

CHAPTER 3

DEVELOPMENT OF SMALL-SCALE FARMERS UNDER A LIBERALIZED ECONOMY

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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 farmers², 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 CYMYT 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 (Gonzales 1983). 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 Ordinola³, 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 sector⁴

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 Jeffrey 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 market⁵

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 farmers⁶

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 cooperative⁷

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 handicrafts and agro-tourism.

Case 5: Focusing on marketing⁸

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 Bolletín 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.

References

Ágreda, Víctor (1999). Posibilidad de la pequeña producción en las condiciones de mercado. En V. Ágreda, A. Diez y M. Glave editores. *Perú: el problema agrario en debate. Seminario Permanente de Investigación Agraria (SEPIA VII)*. Lima: SEPIA.

Binswanger, Hans, P. (1994). Agricultural and rural development: Painful lessons. In C. Eicher and J. Staatz eds. (1998). *International Agricultural Development*. 3rd edition. Baltimore: Johns Hopkins University Press.

Caballero, José María (1983). Agricultura peruana: Economía política y campesinado. Balance de la investigación reciente y patrón de evolución. In Javier Iguíñiz (editor). *La cuestión rural en el Perú*. Lima Pontificia Universidad Católica del Perú.

Cuánto (1999). Perú en números 1999. Lima: Cuánto.

Diez, Alejandro (1999). Diversidades, alternativas y ambigüedades: Instituciones, comportamientos y mentalidades en la sociedad rural. In V. Ágreda, A. Diez y M. Glave eds. *Perú: el problema agrario en debate. Seminario Permanente de Investigación Agraria (SEPIA VII)*. Lima: SEPIA.

Figuroa, Adolfo (1983). Mito y realidad de la economía campesina en el Perú. In Javier Iguíñiz ed. *La cuestión rural en el Perú*. Lima Pontificia Universidad Católica del Perú.

Glave, Manuel (1999). Políticas públicas y desarrollo rural sostenible. In V. Ágreda, A. Diez y M. Glave eds. *Perú: el problema agrario en debate. Seminario Permanente de Investigación Agraria (SEPIA VII)*. Lima: SEPIA.

Gonzales de Olarte, Efraín (1996). El ajuste estructural y los campesinos. Lima: Instituto de Estudios Peruanos / Ayuda en Acción – Perú.

Gonzales de Olarte, Efraín (1997). Mercados en el ámbito rural peruano. In E. Gonzales de Olarte, B. Revesz y M. Tapia eds. *Perú: el problema agrario en debate. Seminario Permanente de Investigación Agraria (SEPIA VI)*. Lima: SEPIA.

Gonzales de Olarte, Efraín y Carolina Trivelli (1999). *Andenes y desarrollo sustentable*. Lima: Instituto de Estudios Peruanos, Consorcio para el Desarrollo Sostenible de la Ecorregión Andina.

Guerrero, Diego and Alvaro Palacios (2001). Programa integral de producción de algodón y proyecto de conservación y manejo comunitario de Bosques tropicales del Alto Mayo. Mimeo. Economic and social research seminar (TADES). Lima: CIUP.

Hopkins, Raúl (2000). El impacto del ajuste estructural en el desempeño agrícola. In J. Crabtree and J. Thomas eds. *El Perú de Fujimori: 1990 – 1998*. Lima: Universidad del Pacífico, IEP.

INEI (2001). Perú: *Compendio Estadístico 2001*. Lima: Instituto Nacional de Estadística e Informática.

Instituto Rural Valle Grande (1999). *Pequeña agricultura: Aportes para un proceso de desarrollo sostenido*. Cañete, Peru: W.K. Lellogg Foundation, IRVG and PROSIP.

Mellor, John W. (1998). *Foreign Aid and Agriculture-Led Development*. In *International Agricultural Development*. 3rd edition. Baltimore: Johns Hopkins University Press.

Mendo Velásquez, Marcial Hidelso (2001). *Validación técnico, social, económico y financiera del caso Granja Porcón de la provincia de Cajamarca*. Master's thesis. Cajamarca: Graduate School of National University of Cajamarca.

MSP (Convenio ADEX – USAID). *Boletín informativo*. Various issues. Mimeo. Lima: MSP (Convenio ADEX – USAID).

MSP (Convenio ADEX – USAID) (2000). *The MSP project: Developing business opportunities for the small producer*. Mimeo. Lima: MSP (Convenio ADEX – USAID).

Proyecto PRA (2001). *Boletín* No. 1 and No. 2. Lima: Proyecto PRA (USAID – Chemonics International).

Salinger, Lynn and Dirck Stryker (2001). *Comparing and evaluating poverty reduction approaches: USAID and the Evolving Poverty Reduction Paradigm*. Mimeo. Assessment prepared for USAID/PPC/CIDE/POA. Cambridge, MA: Associates for International Resources and Development (AIRD).

Staatz, John M. and Carl K. Eicher (1998). *Agricultural development ideas in historical perspective*. In J. M. Staatz and C. K. Eisher eds. *International agricultural development*. 3rd ed. Baltimore, Johns Hopkins University Press.

Smith, Stephen and Carolina Trivelli (2001). *El consumo urbano de los alimentos andinos tradicionales*. Colección mínima 40. Lima: Instituto de Estudios Peruanos.

Trivelli, Carolina (2000). *Pobreza rural: Investigaciones, mediciones y políticas públicas*. In I. Hurtado, C. Trivelli y A. Brack eds. *Perú: el problema agrario en debate. Seminario Permanente de Investigación Agraria (SEPIA VIII)*. Lima: ITDG.