative *rho* coefficient, meaning the prevalence of a competing relationship among formal and non formal lenders (see Annex 1). However, theory states that the type of substitution associated with a negative *rho* coefficient is associated with an imperfect substitution. The prevalence of this relationship can be explained by all the evidence presented in the previous section, but also because in the data collected, semi formal transactions were the most important in terms of the total amount of credit and were close to being the most important source of credit in terms of transactions.

In any case, what we find is that semi formal lenders actually compete with formal lenders in a significant portion of the credit market for agriculture, meaning that formal activities, the ones encouraged by the MAG and by financial authorities (SBS, COFIDE, BCRP), are not the ones defining the structure and development of the credit market in this sector. This result shows the need to include new agents in the equation of the credit market for agriculture, agents having cross incentives with traditional agents; participants that could change the result of policy measures.

[7] For a detailed explanation of the econometric procedure see Greene (2000).

3. Final Remarks

The main conclusions of the article are:

1. No one knows for sure the size of the credit market for the Peruvian agricultural sector. If we base estimates on the formal lenders' activity we are always underestimating the real size of the market.

2. Non formal lenders are quite important. Semi formal and informal lenders are crucial not only in terms of coverage (as most literature agrees), but sometimes they are also significant in terms of the total amount of resources lent to the agricultural sector. We present empirical evidence of one such case. In our case study non formal resources are more important than the ones brokered by formal lenders.

3. Formal and non formal credits in rural areas (mostly agricultural areas as well) have different characteristics. Size, maturity and credit conditions tend to be differentiated according to the lender. Formal lenders tend to provide larger and longer credits with more conditions and higher transactions costs, semi formal lenders tend to be more flexible but provide smaller and shorter credits, and informal lenders are completely flexible, they base their decisions in long term relationship with the borrowers and provide specific credits to serve specific needs.

4. Credit technology varies widely among lenders. The main technological difference appears between formal and informal lenders. Semi formal lenders are in a middle position, sometimes near the formal sector and others near the informal sector.

5. One could say that formal and informal lenders have a complementary relationship. The formal lenders serve one type of need and clients and the informal serve a different demand. The semi formal lenders, however, are in a different position. Some portion of the semi formal lenders is complementing the activities of the formal sector while the other portion is competing with them.

6. Formal and semi formal lenders are crucial to develop the agricultural credit market. However, only formal lenders are considered by the government when financial or sectoral policies are established. We need to learn about semi formal lenders and about their interactions and responses to improve credit access in vulnerable sectors such as agriculture; especially considering that agricultural clients are usually small farmers with low incomes, who make their first contact with credit markets through non formal lenders.

7. Econometric results show that the prevailing relationship among lenders is one of competence and not of complementarity. This result suggest that non formal lenders are responding to public policy as formal lenders.

8. We need to learn how to deal with the complex structure of lenders in our credit market. It is necessary to understand the real dynamics of the sector to improve market activity and improve the performance of state intervention in that market.

9. There is much to do in this sector, but we need to stop considering the problem of lack of credit for agriculture as just a problem of lack of formal access to credit. There is room for all agents in this market. We need to empower their activities in order to promote competitiveness.

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ACRONYMS

CRAC: Caja Rural de Ahorro y Crédito (Rural non-banking entity of savings and loans)

CMAC: Caja Municipal de Ahorro y Crédito (Local non-banking entity of savings and loans)

ENNIV: Encuesta Nacional de Niveles de Vida (National Enquiry of Standards of Life)

EDPYME: Entidades de Desarrollo de las Pequeñas y Microempresas (Organizations for the Development of Small Enterprises)

NGOs: Non-governmental Organizations

SBS: Superintendencia de Banca y Seguros (Bank & Insurance Superintendence)

COFIDE: Corporación Financiera de Desarrollo (Financial Corporation of Development)

BCRP: Banco Central de Reserva del Perú (Peru’s Central Bank)

Annex 1: Probit estimations

Estimates to explore the type of relationship between formal and non formal lenders for rural households are based on the following model, known as Seemingly Unrelated Bivariate Probit[8]. Based on the characteristics of the data set, model specification will be as follows:

$$\mathbf{Y}_{1i}^{*} = \beta_1' \mathbf{x}_{1i} + \in_{1i} \quad \mathbf{Y}_{1i} = \begin{cases} \mathbf{1} & ; \mathbf{Y}_{1i}^{*} \geq \mathbf{0} \\ \mathbf{0} & ; \mathbf{Y}_{1i}^{*} < \mathbf{0} \end{cases} \qquad \textbf{(1)}$$

$$\mathbf{Y}_{2i}^{*} = \beta_2' \mathbf{x}_{2i} + \in_{2i} \quad \mathbf{Y}_{2i} = \begin{cases} \mathbf{1} & ; \mathbf{Y}_{2i}^{*} \geq \mathbf{0} \\ \mathbf{0} & ; \mathbf{Y}_{2i}^{*} < \mathbf{0} \end{cases} \qquad \textbf{(2)}$$

$$(\in_{1i}, \in_{2i}) \sim \mathbf{NB(0,0,1,1,\rho)}$$

Where:
$\mathbf{Y}^{*}_{1i}$ = Probability of having formal credit
$\mathbf{Y}_{1i}$ = Cases with formal credit.
$\mathbf{Y}^{*}_{2i}$ = Probability of having non formal credit
$\mathbf{Y}_{2i}$ = Cases with formal credit.
$\mathbf{x}_{1i}$ y $\mathbf{x}_{2i}$ = Explanatory variables (listed below the estimation report)
β = Estimation parameters
$\in_{1i}$ y $\in_{2i}$ = Normal bivariate error terms

Estimation results are:

Seemingly unrelated bivariate probit — Number of obs = 400
Wald $\chi^2_{(16)}$ = 44.90
Log likelihood = -389.79585 — Prob > χ^2 = 0.0001

Coef.	Std. Err.	z	P>|z|	95%	Conf. Interval]
FORMAL					
sexojef	-0.2504372	0.2381109	-1.052	0.293	-0.717126	0.2162516
edadjef	0.0697839	0.0541474	1.289	0.197	-0.0363429	0.1759108
edadsq	-0.0005072	0.0005141	-0.986	0.324	-0.0015148	0.0005005
edujef	0.1217857	0.0465614	2.616	0.009	0.0305269	0.2130444
depen	-0.0064257	0.0054744	-1.174	0.240	-0.0171552	0.0043039
pobres	-0.3701274	0.1727965	-2.142	0.032	-0.7088024	-0.0314525
yprodu_	0.0000246	8.79E-06	2.797	0.005	7.36E-06	0.0000418
dummyjun	-0.1823516	0.1879324	-0.97	0.332	-0.5506924	0.1859891
_cons	-3.406487	1.478981	-2.303	0.021	-6.305236	-0.5077371

[8] For a detailed analysis of this model, see Greene (2000), pages 849 - 859.

NOFORMAL						
sexojef	0.0646377	0.2011343	0.321	0.748	-0.3295783	0.4588537
edadjef	0.0052699	0.0380623	0.138	0.890	-0.0693309	0.0798707
edadsq	-0.0001414	0.0003602	-0.392	0.695	-0.0008474	0.0005647
edujef	0.0290344	0.0388207	0.748	0.455	-0.0470528	0.1051215
depen	-0.0003774	0.0039065	-0.097	0.923	-0.008034	0.0072792
pobres	0.3310894	0.1433126	2.31	0.021	0.0502019	0.611977
yprodu_	0.0000257	0.0000137	1.872	0.061	-1.20E-06	0.0000525
dummyjun	0.0645942	0.1499276	0.431	0.667	-0.2292584	0.3584468
_cons	0.1089647	1.066037	0.102	0.919	-1.980429	2.198358
/athrho	-0.1137036	0.1095606	-1.038	0.299	-0.3284384	0.1010313
rho	-0.1132161	0.1081563			-0.3171169	0.1006889

Likelihood ratio test of rho=0: $\chi^2_{(1)} = 1.083$ Pr > $\chi^2 = 0.2980$

Seemingly unrelated bivariate probit Number of obs = 400

Wald $\chi^2_{(16)} = 44.90$

Log likelihood = 389.79585 Prob > $\chi^2 = 0.0001$

Coef.	Std. Err.	z	P>|z|	95% Conf.	Interval
FORMAL					
sexojef	-0.2504372	0.2381109	-1.052	0.293	-0.717126	0.2162516
edadjef	0.0697839	0.0541474	1.289	0.197	-0.0363429	0.1759108
edadsq	-0.0005072	0.0005141	-0.986	0.324	-0.0015148	0.0005005
edujef	0.1217857	0.0465614	2.616	0.009	0.0305269	0.2130444
depen	-0.0064257	0.0054744	-1.174	0.240	-0.0171552	0.0043039
pobres	-0.3701274	0.1727965	-2.142	0.032	-0.7088024	-0.0314525
yprodu_	0.0000246	8.79E-06	2.797	0.005	7.36E-06	0.0000418
dummyjun	-0.1823516	0.1879324	-0.97	0.332	-0.5506924	0.1859891
_cons	-3.406487	1.478981	-2.303	0.021	-6.305236	-0.5077371
NOFORMAL						
sexojef	0.0646377	0.2011343	0.321	0.748	-0.3295783	0.4588537
edadjef	0.0052699	0.0380623	0.138	0.890	-0.0693309	0.0798707
edadsq	-0.0001414	0.0003602	-0.392	0.695	-0.0008474	0.0005647
edujef	0.0290344	0.0388207	0.748	0.455	-0.0470528	0.1051215
depen	-0.0003774	0.0039065	-0.097	0.923	-0.008034	0.0072792
pobres	0.3310894	0.1433126	2.31	0.021	0.0502019	0.611977
yprodu_	0.0000257	0.0000137	1.872	0.061	-1.20E-06	0.0000525
dummyjun	0.0645942	0.1499276	0.431	0.667	-0.2292584	0.3584468
_cons	0.1089647	1.066037	0.102	0.919	-1.980429	2.198358
/athrho	-0.1137036	0.1095606	-1.038	0.299	-0.3284384	0.1010313

rho	-0.1132161	0.1081563	-0.3171169	0.1006889

Likelihood ratio test of rho=0: $\chi^2_{(1)} = 1.083$ Pr > $\chi^2 = 0.2980$

Where:
sexojef: sex of the head of the household
edadjef: age of the head of the household
edadsq: $(edadjef)^2$
edujef: level of formal education of the head of the household
depen: number of family dependants
pobres: 1 if the household is below the poverty line, 0 if not
yprodu: income derive from agriculture
dummyjun: dummy variable = 1 if household is located in Junin.

Estimation results show a rho < 0, (rho = -0.11) rho that fits in the 95% confidence interval, suggesting an imperfect substitution relationship between formal and non formal lenders.

CHAPTER 3

DEVELOPMENT OF SMALL-SCALE FARMERS UNDER A LIBERALIZED ECONOMY

Tatsuya Shimizu[1]

Introduction

The liberalization of the economy during the 1990s in Peru has had a number of effects on the agricultural sector. The government dramatically reduced the number of personnel in the Ministry of Agriculture and withdrew from extension activities. The Agrarian Bank was closed and preferential loans for principle crop production were discontinued. The public corporations that controlled distribution of agricultural inputs and sales of rice were privatized or closed. Restrictions on land holdings were eliminated in order to promote investment in the sector. The objective of these reforms was to improve the efficiency of the economy by leaving distribution of resources to market mechanisms. It was expected that individual actors, in case of agricultural sector individual farmers and service providers related to the sector, would compete with each other in the market and improve productivity for higher income.

However, except for a small agro-export sector, the liberalizing reform has not brought the expected outcome in Peruvian agriculture. Poverty is still persistent in the rural sector, and agricultural production, especially food production by small-scale farmers[2], has stagnated. National industries need to import large percentages of raw materials such as wheat and maize from abroad.

The discussion on liberal economic reforms and stagnation of rural agricultural sector often points out inexistent, underdeveloped and ineffective markets. Liberal market reforms will have a positive effect on economy only when there are efficient markets. In the rural sector, where small-scale farmers engage in agricultural production, some market for inputs, namely land and credit, hardly exist. Also, due to lack of logistic infrastructure, the cost of distribution of agricultural products is very high; hence the prices farmers receive are very low. Therefore, liberalization of the economy does not have much effect on small-scale farmers to improve their productivity and income.

However, liberalization of the economy is advancing worldwide and a country in development like Peru has no other option but to further proceed with this reform.

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[2] In this paper, the word “small-scale farmers” is used for agricultural producers who in general have small parcels and have limited access to production factors such as fiscal capital (land, credit, machinery etc.), human capital (health and education), and social capital (infrastructure such as road and telecommunication). See Ágreda 1999 p.20 for details.

The government, international cooperation agencies and non-governmental organization are seeking development strategies for small-scale farmers presupposing a liberalized economy.

The objective of this paper is to examine how small-scale farmers in Peru are adapting to the liberal economy by reviewing various types of development projects for small-scale farmers by non-governmental organizations. First, the major strategy trends for agricultural development in developing countries among Western academics and international cooperation agencies will be reviewed. Second, the characteristics of small-scale farmers in Peru are discussed. Third, the effects of economic liberalization reforms on the sector will be analyzed. Fourthly, cases of development projects in which small-scale farmers are trying to adapt to the liberal economy are analyzed. Finally, a viable development strategy for small-scale farmers in a liberalized economy will be discussed.

Trends in agricultural development

Among Western academics and international cooperation agencies, there has been a tendency in development strategy for the agricultural sector in developing countries. It has been changing from decade to decade (Table 1). During the 1950s, rural poverty was regarded as a product of the backwardness of small-scale farmers. They were economically irrational, and "the sector was considered to have almost no potential for development" (Binswanger 1994 p. 287). Economists thought that development of the urban sector would help reduce rural poverty through immigration.

In the 1960s, the further studies on small-scale farmers had changed this perspective. Economists like T.W. Shultz argued that small-scale farmers allocated factors efficiently. However, since they did not have access to new technologies, they were not able to improve productivity. This "efficient but poor" argument led to the foundation of international agricultural research institutes such as the International Rice Research Institute (IRRI) in the Philippines and the International Maize and Wheat Improvement Center (CIMMYT) in Mexico in the 1960s (Staatz and Eicher 1998 p.12). These research institutes succeeded in developing high yielding varieties (HYV), and the introduction of these new varieties enabled many countries in the world to dramatically improve production of rice, maize and wheat. This achievement was called the Green Revolution.

The Green Revolution was also widely criticized. The original idea was that the benefits for rich farmers who have expanded production with HYV would trickle down to poor farmers as well. In fact, many poor farmers remained poor without receiving the benefits. Therefore, during the 1970s, the attention of international cooperation agencies shifted from agriculture development to poverty alleviation through employment generation and income distribution. They focused on satisfying the basic human needs of poor people by improving levels of nutrition, education, housing, etc. In rural areas, these agencies and local organizations for development implemented Integrated Rural Development (IRD) programs, which combined support for agricultural production and economic and social infrastructure. However, IRD did not last long due to its complexity and because it was difficult to implement.

“Many IRD projects expanded social services faster than the economic base needed to support them” (Staatz and Eicher 1998 p.16).

After the debt crisis of the 1980s, structural adjustment and economic liberalization were the dominant issues in developing countries. Agricultural development also takes the mechanism of the market economy into consideration. For example, the United States Agency for International Development (USAID) emphasized the production of high-value agricultural products (Mellor 1998 p.63). Many of its development projects in Central America facilitated cultivation of fresh vegetables and fruits for the U.S. market. It was argued that small-scale farmers had an advantage in producing labor-intensive high-value crops. The land use of these farmers were highly intensive, and their abundant knowledge in agriculture made it possible to administer complex mixed production and crop rotation, which could not be replaced by commercial farming or large-scale plantation in which wage laborers could carry out only simple tasks. Hayami suggests contract farming, which is a combination of economies of scale in plantation, small-scale farmers’ ability to produce and entrepreneurship and the management capability of agribusinesses, can help develop agriculture (1996 p.306).

Development of the agricultural sector through market mechanisms continued in the 1990s. Furthermore, consideration of sustainability and conservation of environment became essential in planning development projects.

These trends in agricultural development among academics and international cooperation agencies influenced development strategies and projects designed to help small-scale farmers in Peru. The next section describes the characteristics of Peruvian small-scale farmers and the effects of economic liberalization on these farmers.

Table 1. Trends in agricultural development strategies and development projects in Peru

Period	Characteristics
1950s	Backwardness of peasants No potential for peasant development Emphasis on urban development Trickle down of economic growth
1960s	Expansion of agricultural extensions Efficient but poor peasants Emphasis on technology research Foundation of IRRI and CYYMYT High Yielding Varieties and Green Revolution
1970s	Distribution and employment generation Satisfying Basic Human Needs Integrated Rural Development
1980s	Structural Adjustment and Economic Liberalization Non-traditional Agricultural Exports Contract farming
1990s	Sustainability of development Conservation of environment

Based on Staatz and Eicher (1998).

The rural agricultural sector in Peru

Poverty is persistent in rural areas. As described in a boxed article in Chapter 1, over the 60% of population in rural areas is still living in poverty. Considering that agriculture is a principal activity for 95% of the rural population (Trivelli et al 2000 p.16), and the percentage of poor people has not changed very much over a decade, it can be assumed that production by small-scale farmers has stagnated.

Like other Latin American countries, low productivity in Peruvian agriculture arises from small-scale land holding. Around a quarter of farmers owns less than one hectare and 84% owns less than 10 hectares (Table 2). Because large areas of land belonging to farmers' communities (comunidad campesina) are often cultivated individually by their members, the actual number of small-scale farmers could be higher than this percentage.

Table 2. Distribution of agricultural land in Peru

	No of farmers	Land area
up to 1HA	24.1%	0.5%
1HA to 10HA	59.9%	9.9%
10HA to 100HA	14.0%	16.6%
more than 100HA	1.5%	72.3%
Other	0.5%	0.7%
	100.0%	100.0%

Source: National Agricultural Census 1994

Rationality of small-scale farmers

In order to explain this stagnation of the rural sector, academics have been studying farmers closely to understand their production mechanisms. As in Shultz's argument of "poor but efficient" farmers in the 1960s, studies in Peru's rural sector have demonstrated the rationality of small-scale farmers. Through observing farmers in southern mountain region of Peru, Figueroa (1983) argued that small-scale farmers were efficient under the given conditions and were integrated into the market economy. For example, he explains that economies of scale do not work in rural areas where production is carried out in inclined farmland with rainwater only. In this condition, increasing the scale of production cannot guarantee higher yields. Furthermore, farmers do not necessarily respond to higher farm gate prices because their objective of production is not to maximize profits, but to maintain their level of income. They are not willing to take risks involving specializing in a few crops due to uncertain factors such as climate and market price changes. Their priority is to produce for their own consumption, rather than to sell their crops in markets. In other words, maximization of average income, rather than that of marginal profit, is very rational in order to keep a subsistent level of income (Gonzales and Trivelli 1999).

Caballero (1983) presents an argument by a group of economists that these "poor but efficient" small-scale farmers will remain extremely poor as capitalism develops. Small-scale farmers are not only the source of cheap labor and cheap food, but also

providers of low-cost materials for agro-industry. The peasants economy consists of these small-scale farmers, who will be integrated into the capitalist sector as subordinates because of their difficulty in accumulating their own capital.

Caballero himself does not agree with this point of view. He argues that the capitalist sector cannot absorb all the excess rural labor force. It will not be able to expand to rural area either because of unfavorable climate and soil conditions for commercial farming. Furthermore, there is a political barrier against pushing small-scale farmers off their lands.

In traditional development theories, surplus from the agricultural sector can be used for industrialization of the economy. However in Peru, the difficulty of capitalist development in rural areas will only permit the peasant economy to provide sufficient food, but no surplus for economic development, concludes Caballero.

One of the given conditions for Peruvian agriculture is diversity of climate and geographical conditions. This diversity is often cited as an advantage for Peruvian agriculture, saying that many kinds of crops can be cultivated at any time of the year in Peru. However, excess diversity of natural conditions often does fails to help develop commercial farming because it prevents taking advantage of economies of scale. Rational small-scale farmers continue mixed agricultural production rather than specializing into a few commercial crops.

Mismatch between production and consumption

Until the end of the 1970s, Peru was a net exporter of agricultural products. The agricultural trade surplus reached more than US$100 million in the 1950s to 1960s. However, it became a net importer in the 1980s, and the deficit of agricultural trade reached close to US$500 million by the end of 1990s. Peru's largest import is wheat. According to statistics, national production of wheat is 189,005 tons while the country imported 1,285,356 tons in 2000 (INEI 2001). Maize is another crop for which the country depends heavily on imports. Throughout the 1990s, Peru imported more maize than it produced. In 2000, national production was 959,705 tons while imports amounted to 846,609 tons. It is clear that Peruvian agriculture cannot supply enough foods, especially cereals, to satisfy national demand.

One of the reasons why the country has to depend heavily on imported foods is that there is a mismatch between production and consumption of food. Over the decade, the preference of people towards foods has changed. People came to eat more rice and wheat based products such as pasta and bread than potato. Also, consumption of chicken and maize as its feed has increased. However, production of wheat and maize has not increased as much as consumption and many farmers still continue to plant potato.

According to Caballero (1983), the expansion of agro-industry did not contribute to the expansion of agriculture because its dependence on imported material increased. At the beginning of the expansion, agro-industry companies showed interest in re-directing national production toward materials for agro-industry. However, the low price of materials in the international market and over-valued national currency helped to shift demand from national products to imported ones. Therefore, the

expansion of demand for bread, canned milk and chicken meat does not increase demand for national agricultural products.

As discussed in this section, one of the major problems of the rural agricultural sector in Peru is that various conditions surrounding small-scale farmers are not favorable to commercial production. Therefore, the agricultural sector cannot provide enough food for the country. Competition with cheap imported food also discourages small-scale farmers from engaging in commercial farming, and they continue to produce for self-consumption and for local markets.

Liberalization in the agricultural sector

The economic liberalization reforms which took place in Peru at the beginning of the 1990s, were also carried out in the agricultural sector. The major policy change in the sector is liberalization of the price of basic foods, elimination of subsidies on agricultural credit, closure of state corporations for rice distribution and the sale of agricultural inputs, reduction of personnel in the Ministry of Agriculture, withdrawal of the state from extension activities. The reforms aimed at promoting private investment in the sector.

According to Hopkins (2000), the effect of these reforms on overall agricultural production is uncertain. According to statistics, production dropped in the first few years. This initial drop was due to a withdrawal of state support and an increase in production costs. In addition, drastic price hikes for gasoline and public utilities lowered demand for agricultural product by the urban middle-income population. After the initial negative impact, as the economy in general started to grow, agricultural production also grew on average 8% annually between 1993 and 1998. However, since agricultural production is largely influenced by climate change and demand for products by the economy in general, Hopkins argues that it is difficult to say for certain that this growth can be attributed to the policy of liberalization. He added that liberalization assumed that the space created by withdrawal of public intervention would be automatically filled by private sector. However, as we can see in technology transfer in agriculture, the space has not yet been filled by the private sector, and small-scale farmers are left without any extension services.

The effect of liberalization on small-scale farmers is not clear either. Gonzales studied the effect of structural adjustment on small-scale farmers in a small village in Cajamarca, a mountainous northern department of Peru. According to his study, the effect of liberalization on the farmers in remote villages who depend little on market activity were less than those who live in cities. They largely depend on crops they themselves produced in the fields. The data showed that their expenditure on non-farm products increased, but the increase was compensated by the increase of income from sales of farm products. However, the initial withdrawal of public sector investment in rural social infrastructure might cause strong negative impacts on small-scale farmers.

Rural organizations in a liberalized economy

Liberalization of the economy also affected the communities to which small-scale farmers belong. Diez (1999) argues that traditional community organization was

loosing its importance in these years. It used to control not only social activities in the community, but also production such as the management of common resources. It was also an important unit for dealing with government authority in coordinating some development projects. However, multifunctional community organization does not function very well in the context of the liberal economy in which specialization is required. Organizations in communities with specific purposes, such as committees for potable water, electrification, land conservation, irrigation management, etc., have become active. In other cases, regardless of rural community organizations, associations of producers of specific crops are formed in order to improve production and distribution of these products.

The rural communities are means for small-scale farmers to survive and produce under adverse natural conditions which farmers are not able to cope with individually (Gonzales1983). These organizations serve as social safety nets when farmers face hardship. However in some cases, they are not compatible with the market economy, in which individual players compete with each other and increase efficiency. Departure from traditional rural organizations can permit small-scale farmers to compete individually, but at the same time, they became vulnerable to adverse condition such as climate change and market price fluctuation without the safety net of the community.

Criticism of liberalization

Those who support liberalization of the economy assume that free market mechanisms are the most efficient way to distribute resources; therefore all types of intervention should be removed. This assumption of a perfectly functioning free market has been criticized in the context of Peru's rural agricultural sector. Gonzales (1997) points out that market mechanisms, especially in rural areas are not yet well understood. The effect of economic liberalization, privatization and de-regularization is still uncertain. He explains from a historical point of view that development of markets can lead to economic development because exchange through market links complicates social organizations and helps to stabilize society. However, from a sociological point of view it is very different. People assume that the market treats its individual actors, such as small-scale farmers, large-scale modern farmers, corporations, consumers, etc. equally. In fact, the market enhances difference between its actors. Expansion of the market is the development of capitalism in which difference among social classes are magnified (Gonzales 1997 p.25).

In Peru, Gonzales explains, there exist various types of regional markets, with distinct degrees of development. For example, in Lima and Callao, the market is fully developed with industrial and financial capital. In other coastal cities, goods and labor markets are developed, but the credit market is not. Markets in cities in the Andean highlands and Amazonian jungle have their own characteristics. In addition, in the agricultural sector alone products are destined for different markets: export, urban, agro-industry and rural markets (Gonzales 1997 pp.29-30). Despite their diversity of the characteristics and degree of development of markets, liberalization has been treating them equally. This caused discrepancies between theory and reality, and liberalization has not been able to bring economic development to the rural agricultural sector.

Studies on Andean terraced fields

In the mountain regions of Peru where flat land is scarce, farmers have been producing on steeply inclined terrace fields for many years, indeed since the Pre-Inca period. However, about half of these terraces fields are today abandoned. Gonzales and Trivelli (1999) studied the viability of recovering these fields in a sustainable way. The result of this study has important implications for the viability of small-scale farming in the market economy.

According to the authors, the abandonment of terrace fields can be attributed to climatic and demographic change, organizational changes in rural communities, and economic liberalization. They observe that the externality and indivisibility of terrace fields are obstacles for recovering production. The benefit of terrace fields is not only higher productivity and prevention of soil erosion, but also the ability to preserve water. People downstream will also receive large benefits through terrace fields. However, for the recuperation of terraces, only those who receive direct benefits through agricultural production assume its cost. They cannot charge people downstream who indirectly receive benefit. Also, recovery of production cannot be done individually. Since the irrigation system of the terraces is interconnected, recovery of production is achieved only when the whole of the terraces on the same slope is recovered at the same time.

The authors show three alternatives for recovering terrace field production. The first is a mercantile option, in which farmers charge the cost of recuperation to consumers of products. The second is the peasants' option, in which farmers assume the cost and maintain subsistence living with help from the rural community. The third is the state option, in which the government invests in recovery of the terraces as a public good for the sake of maximizing the benefit to society as a whole.

However, none of these alternatives seems feasible in the context of today's liberalization. Regarding the mercantile option, farmers cannot raise the prices of their crops because of competition from other producers. As far as the peasants' option is concerned, community production has now been individualized and the role of the community in guaranteeing the subsistence of its members is not as strong as before. Concerning a state option, the government is trying to decrease its intervention in economic activity. This is an example that the best social objective cannot be achieved by liberal market solutions.

In this section, I have presented the impacts of liberalization reform in the agricultural sector, especially negative impacts on small-scale farmers. In the next section, I will review development projects for small-scale farmers.

Development projects for small-scale farmers

The effect of radical liberalization of the economy in Peru during the 1990s on the agricultural sector is not yet determined. Although its negative impact on small-scale farmers is a source of concern for many development planners and academics, it is certain that the trend towards liberalization will not be reversed. Small-scale farmers do not have any other choice but to find ways to survive in the market economy.

The viability of small production in market conditions was a theme of the agricultural research seminar in 1997 (SEPIA VII, Ágreda 1999). Academics discussed how small-scale farmers could survive in a liberalized economy competing with other capitalist farmers and agro-industry. For example, Lacki (cited in Ágreda 1999 p.28) presented the following suggestions in order to increase the competitiveness of farmers who are considered inefficient in technology, administration and organization.

a. Introduce intellectual inputs;
b. Disseminate low cost innovations;
c. Improve productivity of existing assets (land, machines, animals) rather than increasing assets;
d. Manage efficiently installed facility in order to eliminate idle capacity;
e. Disseminate technology that reduce loss in post-harvest process;
f. Train producers' associations to improve margins in purchase and sales eliminating intermediaries.

For example, Lacki suggests that the farmers should buy inputs from wholesalers with little value added, and sell their products to retailers or consumers with large value added.

However, many of these recommendations had been applied in Peru during the 1980s, but did not bear a lot of fruit. In some cases, higher yield was accompanied by higher cost. The farmers did not introduce improved technology because of a lack of working capital.

Above all, without an increase in demand for crops, improved production efficiency was not followed by an improvement of farmers' incomes. Therefore, international cooperation agencies and organizations for development shifted their focus from the supply side to the demand side. This also matched the trend for market liberalization. As mentioned in the previous section, development agencies such as USAID promoted the production of fruits and vegetables whose demand in the U.S. market is very high. Also, Chile's success in exporting fruits such as grapes and kiwi fruit to the U.S. and the European markets demonstrated a successful example of demand oriented exported strategy.

Ágreda also emphasizes the development of the agricultural sector through integrating small-scale farmers into the market. He argues that successful farmers who achieve links with local, national and international market have the following common characteristics (pp. 26-27).

1. Product quality differentiation
2. Stable market price
3. Good relationship with agro-industry
4. Availability of working capital
5. Dependence on technical assistance
6. Organization of producers

Organization of producers

Taking the suggestions by Lacki and the characteristics pointed out by Ágrega, the objective of the following sections is to review existing development projects for small-scale farmers in Peru, and to analyze the viability of small-scale farmers in a market economy.

Case studies in development projects

In many cases, development projects for small-scale farmers are carried out by non-governmental organizations and international cooperation agencies. In order to improve living standards of poor farmers, these organizations are working on themes such as agriculture, agro-industry, credit, education, infrastructure, environment, small enterprises, public health, etc. Each organization has various instruments to implement their projects such as organizing farmers, technical assistance, training, dissemination of information, assistance in marketing, etc. Some projects are more concentrated on building a base for development and working on the promotion of education, public health and rural infrastructure. Others are more concerned to improve the capacity of agricultural production and rural industry. They utilize technical assistance, training and rural credit to achieve their goals to fulfill their mission.

According to Miguel Ordinola[3], who has been involved in development projects for small-scale farmers, the characteristics of development projects have been changed over the past three decades in Peru. Until the 1970s, the government itself carried out projects trying to transfer resources direct to farmers. However, government bureaucracy made these projects inefficient. In the 1980s, NGOs became the protagonists implementing projects. They worked with farmers to improve the supply side of agriculture utilizing subsidies. However, many projects were paternalistic and economically not sustainable. In the 1990s, the importance of the private sector was recognized and NGOs tried to include them to make projects economically sustainable.

Other changes in the characteristics of development projects for small-scale farmers are a focus on a whole production chain (cadena productiva) and concern for sustainability. For the development of the modern agricultural sector, it is important to identify market demand first. Then, a production chain, which includes production, processing, distribution and marketing, is organized to satisfy that demand. Development projects facilitate the formation of a production chain for each crop. In terms of sustainability, this has various favorable aspects such as environmental, financial, etc. Also, the development itself has to be sustainable, which means that the improvement in production and sales has to continue after the end of intervention by development organizations.

The development project case studies included here are those that deal with promotion of agriculture and the related activities in rural areas in order to improve

[3] Miguel Ordinola is in charge of market and commercialization of Alternative Development Program. He was in charge of MSP program from 1995-2000. The information is based on his interview on January 30, 2002.

the income of small-scale farmers. First, I will present cases in detail, which are then compared and analyzed to find the viability of small-scale farmers in today's market economy.

Case 1: Investment opportunities in the rural sector[4]

Cunya is a small village in the Andean mountains at an altitude of 3800m. It is located in the District of Santillana in Huanta Province in the Department of Ayacucho in Peru. From the city of Ayacucho, which is the departmental capital, it is reached in about four hours by a pick-up truck. About 50 families, totaling around 250 people, live in the village, which does not have electricity or telephones. There is a daily bus service from a nearby village that is around 30 minutes away to Huanta, provincial capital. In the second half of the 1980s, many villagers left the village and immigrated to Huanta when terrorist activities were severe. After the pacification, they started to return to the village, though some people still keep their residence in Huanta, and their children go to school in the city.

The Institute of Research and Promotion for Development and Peace (Instituto de Investigación y Promoción para el Desarrollo y Paz: IPAZ) started a micro credit program in 1994. This was a part of program to help villagers who had returned from the cities after taking refuge for a decade. The micro credit program intended to facilitate their insertion into local and regional markets. The institute also implemented projects in which it introduced production of vegetables such as cabbage, lettuce, broccoli, onion, garlic, carrot, etc., as well as trout farming in the village.

In the micro credit program, the villagers received loans of from 300 to 3000 Nuevos Soles (85 to 850 U.S. dollars) for a period of six months with a monthly interest of 2.5%. They invested in cultivating vegetables, raising livestock and commercializing groceries. Thanks to the favorable climate for vegetable and abundant pasture, these activities can be profitable. Also, the village is situated near a road junction leading to the tropical lowlands of Huanta province, and commercialization of groceries from Huanta in the lowlands is also profitable. Vegetables that can be produced only in the highlands are sold at a high price in lowlands. In addition, one of the successful villagers rented a fish farm from the village, and invested in trout farming, which produced good results. In the first few years, IPAZ experienced some delays in repayment, but by focusing only on clients with good credit records, recovery of credit has improved in recent years.

According to IPAZ personnel, the exodus of villagers during the terrorist period had both negative and positive effects on the rural economy of Cunya. The abandonment of agriculture for a decade impeded the development of a production base and rural infrastructure, while villagers who lived in cities noticed the importance of commerce, and started their own businesses. In spite of some success with micro credit from IPAZ, capital is not accumulating in the village. Many villagers are still afraid of terrorism and are reluctant to invest in something fixed in the village, such as improved housing. They prefer investing in livestock, which can

[4] Information is based on interview with Jefrey Gamarra, director of IPAZ on January 14, 2002, and a visit to Cunya on January 15.

be transported in an emergency, or investing in a motorcycle taxi in a city, for example. They also invest in their children's education, leaving them in cities so that they can go to better schools.

It is true that the effect of the project is limited. The credit just helped villagers leave extreme poverty, but the majority of them are still living in poverty. However, this case shows that poor small-scale farmers in remote rural areas have ways to invest in agriculture or other related activities to improve their income levels.

Case 2: Producing potatoes for market[5]

In Acocro district of Huamanga province in Department of Ayacucho, the potato is a dominant crop. However, the price that farmers receive for their potatoes fell from 0.6 soles (17 cents of dollar) per kilogram in 1998 to 0.2 to 0.3 soles (6 to 9 cents) in the last few years. Many farmers complained that the price would not cover the cost of production. In order to change this situation, CARE Peru, one of the largest NGOs in rural development and poverty alleviation Peru, started projects to help small-scale potato farmers raise their income levels. CARE implemented two projects: one is contract farming of the Capiro variety of potato for a snack company, and the other is production of seed potato.

Around 20 small-scale potato farmers were organized into the Capiro Potato Producers Association. The association, coordinated by CARE, first signed a contract with a snack company for the purchase of all Capiro potato at a price of 0.9 soles (25 cents) per kilogram. According to the contract, the farmers have to use seed potato recommended by the company and follow its instructions in cultivation and post-harvest processing, such as washing and classifying. The cost of production is around 8000 soles (2300 dollars), which is higher than other common varieties of potato such as 5000 soles (1500 dollars) for the Yungay variety. Interest among potato farmers in this contract farming was high, but the higher cost of production and extra work to complete the instructions discouraged many farmers. Only 20 small-scale farmers that cultivate less than five hectares each stayed with the project and formed the association. They cultivated a total of 20 hectares of the Capiro variety in the first year. Its yield per hectare was 15 to 20 metric tons, which is much higher than the average of 8 to 11 tons in the area. It produced a good profit and production was extended to 50 hectares in the second year.

The second stage of the project is potato seed production. Potato producers in the area do not generally use certified seeds. In the past, farmers used seeds distributed by the Ministry of Agriculture, but these were sometimes infected by disease and yield was low. The producers in the association are aware of importance of using certified seeds. They decided to start certified potato seed production. With help from CARE and a local municipality, the association built two green houses. Each member contributed 600 soles (170 dollars) for the operation cost of the green houses. Unlike contract farming, which is an individual operation of the members, the production of seeds is a joint effort as the association, and it provides seeds to its members. Besides, the association will sell the seeds to local

[5] Information is based on a visit to Acocro with Guido Gutierrez of CARE Peru (Ayacucho) on January 17, 2002.

farmers, and there exists a strong demand for potato seed from farmers in coastal area, such as Ica, Pisco and Cañete.

This development projects has just started and the result is not yet determined. However, it shows that there are some alternatives to improve income for farmers with traditional crops like potato. High-value crops for export are not the only alternatives. One can increase the value added of products through seeking different sales channels (contract farming) or improving the quality of products (certified seeds).

Case 3: Organizing small-scale farmers[6]

Valle Grande Rural Institute (Instituto Rural Valle Grande: IRVG) is a Catholic NGO for agriculture and rural development based in the coastal city of Cañete, in the Department of Lima, 150 kilometers south of the capital. Thanks to Cañete river, which provides irrigation water all through the year, and its proximity to Lima City, Cañete valley is one of the most favorable places for agriculture in Peru with the Tangüis variety of cotton as a common crop in the area. After the Agrarian Reform in the 1970s and the dissolution of agricultural cooperatives thereafter, small-scale farmers with 3.5 to 6 hectares of land became dominant. IRVG has been working in the area for over 35 years helping small-scale farmers with technical assistance. When the Agrarian Bank was closed in 1991, and the farmers lost their source of finance, the institute started a project called the Integrated Cotton Production Program (Programa Integral de Producción de Algodón: PIPA).

In PIPA, IRVG organizes farmers so that they have access to credit, technical assistance and marketing. A long-term relationship between IRVG and a local bank and the institute's screening of potential clients allows farmers to receive credit of up to 1300 dollars per hectare at an annual interest rate of 17%, which is lower than the rate for other farmers, who can pay up to around 28%. The institute provides the credit to farmers in the form of agricultural inputs such as fertilizer, and in cash to contract wage laborers when necessary. This practice prevents farmers using the credit for other purposes. During cultivation, agricultural specialists from IRVG visit the cotton fields every 15 days and give technical assistance and prescribe the fertilizers and pesticides that need to be applied. The farmers go to a store that is a part of the program to buy those inputs. Guerrero and Palacios (2001), point out some advantages of this system. Sometimes it happens that stores that sell agricultural inputs recommend that their clients apply more fertilizers and pesticides than necessary in order to increase their sales. Also, some stores sell adulterated inputs. The system employed by PIPA eliminates these problems and reduces the production cost for farmers.

PIPA signs a purchase contract with a local ginning company. The purchase price is an average price in a local market, and the company collects cotton at its own expense from the fields. The premium is paid to the farmers when cotton collected from the program achieves higher quality. This contract assures a stable income for farmers, and a stable supply of high-quality cotton for the ginning company.

[6] Information is based on a visit to Instituto Rural Valle Grande on February 2001, Instituto Rural Valle Grande (1999) and Guerrero, Diego and Palacios (2001).

Furthermore, the farmers participating in the PIPA receive training in basic accounting in a farming household. The aim is that the farmers learn how to keep track of their expenditures and incomes to find their profitability. In order to participate in this program, the farmers pay 100 dollars per hectare for the technical assistance and 24 dollars for the basic accounting course.

As a result, the farmers participating in PIPA achieved 13 to 16% higher yields than the average in the valley. Also, non-payment of the credit is almost zero and the rate of payment in arrears is less than 3%, except for 1998 when agriculture was severely damaged by a natural disaster caused by the El Niño phenomenon. Guerrero and Palacios (2001) explain that with higher yields and lower production costs, the farmers' income has increased.

This case demonstrates that the coordination of an NGO can overcome common disadvantages for individual small-scale farmers: high transaction costs and not being able to take advantage of economies of scale. The bank provides loans to the farmers at a lower interest rate because the NGO prescreens potential clients. The bank knows that the farmers who receive technical assistance are more likely to have a good harvest and will pay back their debts. The ginning company does not need to negotiate prices with individual farmers. It has a general idea of the quantity and quality of the cotton it will receive beforehand. The bulk purchase of agricultural inputs by the program's store makes it possible to provide the inputs to farmers at lower cost.

PIPA is a type of project that requires the permanent intervention of an NGO. If a private company can provide this type of technical and managerial services for small-scale farmers financially profitably, it will be a good example of sustainable development in the market economy.

Case 4: Maintaining a cooperative[7]

Agricultural Cooperative Atahualpa Jerusalén, better known as Porcon Farm (Granja Porcón), is located about 30 kilometers north of Cajamarca City, in the northern Andean Department of Cajamarca. The 9200 hectares of beautiful pine forest at an altitude of 3200 meters was developed in the past 25 years, and the farm is one of the favorite tourist destinations around Cajamarca City. Porcon Farm is the only agricultural cooperative still active in the area, and is considered as a good example of rural development. Around 1000 people from 150 families live on the farm, engaging in agriculture, forestry, dairy farming, trout farming, furniture manufacturing and tourism. According to a study by Mendo Velásquez (2001), average monthly income of cooperative members is a little less than 200 dollars, which is much higher than the departmental GDP per capita in 1995 of 1123 dollars (Gonzales and Trivelli 1999 p.96).

The history of the cooperative started in 1975 when the Agricultural Society (Sociedad Agrícola de Interés Social: SAIS) was formed as a part of the Agrarian Reform. In 1979, Porcon Farm separated from SAIS and formed its own agricultural

[7] Information is based on a visit to Granja Porcón and an interview with Alejandro Quispe on July 2001 and Mendo Velásquez (2001).

cooperative. During the 1980s, with failure of the majority of agricultural cooperatives at national level, other cooperatives in the area also decided to divide their land into parcels and give them to their members for individual cultivation. However, Alejandro Quispe, the president of this cooperative for over 20 years since then, persuaded its members to keep the farm as a cooperative. He knew that flat land suited for agriculture was scarce in the farm, and optimal land use was different from place to place within the farm. Also, he was afraid that the distribution of parcels would cause inequality among its people. Despite some resistant from its members, the farm remained as a cooperative. By keeping farmers organized as a cooperative, it was possible to receive assistance from international cooperation and other public and private organizations. Plantation of pine trees, improvement of pasture, improvement of livestock varieties and construction of fish farming are some examples of assistance that the farm has received in the past.

At present, production of certified potato seeds and fresh milk are the farm's major sources of income. Furniture production of timber from its pine forest is also becoming an important industry. Furthermore, Porcon Farm is expanding its activities to include the elaboration of dairy products, trout farming, manufacturing handcrafts and agro-tourism.

Case 5: Focusing on marketing[8]

The Microenterprise and Small Producer Support Project, known as MSP, is a development project that took the trend of focusing on demand into account. MSP is a program created by the agreement between Exporters' Association (ADEX) in Peru and USAID in 1994. The project has various programs such as microenterprise, handicraft, microfinance, and programs in the highland, coast and jungle regions. The Highland Program (Programa Sierra) is aimed at helping small-scale farmers in the Andean mountains to increase income levels through producing and selling crops such as potato, quinoa, prickly pear, vegetable, artichoke, etc. The project first studies market opportunity in order to identify products and the quality and quantity demanded in the market. Then, working with local NGOs, the project organizes supplies of the products and a production chain so that they can reach consumers.

In the Department of Ayacucho, a local NGO named IIPDA (Instituto de Investigación para el Desarrollo Agroindustrial: Research Institute for Agroindustrial Development) implemented the Highland Program in which close to 500 small-scale prickly pear farmers cultivate the fruit on over 300 hectares of land. They received technical assistance in harvest method and post-harvest handling, with which the shelf life of the fruit increased and the sale price for farmers rose from 8 soles (2.3 dollars) a kilogram to 15 soles (4.3 dollars). Some local distributors started to classify the fruit and commercialize the best quality under their own trademark directly to supermarkets in Lima. According to MSP (2001), the promotion of prickly pear, together with cochineal, is estimated to achieve accumulated sales of over 600,000 dollars from the beginning of the program until the end of 1999.

[8] Information is based on interviews with Juan Cabrera of MSP on December 6, 2001, Miguel Ordinola of Proyecto Alternativo de Desarrollo on January 30, 2002, visit to Ayacucho on January 2002, MSP Bolletin and MSP (2001).

At the end of the 1990s, a new development program sponsored by USAID called Project (Proyecto) PRA has started. Through the promotion of agriculture, the handicrafts industry and tourism, the project tries to improve income and generate employment in a sustainable way. Compared with MSP, the agricultural promotion of PRA is more focused on the role of intermediaries in a production chain, such as agro-industry and distributors. The project helps local businesses that have capital, technology and marketing know-how. Poverty alleviation will be achieved by trickle down of employment and income generated by local businesses.

For example, PRA helped a company in Puno sell Andean quinoa cereal to an importer in the United States. First, PRA organized an exhibit of Peruvian quinoa at a food industry trade show in Chicago. Then PRA invited personnel from the U.S. firm that is interested in importing the Peruvian cereal to the production site in Puno Department. With the cooperation of local NGOs that organize the supply of the cereal, the firm signed a purchase contract for 72 metric tons of quinoa valued at 92,500 dollars.

These two projects recognize the importance of marketing in agriculture. In order to obtain the sustainability of projects, it is essential that the operation should be profitable. Especially, PRA concentrates its effort on marketing aspects in order to obtain concrete results from the project.

Conclusions

Through the inflow of consumer goods and permanent and temporary migration of the labor force, rural areas that used to be isolated from the rest of the nation have been integrated into the market economy in recent years. However, the production from rural sectors is mainly destined for self-consumption and sales of surplus to the local market. Production for the national and international markets is still small. Because markets for inputs, technical assistance, credit, land and labor are not well developed in rural areas in Peru, it is difficult for farmers to improve productivity. It is important that agricultural products reach the right consumers at the right moment with the quality and quantity they desire. Especially for the farmers in the Andean highland, where communication with markets in cities is time-consuming and costly, marketing is an important part of adding value to the products.

The development projects for small-scale farmers discussed in the above section are attempts to overcome these disadvantages and improve their income through integrating them into market economy. The case of the micro credit program in Cunya (Case 1) shows that even in a remote small village in the Andean mountains, there are opportunities for investment. Some villagers accumulate capital through raising animals and cultivating vegetables and trout. In addition, commerce with more remote areas is a profitable opportunity for business. The case of contract potato farming (Case 2) indicates that production of traditional crops like potato can increase added value through exploring alternative sales channels and differentiating the quality of the crop. In the case of the integrated cotton production program supported by an NGO (Case 3), improving administration of production is an important factor in improving the profitability of small-scale farmers. The case of the cooperative in Cajamarca (Case 4) is a good example of a development of small-scale farmers with adverse natural conditions in the Andean mountains. By

keeping communal management of large area, it is possible to reduce production risks from an unpredictable climate and take advantage of economies of scale. Some people comment on the specificities of Porcon Farm such as family and religion, and claim that it would be inapplicable in other places. It is true that many members of the cooperative belong to a few families, and they are evangelists. There are many signboards with phrases from the Bible in the farm, and smoking or drinking alcohol in the farm is forbidden, and this also applies to tourists. Also, the major part of the development achieved so far is attributed to the strong leadership of one individual, the current president. These specificities make the farm easy to unite. The last project (Case 5) emphasized the demand side for agricultural products. In order to improve income for small-scale farmers, these projects not only organize the supply of crops by grouping farmers and improving productivity through technical assistance, but also organize demand so that farmers can gain access to markets. Some projects focus on the development of local intermediaries with some capital and know-how so that the projects can be profitable and sustainable.

Building capacity and local markets

As seen in the above cases, organization and marketing are important aspects for the development of small-scale farmers. In addition to these factors, it is important to point out two more aspects of these development projects: building capacity and local markets.

Some projects demonstrate opportunities for small-scale farmers to improve their income such as high-value new crops whose demand is high at the moment. Receiving assistance from the projects, the farmers produce and sell the crop. This type of project does not help the farmers to improve their incomes with their own initiative because when the demand for the crop drops, they stop producing it and wait for another project to tell them which crop to produce.

It is important to build the capacity of the farmers to identify opportunities by themselves. It does not have to be finding a new crop. It can be adding small value to their products by washing and classifying their products, for example, and finding buyers that demand this kind of product in local or regional markets. The same thing can be said for contract farming. Contract farming is a very attractive option for farmers to assure a stable market for their products. However, if a development project prepares a contract for farmers and the only thing the farmers do is to sign the prepared contract and produce the crop, the benefit for farmers will last only while the project lasts. The important thing is to transfer the capability to organize contract farming to individual farmers and farmers' organizations. A totally unknown crop for export in order to improve income level for small-scale farmers is very difficult. Farmers have to clear so many hurdles simultaneously, and they will not have enough time to build their capacity to deal with such a complicated crop within complex distribution routes in the relatively short life of the project. In this sense, it is more feasible for small-scale farmers to deal with markets at local and regional level, rather than at national and international level. Also, it is easy for them to increase the value added of known crops rather than unknown crops for new markets.

The objective of this study is to examine how small-scale farmers in Peru are adapting to a liberal market economy and see what are their viable alternatives for

development. This was attempted through literature reviews and sample case studies. To understand the rationality of the farmers in the market economy and propose concrete development strategies, close field studies on changes of activities by small-scale farmers and examination of many more development projects will be required.

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CHAPTER 4

SMALL FARMERS' ECONOMIC ORGANIZATIONS PRODUCERS ASSOCIATIONS AND AGRICULTURAL DEVELOPMENT IN PERU[1]

Manuel Glave[2]
Ricardo Fort[3]

Introduction

The structural adjustment and liberalization policies implemented in developing countries in the last decade were not accompanied by a dynamic and competitive agricultural sector. The competitiveness of the small-scale agriculture in this context of openness and liberalization, where the state has a very small role in the direct provision of services in the sector, depends partially on the effectiveness of new forms of economic organizations of the small farmers. In order to achieve a successful articulation within the market economy, small farmers have created new forms of economic organizations as well as redefined old ones. But we do not know exactly under which conditions these collective actions are more successful among small farmers, and the characteristics of the provision of services of their economic organizations are not well known either. At this meso-economic level, the institutional viability of the small-scale commercial agriculture is determined. That is why it is important to identify the net benefits of the small farmers' economic organizations (SFEOs).

The main objective of this study is to identify which factors increase (or decrease) the competitiveness of small farmers in the Peruvian Agriculture. Besides assessing the type of products and services provided by the SFEOs, we will also analyze aspects related with leadership, rules for the distribution of benefits, rules of internal functioning of the organizations, among others.

The document is divided in four sections. The first one presents the origin and evolution of SFEOs as well as an inventory of these organizations at the national level, where we can see the diversity of SFEOs. Upon the base of this inventory we made the selections of the two case studies analyzed in this study. The second section is a detailed description of the two SFEOs chosen (in Chanchamayo in the Central High Jungle and Camana in the Southern Coast), from their origin and evolution, their rules and regulations, and effects of the organizations upon their members. In this third section is delineated a comparative analysis of the results of

[1] This is an edited and shorter version of a report prepared by the authors in 1999 for the International Network on Research Methodologies on Production Systems (RIMISP). The Peruvian case study was one of three carried on in Latin America; Chile and Nicaragua were the other two countries.

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the two case studies allowing us to derive some conclusions and recommendations presented in the last section of the paper.

We would not be able to do the fieldwork without the collaboration of the two selected organizations. They provided us with basic data on their origin, evolution and rules of functioning, as well as helped us facilitating the collection of household information of members and non-members at the filed. After the field work and a preliminary analysis of the information, a workshop in Lima was held with delegates of key SFEOs and agrarian researchers, where the results of the study were presented and discussed as well as complementary information was gathered about the decision making process of the organizations.

I. The small farmers' economic organizations in Peru

I.1 Formation process of organizations and present situation

During recent decades the Peruvian rural sector has experience two major changes, which we can define as the *period of redistribution* and the *period of individualism*[4]*.* Between the 1950s and 1980s a great struggle to redistribute Peruvian land took place, in which justice and solidarity came to dominate. Excluded as a social group, Peruvian peasants wanted to recover the land and gain social and political rights previously denied to them, in a collective manner. Organizations and their rural proposals took these values and made redistributive practices central to their actions and struggle.

During this period the state was characterized by interventionism and redistribution. In some cases this interventionism took the form of left-wing populism; in others, it was more conservative; but in all cases, the action of the state was a determining factor in rural questions, and rural organizations were designed precisely to interact with the state. In some cases and for some organizations, this interaction was more of a confrontation with the aim of guiding state intervention in one direction or another. In other cases, the relationship was one of collaboration in order to facilitate or reinforce the actions of the state in a given sense.

We can say, then, that in this period rural organization was conceived principally for its relationship with the state, which largely explains the nature of its relations with its roots (representative and dialogue), the characteristics of its leaders (negotiators and/or lovers of confrontation), the characteristics of its demands (vindicating certain actions of the public sector), and its departmental and national structure (mirroring the structure of the state).

When the land had been recovered and social and political rights won, the context of a market economy favored an individualistic attitude in the rural sector, individual effort was valued, and opportunities for individuals sought before collective or group rights.

[4] This distinction is used in the report Inventario de grupos organizados del campo que realizan actividades económico-productivas (inventory report of organized groups involved in productive activities). UNI, SOS-FAIM, 1997. See also the work of Carlos Monge (1989), Julio Alfaro (1994) and Jose Heredia (1998) who analyzed changes in rural organizations.

In this new context, many of the organizations created in the previous period lost their reason for existing. Without a state as a interlocutor, both their structures, their leaders and their proposals seemed irrelevant to small farmers who faced new local relationships involving cooperation and/or conflict with private economic and social agents. At the same time, as with its social and basin management programs, the state not only maintained but considerably increased its levels of intervention, thereby retaining its influence on the organization processes arising out of these new circumstances. [5] Although these programs are encouraging, because of their working method (*demand-driven*), the formation of local nuclei or mini-organizations charged with managing the projects generates a "parallelism" with respect to existing organizations given that local work is frequently ignored and while new groups are organized to include a number of local participants and sectors which, instead of strengthening, may weaken and reduce the importance of the peasants own organizations.

In summary, as revealed by the UNI/SOS-FAIM report (1997), "as far as organization was concerned, national organizations intended to dialogue with interventionist governments gave way to local organizations designed to dialogue with private economic agents and to manage services for their members' production. [6].

One observation that is important for our work is that in Peru 35% of all producers possessing 43.1% of agricultural land are affiliated to one or more of the organizations in the country.

Table 1. Association level by farm size

Type of organization	Total	Size of farms (Ha.)			
		Less than 3.0	From 3.0 to 9.9	From 10.0 to 49.9	50.0 and above
Producers Committee	10.1	6	12.6	19	20.5
Farmers' Association	5.2	4	5.6	8.1	10.3
Users' Committee	39.3	43.4	40.8	22.3	12.9
National Agrarian Organization	0.2	0.2	0.3	0.2	0.4
Dairy Cattle Fund (FONGAL)	0.7	0.4	0.8	1.3	2.1
Other	53.5	52.5	52.1	59.8	61.7
Unspecified	0.9	0.8	0.8	1.1	1.7

Source: III National Agricultural & livestock Census, INEI, 1994.
Note: One producer may be affiliated to two or more organizations. The number of producers and farm area do not have to add up to 100%.

[5] "Executive cores" of FONCODES and PRONAMACHCS "Natural Resources Management Committees" are illustrative cases of this process.
[6] In this summary we were unable to review the recent work by Jose Ignacio Poras Martinez (FAO consultant) "Reformas Estructurales, Institucionalidad y Dilemas en la Acción Colectiva del Empresariado Agrícola en América Latina. Un estudio comparado del caso peruano y boliviano" (Structural Reforms, Institutionality and Dilemmas in the Collective Action of Agribusiness in Latin America. A Comparative Study of the Peruvian and Bolivian case).

These organizations in the agricultural and livestock sector constitute an important channel for the solution of technical, economic and social problems afflicting the industry. Participation by producers in these organizations varies widely. The majority does so through irrigation district users' committee (39.3%), which is followed in importance by members of producers' committees for different products (10.1%). Farmers' associations in different valleys or areas are also important (5.2%).[7]

Although affiliation to a users' committee falls as farm size increases, from 43.3% of smallholders to 12.9% of large producers, affiliation to producers' committees and farmers associations increases with farm size.

I.2 Inventory of peasant economic organization

The database of organizations that we have used in this work was elaborated from a larger sample compiled by the Universidad Nacional de Ingeniería (National Engineering University) financed by SOS FAIM of Belgium in mid 1997[8]. By consulting people and institutions working with rural organizations throughout the country, as well as local authorities, the regional agricultural bureaus and the agricultural information office of the Ministry of Agriculture, we were able to identify 199 organizations that stand out in each department for their dynamism, successful strategies for confronting the market, solid organization and useful services provided to their members.

Table 2. Type of organization and Existence Period

	Number of organizations in the sample		Average years of existence of the organization
Committee	20	27%	5
Association	28	38%	10
Cooperative	6	8%	23
Organization of cooperatives	4	5%	20
Private company	7	9%	4
SAIS	1	1%	-
Others	8	11%	4
Total	74	100%	9

Source: Revised database of SOS FAIM. Elaborated by the authors

[7] The high number of associations in the category “other” seems to be related to the number of communal companies, cooperatives and the rural communities themselves.

[8] Inventario de grupos organizados del campo que realizan actividades económico-productivas (Inventory of organized rural groups engaged in economic-productive activities). UNI, SOS-FAIM, 1997. This is the only previous work done in Peru that identifies rural economic organizations. The CENAGRO 1994 only identified the fact of membership and the type of association, but did not specifically name them. We are grateful to SOS-FAIM for giving us access to their original database.

For this study, a new selection criterion based on the average number of hectares farmed by the members and the organizations' sources of finance, produced a sample of 74 cases (43% in coast, 48% in highland, and 8% in jungle), not including organizations receiving sizeable aid from the state or some NGO and groups of producers holding more than 50 hectares.

An estimate of members' landholdings indicates that each organization's members manage an average of 8 hectares, classifying them as small farmers.

The organizations that have been in existence the longest are the cooperatives and their collective organizations, which date from the 1970s when the government encouraged their creation; the associations, committees and small companies are more recent. Most of the cooperatives are located on the jungle perimeter and are involved in the sale of products typical of this region, such as coffee, cocoa and fruit.

This time difference gives us a double view of the organizations currently existing. On the one hand that, although created in a different environment as regards their relationship with the state, the organizations have adjusted to the changes in the economic model and the new rules applied in the agricultural sector. On the other hand, new organizations that agree with the purpose of the old agrarian reform, consolidation of the process of dividing up the cooperatives and the application of policies of liberalization in agriculture have been created

Most of the organizations chosen carry out a number of activities at the same time, particularly production, sales and technical aid (see table 3).

Table 3. Activities and starting date

	Number of organizations involved in the activity		Average starting date of the activity
Production	40	54%	1986
Marketing	26	35%	1987
Legal advice	3	4%	1988
Tax advice	6	8%	1990
Technical assistance	25	34%	1991
Credit	8	11%	1989
Others	4	5%	1995

Source: Revised database of SOS FAIM. Elaborated by the authors

Although the production and sales activities of these organizations founded on average in the mid 1980s, others such as technical and tax advice, in which more than 40% are engaged, appeared after 1990. We should point out that these new activities coincided with a withdrawal of the state from research and technical assistance for farmers, together with the abolition of subsidies, price controls and efforts to formalize rural activities.

A glance at the budget structure of these organizations, according to sources of finance during 1995 and 1996, shows us that the majority is based on contributions

by their members in the form of dues or shares (59%) and income deriving from the sale of products or services (56%) (Table 4).

Table 4. Percentage breakdown of organization budgets

	% Organizations	% Average financing
Donations or state financing	7%	8%
Donations or NGO financing	8%	8%
Member contributions	59%	26%
Own revenue	56%	27%
Bank financing	18%	12%
Others	15%	19%

Source: Revised database of SOS FAIM. Elaborated by the authors

These two items explain, on average, more than 50% of the total value of the financing obtained by the organizations covered, which gives us a good indicator of their performance and sustainability. It is important to emphasize that most have more than one source of financing, banks, NGOs and the state having an important presence. With the disappearance of the Agrarian Bank and the expansion of the government's policy of granting land titles, commercial banks have become an alternative for these organizations, principally those who have land and machinery that can be used as guarantee.

The average number of members varies widely depending on the type of organization. As one might expect, the cooperatives and producers' committees have the most members. The average for the associations in the sample is 645 per organization, and they contract an average of 17 paid workers (see Table 5).[9] The average annual income earned through the organization per member is also much larger in the cooperatives.

Table 5. Number of members, paid workers and income per member

	Average Number of Members	Average number of workers	Average annual income / member*
Committee	1,344	5	294
Association	279	15	2,650
Cooperative	135	89	40,251
Organization of cooperatives	2,177	48	1,788
Private company	59	7	4,681
Others	41	3	1,909
Total	645	17	1,676

This chart includes only 47 observations due to a lack of information in some cases

[9] There are some inaccuracies in the database concerning the number of paid workers, which in some cases exceeds the number of members. Nevertheless this may be due to the cooperatives that are also engaged in direct production.

* In Nuevos Soles, the local currency. The average exchange rate for 1999 was 3.39 Nuevos Soles per US Dollar
Source: Revised data base of SOS FAIM. Elaborated by the authors

I.3 Selection of case studies

We used a series of criteria for choosing the two case studies. Firstly, the case studies should represent cases where an association of small farmers has adapted rapidly and efficiently to macroeconomic and political changes; secondly, the case studies should be linked to crops that are important either for export or the internal market; finally, in selecting the case studies we wanted to cover more than one geographical region. The final choices of the two case studies were La Florida Coffee Cooperative in the central jungle and the Villa Hermosa Yellow Onion Producers' Association on the southern coast. The selection was heavily influenced by the importance of coffee, Peru's main agricultural export, and yellow onion, a non-traditional export crop that have grown increasingly on the coast.

I.3.1 Province of Chanchamayo

The province of Chanchamayo, in the department of Junin in the central jungle, has a total of 14,781 farms covering a total of 112,000 hectares, out of which 65% is cultivable area. According to the last agriculture and livestock census in 1994, 80% of these farms have less than 10 hectares and cover 53% of the total cultivable land in the zone. The cities of San Ramon and La Merced are the main urban centers of the province and are less than 7 hours from Lima, which facilitates trade by local economic agents.

The climate conditions of the zone, suitable for tropical crops, make Chanchamayo one of the principal producers of coffee in the country, a crop that is grown on more than 36,000 hectares representing 51% of the total cultivated land in the province. Another group of products grown in these conditions is fruit. Oranges, bananas, avocado, pineapple and tangelo together account for more than 32% of cultivated land.

Of all farmers, only 9% claim to belong to any organization, of which half are smallholders with less than 10 hectares. The organizations representing the largest number of producers are the committees and associations, accounting for 53% of farmers who are members of organizations.

Since the middle of the 19th Century, Chanchamayo has seen an expansion of the farm economy, associated with sugar, cocoa and coffee plantations. Since the middle of the 20th Century Chanchamayo, together with nearly all the valleys on the Peruvian jungle perimeter, has adopted the cooperative model for the sales of coffee for export, enabling it to maintain an agrarian structure characterized by small and medium sized properties.

I.3.2 Province of Camana

Located in the department of Arequipa, Camana is known for its rice production, which accounts for 82% of cultivated land, thank you for abundant water supplied by the Camana River in the Colca basin. According to the latest agricultural & livestock

census in 1994, remaining production is highly diversified between beans, yellow maize and certain root vegetables.

The total cultivable area of the zone is 7,891 hectares and smallholdings (of less than 5 hectares) make up 84% of farms, but account for 53% of cultivable land. The remaining 47% of the land belongs to around 500 farms with than 5 hectares, which account 16% of farmers in the area.

In contrast to Chanchamayo, where only a small percentage of producers belong to some form of organization, in this province around 88% are members of an association, most of them smallholders (80%). The organization to which almost all producers (96%) belong, is the Water Users' Committee, followed by Production Committees which also have a large membership (68%). The interest in participating in the management of water is explained by the large quantity required for growing rice, which, as we have seen, covers a large area of the province.

II. Description of two Small Farmers' Economic Organizations

II.1 La Florida Coffee Cooperative (CAC La Florida)

II.1.1 History and Organization of the CAC

The coffee cooperatives in Peru's jungle perimeter are the oldest organizations of small producers in the country. Although it is true that many coffee cooperatives disappeared as a result of bad financial management during the 1980s, the few that survived the oscillations in the world coffee market are now Peru's most successful farmers' organizations.

These organizations were able not only to adjust to new marked demands and the withdrawal of the interventionist state, but also to construct a better institutional framework, as shown, for example, by the organizations of cooperatives and the National Coffee Board, which provide better interaction with the international market.

The CAC La Florida was started in 1966 and at its largest, before the political violence of the 1980s, had 1,400 active members producing coffee and other products typical of the high jungle (citrus fruits, banana, pineapple, cassava and other fruits). At that time the CAC La Florida exported more than 20,000 quintals of coffee and owned businesses such as a sawmill and a series of post harvest services for coffee producers. When the period of political violence ended, at the end of the 1980s and beginning of the 1990s, the CAC La Florida started a process of recovery and reconstruction and now has around 700 active members and exports more than 12,000 quintals of coffee to different markets in Europe and the United States.

The internal organization of the CAC La Florida is based on the traditional cooperative format, where a general assembly of members is the ruling body, under which come the administration and supervisory boards. The general management plays an important role in linking the governing entities of the cooperative with technical departments (sales, credit, agricultural & livestock and family welfare). The operation of these departments, with a total of more than 80 people working in the

cooperative, depends on the contributions of the members, which are made on delivery of the coffee for selection and sale (3 kilograms per quintal are charged). In recent years international technical cooperation has been crucial to capitalize certain production units, particularly through working capital loans (as loans for sales purposes are already available in the region).

In the case of CAC La Florida, the role of general manager is very important given the personal and professional quality of the person occupying the post at the moment. This creates a dilemma in relation to the factors upon which the consolidation of the SFEOs depends as it is the quantity and quality of the human resources and in particular human resources in the sales and general management of the organization.

II.1.2 Effects of the organization on its members

The sample chosen in Chanchamayo consists of 29 households, 20 of which belong to the organization being studied. The average size of farm is 15.6 hectares, of which only 38% are cultivated, this being a typical proportion in tropical forests. The total surface area covered by the sample in question is 452.4 hectares.

Table 6. Average size of farms (hectares)

MEMBERS			NON-MEMBERS			TOTAL		
Number	Total area	Cult. area	Number	Total area	Cult. area	Number	Total area	Cult. Area
20	17.9	7.4	9	10.3	2.4	29	15.6	5.9
Ratio cult./total		0.41			0.23			0.38

Source: Household survey. Elaborated by the authors

Table 6 shows that members have larger farms and a larger area under cultivation. Also, the ratio between cultivated area and total area is larger among members than among non-members, which indicates that cooperative members farm more intensively.

Table 7. Distribution of area by crop

TOTAL AREA PER CROP							
FALLOW	COFFEE	PASTURE	FRUIT	ORG. COFFEE	VARIOUS	OTHERS	TOTAL HA.
31.7%	32.8%	14%	8.6%	6.3%	3.7%	2.9%	452.4

Source: Household survey. Elaborated by the authors

A large part of the land is fallow or pasture (Table 7); only one farmer in the sample possesses improved pasture. Nevertheless, within the cultivated area, coffee is clearly the principal product of the zone (62.1%), followed by the fruit (14.7%) and other crops basically for self-consumption, including cassava and maize (8.8%). Organic coffee is grown exclusively by members of the cooperative and has formed an increasing percentage of recent crops.

With regard to the families interviewed, we would point out that the average family in the sample consists of 5 to 6 people and the average level of education is 6.5 years of schooling. This low level is mainly explained by the poor education received by the heads of households and their spouses.

In order to have an idea of the direct impact of the organization on its members, we will first analyze differences in production and income obtained by coffee growers. Then we will analyze the variables that may explain the differences between members of the CAC La Florida and non-members.

Table 8. Gross and net income per hectare (US$ 1999)

MEMBERS		NON-MEMBERS		TOTAL	
Number	Gross income	Number	Gross income	Number	Gross income
20	1,013	7	516	27	884
MEMBERS		NON-MEMBERS		TOTAL	
Number	Net income	Number	Net income	Number	Net income
20	493	7	102	27	391

Source: Household survey. Elaborated by the authors

The differences found indicate a clear benefit for the members of the cooperative, who obtain net incomes from coffee production almost five times that of non-members. This difference can be explained principally by two factors: the price obtained from sales to the cooperative and the productivity per hectare of the members.

Table 9. Average price per kilogram (US$ 1999)

	Number of Producers	Price per kg
MEMBER	22	1.33
COFFEE	18	1.27
ORGANIC COFFEE	4	1.48
NON-MEMBER	7	1.24
TOTAL	29	1.3

Source: Household survey. Elaborated by the authors

Table 9 indicates a significant difference between the price paid by the cooperative and that paid by the various traders in the Chanchamayo valley. The introduction of “organic coffee” provided an extra benefit for members, who receive a price 16% higher than that received by non-members of the cooperative.

Table 10. Average production per hectare (quintals)

	Number of producers	Production per hectare
MEMBER	22	12.2
NON-MEMBER	7	6.9
TOTAL	29	10.9

Source: Household survey. Elaborated by the authors

A result even more relevant in explaining the difference in incomes from coffee production is the productivity per hectare (Table 10), where members obtain approximately double the production of non-members. This higher productivity may be related to the services provided by the cooperative, such as loans and technical aid. As far as loans are concerned, we observed that 85% of members had access to credit and 88% of these obtain it from the cooperative, whilst non-member producers simply had no access to sources of finance.

Table 11. Technical assistance

MEMBERS				NON-MEMBERS	
Number	Cooperative	Others	Not received	Number	Not received
20	13	2	5	9	9
	65%	10%	25%		100%

Source: Household survey. Elaborated by the authors

Equally, a high percentage of members had technical assistance available for production. This service is provided mainly by the programs of the cooperative, whilst non-members did not have the benefit of this service.

As far as the total agricultural production of the interviewees was concerned, we again observe that the gross sales of their production and margins (gross sales – production cost) are greater for members of the cooperative. Although the services by this organization are concentrated on the production of coffee, some, such as access to credit and technical assistance, may also generate an impact on the management of the members' other products. Some new services of the cooperative include training programs for new crops, such as vegetables, which help members not to buy these products.

In an open question to the interviewees, we asked them what were the principal benefits of being a member of the cooperative. The results are shown in Table 12. Access to credit is seen as the principal benefit of membership of the cooperative by the majority, followed by the possibility of using part of the cooperative's premises to dry the coffee and greater facilities for proposing and carrying out infrastructure and development projects, either with the state or other public institutions.

Although only 20% explicitly mentioned better prices as an important benefit of membership, certain other replies, such as the elimination of middlemen from the sales process, the possibility of exporting and the price regulating effect are closely related to this general benefit, for which reason the percentage could increase by some 40%. As far as the price regulating effect was concerned, the interviewees said that since the creation of the cooperative and its higher payments for coffee, the rest of the middlemen and buyers in the area had been forced to increase their prices in order not to lose their clients.

Table 12. Perception of benefits by the members

BENEFITS OF COOPERATIVE MEMBERSHIP		
Credit	13	65%
Use of drying areas	5	25%
Facilitates projects	4	20%
Better price	4	20%
Technical assistance	2	10%
Avoids intermediaries (theft)	2	10%
Insurance against risks	2	10%
Provides supplies	1	5%
Regulating effect on prices	1	5%
Social standing	1	5%
Increase in production	1	5%
Provides lodgings at head office	1	5%
Anticipates sales receipts	1	5%
Enables exports	1	5%
Incorporation of new varieties	1	5%

Note: This question was put to the 20 members and each one mentioned an average of 2 benefits, which is why the percentages add up to more than 100%.
Source: Household survey. Elaborated by the authors

Finally, technological innovation on the interviewees' farms in the last five years indicate greater incentives to change among the members than the non-members. The principal innovations carried out among the members concern the introduction of new types of crop or the cultivation of fruits, which were new to the area (55%)[10]and changes in the variety of existing crops (30%). Innovations of this type are more frequent among non-members, but are carried out by a smaller percentage of farmers.

II.2 Agricultores de Camana S.A. (AGRICAM)

II.2.1 History and organization of the company

In the mid 1990s, USAID-Peru introduced a program for promoting non-traditional agricultural exports with small farmers in coordination with the Association of Exporters (ADEX-MSP project). Some were traditional products such as asparagus, tomato, mango and grapes, and others were new ones such as sweet yellow onion and paprika. In most cases the idea was to take advantages of "windows" in the North American market, that is, a period in which local supply of some fruits and vegetables is low and the prices reach their peak in the year.

The case of sweet yellow onion is one of the most complex ones because of a strange combination of high yield and high quality. But problems selling the product in the United States meant that many farmers ended up losing capital and, in most

[10] Because the question was multiple-choice, the percentages add up to more than 100%.

cases, gave up the crop after 2 or 3 harvests. The ADEX-MSP project stopped working with sweet yellow onion due to a series of problems with farmers on the central coast of Peru (in Casma and Nepeña).

At the end of 1995 and after advice from agronomists from Lima, positive results and expectations generated by the product window, sweet yellow onion was sown in certain southern valleys (Majes, Moquegua, Camana). Thus was created the Villa Hermosa Farmers' Association whose only crop was sweet yellow onion cultivated in short season between April and September, after the rice harvest. Iinstead of sowing potatoes, beans or red onions, the 13 farmers of the association decided to experiment with the "window" in North American market. This decision was taken after having spent money on soil analysis and technical feasibility. What could not be clearly determined was the final market for the product.

After the Association's first very successful year in terms of production in 1996 (55 containers of 20 tons from only 20 hectares planted) and whilst payment was awaited from North American broker Kinston, the Association obtained a loan from the Peru-Canada Counterpart Fund (PCCF). The fund practically transformed the Association into a private company, and AGRICAM S.A. was created at the beginning of 1997. That year was a very bad for the company, not only because of the impact of climate change (El Niño 1997-98) which destroyed the entire crop (0 quintals sold into the North American market), but because Kinston did not pay the balance of 50% pending from the sales of the 1996 crop. In spite of all this, AGRICAM continued with its sweet onion export project and in 1998 harvested in 25 hectares, but the total production was only 7 containers (the result of the sequels to the El Niño phenomenon). Once again the broker (Delmonte) charged high margin for marketing in North America. The results were again negative.

Despite these negative experiences, sweet yellow onion is seen as a high productivity crop with high quality levels and excellent rates of profitability if it is efficiently placed in the North American market. Thus it is estimated that more than 20 hectares were planted by members of AGRICAM in the 1999 season and conversations have started with a new broker with whom one container was successfully placed in 1998.

II.2.2 Effects of the organization on its members

The sample used in the case of Camana consists of 13 families, 7 of which belong to the organization in question (AGRICAM), 4 belong to the Association of Onion Exporters (APROCEX) in the Majes valley (2 hours by car from Camana) while 2 families in the Camana valley do not belong to any association. Average farm size is 14.2 hectares and an average of 24.8 hectares can be cultivated a year because of good soil quality and successful water management that allow two or in some cases three crops annually.[11] The total surface area covered by the sample is 184.6 hectares.

TABLE 13. Average size of farms (hectares)

[11] The non-member sample should be treated with care as one of the interviewed is a large producer in the Camana zone who farms 72 hectares and this may distort the group averages.

FARM SIZE								
MEMBERS			NON-MEMBERS			TOTAL		
Number	Total area	Cult. area	Number	Total area	Cult. area	Number	Total area	Cult. Area
11	9.13	14.9	2	42	79	13	14.2	24.8
Ratio cult./total		1.63			1.88			1.75
AGRICAM			APROCEX			NON-MEMBERS		
Number	Total area	Cult. area	Number	Total area	Cult. area	Number	Total area	Cult. Area
7	10.5	19.3	4	6.8	7.4	2	42	79
Ratio cult./total		1.84			1.09			1.88

Source: Household survey. Elaborated by the authors

In the Camana valley the "main season" begins approximately in September when the principal product, rice, is planted. It may be accompanied by a number of hectares of potato or maize, those are harvested in March or April. The "secondary season" is between these months (May - August) and the products traditionally planted are red onion or beans. The producers of sweet yellow onion have introduced the crop in this season and, according to our samples it is planted on around 15% of the total surface area.

Table 14. Surface area distribution by crop (% of the total area in hectares)

TOTAL AREA PER CROP								
RICE	RED ONION	BEANS	YELLOW ONION	POTATO	MAIZE	ALFALFA	OTHERS	TOTAL HA.
41.5%	16.8%	16.5%	14.5%	3.0%	2.5%	2.0%	3.0%	322.4

Source: Household survey. Elaborated by the authors

With regard to the families interviewed, we would point out that the average family in the sample consists of 4 to 5 people and the average level of education is 10.5 years of schooling.

Seeking to find the direct impact of the organization on its members, we first analyzed differences in income obtained by producers of sweet yellow onion.

We have decided to show the farmers broken down by each organization in the sample in order to compare the results of both associations. The gross income obtained from the sale of sweet yellow onion indicates firstly a higher value for members than for non-members, due mainly to the income obtained by APROCEX. The difference between gross incomes of these associations is due both to the average production per hectare (16 MT/Ha. for AGRICAM versus 49 MT/Ha. for APROCEX), and to the sales price of the product. This price depends on the destination of the product. It may be sold to Colombian traders in the zone or exported through different brokers to the United States. The APROCEX producers said that they had sold part of their production to each one of these agents, whilst members of AGRICAM sold mainly to North American brokers.

Table 15. Revenue by Hectare of Yellow Onion (US$ 1999)

GROSS INCOME YELL. ON./HA.					
MEMBERS		NON-MEMBERS		TOTAL	
Number	Gross income	Number	Gross income	Number	Gross income
11	9,151	2	2,392	13	8,111
AGRICAM		APROCEX		NON-MEMBERS	
Number	Gross income	Number	Gross income	Number	Gross income
7	3,265	4	19,451	2	2,392

NET INCOME YELL. ON./HA.					
MEMBERS		NON-MEMBERS		TOTAL	
Number	Net income	Number	Net income	Number	Net income
11	3,588	2	159	13	3,057
AGRICAM		APROCEX		NON-MEMBERS	
Number	Net income	Number	Net income	Number	Net income
7	-2,149	4	13,628	2	159

Source: Household survey. Elaborated by the authors

The data on net income per hectare reveals the fundamental problem of AGRICAM. Lack of good management in this organization has caused a number of problems in selling the product, charging excessively, which in the end produced negative results.

As far as the perception of benefits to members is concerned, producers were asked what benefits they hoped to obtain from the association. The principal expectation concerned the possibility of exporting and access to credit (referring to the Peru-Canada Counterpart Fund joint loan), in the case of APROCEX, its members emphasized higher profitability which would be achieved with consolidation of the association. As in Chanchamayo, the possibility of strengthening negotiation capacity and relationships with the government were also stressed.

III. Comparative analysis of the case studies

The comparative analysis of the two case studies produced four important lessons for understanding the conditions under which the SFEOs can successfully facilitate insertion of small-scale agriculture into the market economy (or, in contrast, instruments that only retard the process of disintegration of this sector of rural society).

i) Price regulating effect

In order to sell its products abroad successfully, the small farmers' association must become an instrument for regulating the market price of the product (or products); this is clearly seen in the case of the coffee produced by CAC La Florida in Chanchamayo, where the various private coffee buyers could not offer prices much less than those offered by the cooperative. This effect has not yet been seen in the case of AGRICAM because of the size of the market and the lack of experience with

the destination market (vegetables in the United States). An empirical verification of this hypothesis requires weekly (or monthly) prices paid by the CAC La Florida and other buyers.

ii) Management bottlenecks

One of the main differences between CAC La Florida and AGRICAM is the presence (absence) of a general manager who is not one of the members. The business logic of an SFEO must be accompanied by a clear separation between producers and specialists in commercial management. The problems of AGRICAM are explained to a large extent by this serious omission, whilst the sustainability of CAC La Florida is based, among other things, on the fact of having identified the central role of business management. The lesson goes beyond the presence of a specialist. It points to the sustained presence of a team of people whose function is unrelated to the process of production, rather it is to negotiate and supervise contractual relations in the sales process and the management of technical ability and the provision of materials to the members.

A major challenge in this respect is the technical profile of the human resources; can they come from outside the social and economic world of the SFEOs or must they be locals specializing in administration and management? The case of CAC La Florida is one where the manager is the son of one of the founding members of the cooperative, which explain in part the huge effort put into making the association a success; something similar is happening in Camana where the son of a member is completing his studies in business management in Lima, and will take on the administration of AGRICAM at the end of this year.

iii) Access to information and the role of external agents (intermediaries)

Closely linked to the role played by the management ability of the SFEOs is the subject of access to information. Price movements, changes in public policy, mechanisms for gaining access to financing, opportunities with other crops, are all cases where information does not flow efficiently to the producers. How to ensure that this information reaches the producers? The role of local management ability is complemented by the role of external agents and intermediaries among the SFEOs, the state and the market. NGOs and international aid agencies have an important role to play here. The case of the “fraud” suffered by the onion producers in Camana by North American brokers would have been less likely if the association had been accompanied by another agent better informed about the North American market. No only prices and markets, but also possible judicial penalties may be negotiated after the transactions.

iv) Access to working capital

One of the major questions in these case studies is whether the SFEOs are organizations that can sustain themselves and develop with increasing autonomy from the state and international aid, or whether they are condemned to disappear with the slightest reduction in public and international effort. After the crisis caused by political violence in the central jungle, CAC La Florida started its recovery with a high level of aid from Switzerland and Belgium. However, at present it is self-

sustaining. AGRICAM on the other hand was created and grew using the working capital of its members, but very quickly made use of international aid in the form of a loan that has yet to be paid off.

IV. Conclusions and recommendations

- Dynamism and competitiveness among small farmers is not always the result of policies of openness and liberalization of rural markets. The role played by associations of small farmers is to facilitate successful interaction with the market, creating a businesslike logic among producers.

- In the Peruvian case there was no large-scale creation of new SFEOs or transformation of the old forms of organization. Public policies that could have encouraged this process came up against other policies (especially parallelism) that slowed down (rather than encouraging) the growth of these new forms of economic organization.

- The case studies submitted here reveal some important lessons on the conditions that enable the SFEOs to insert small farmers in a market economy. The regulating effect on the purchase prices of the products is one of the characteristics that have enabled some of Peru's more traditional SFEOs such as the coffee cooperatives to consolidate.

- Access to information and the quantity and quality of human resources are the other two variables that condition the success of the SFEOs in Peru. The distinction between a producer's viewpoints and that of a manager is an organizational asset that few SFEOs have achieved in recent years.

- One of the major questions in these case studies is whether the SFEOs are organizations that can sustain themselves and develop with increasing autonomy from the state and international aid, or whether they are condemned to disappear with the slightest reduction in public and international effort. At present the coffee cooperative is self-sustaining. AGRICAM on the other hand was created and grew using the working capital of its members, but very quickly made use of international aid in the form of a loan that has yet to be paid off.

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