Analysis of Technical Assistance and Training Services for Production Systems Management Selected Experiences in Latin America

EXECUTIVE SUMMARY

Six countries (Bolivia, Colombia, Chile, Ecuador, Mexico and Peru) in Latin America were selected to study the farm management assistance and training received by rural producers through different types of extension services. In each case, highly skilled people familiar with the issue conducted a review of the principal farming extension programs and mechanisms through which producers received farm management assistance and training. The analysis was focused on the most relevant services in each country, including as well programs smaller in scope that represented job alternatives or promising approaches.

Institutional information was complemented by interviews with the directors of the extension services, some extension service officers and representatives of trade and producer organizations. The intention was to understand opinions on how the needs of producers are being met in terms of the assistance and training they require, including the training of the extension officers and technical assistants.

These analyses clearly show the need to recognize the heterogeneity of the rural sector empirically and structurally, which must be incorporated to the institutionalization of sector services, including non-financial services. Also important is the differentiation between a farming productive approach and a rural approach in services, with an emphasis on farm management. The lifestyles and income-generation include many more variables than farming and must also be included in the institutionalization process. The foundations of competitiveness nowadays require complex strategies that go far beyond the management techniques that optimize production. This results in a demand for integrated services, access to information and the development of capacities in several ways that imply the ability to compete and act as a rural producer.

Consequently, the proposal is to rethink technical capacities and extension approaches to include disciplines and work tools and emphasize service to producers. The relative drop in importance of productive considerations as compared to other aspects of competitiveness must be reflected in the technical assistance, in producer training, in the materials they are given and in associative or individual service plans. This involves redesigning the profiles and re-training extension officers and program directors.

Also proposed (but not considered in the analysis of the countries) is a look at the heterogeneity through an evaluation of the alternative of organizing extension by project instead of by program. This would result in a very specific design applied to each type of producer in each specific local situation that will receive farm management assistance. This would also facilitate the open and ongoing participation of users, not only in determining demand but also in rating supply so that it can be made consistent with the needs and constant changes in agribusiness dynamics.

The inclusion of agriculture's problems today would help transform Management Centers into information centers that provide information to producers and give them the capacity to read it in highly dynamic ways that go beyond production alone. This could be handled through a geographic information system that would also superpose the information from services and management techniques on the potential production capacity that farmers can achieve.

A direct consequence of the above is the need to develop public and private training programs that help form a new extension officer who has the specific skills required by agriculture today.

1. INTRODUCTION

Since the mid-20th century, most Latin American countries set up extension services designed similarly to the U.S. model, which followed a nearly exclusively productive focus. That focus sought to obtain increases in the productivity of some selected products. Extension services depended, in fulfilling their goals, on the results of biophysical research, which was characterized by the influence of plant breeders.

There were several attempts to change the extension services in the first 20 or 25 years. After the Agrarian Reform in Latin American countries, a stage began that conceptually integrated several components of productive rural life, giving rise to a process that at the same time continued the predominance of productivism but included other important components such as credit, physical infrastructure, some types of social organization and a certain emphasis on the general training of producers.

The conceptual focus changed with the first few projects for integral rural development in the 70's and expanded the application of the concept of extension. An analysis began of the socioeconomic conditions in which the producers lived and their productive function. More value was attributed to the organization of production. A research process began on producer farms. Some variables in family life were viewed through sustained work in home economics and the use of mass means of communication was investigated and begun. Important steps were taken to coordinate different sectors serviced by the government and to evaluate this type of program more integrally.

In the 80's, as a result of the discredit of extension services, the system of technology transfer was instituted in most countries that are understood from different angles. In some ways, it is frequently understood once again as an activity targeted towards an increase in productivity while in others a more integral focus began to be applied where the elements of economic analysis, administration and commercialization begin to form a part of the concept of technology.

More recently, with the advent of decentralization systems that have been undertaken in a good number of Latin American countries, extension services and technology transfer have lost their centralized structure and are directed in different ways by the demands of regional and local governments. There are several models that now seek a much more active participation of the different users of the services throughout the agro-business chain of production.

This paper summarizes the principal features of technical assistance throughout this transition and the evolution of technical assistance and extension systems in Latin American countries. It discusses them in relation to the administration of productive farms and agro-businesses offered by extension services available to

the public and private sectors in six Latin American countries: Mexico, Colombia, Ecuador, Peru, Bolivia and Chile. This summary includes a look at the importance of the agricultural sector in these countries and analyzes the relevance of mid-sized and small farms that are the subsector most directly serviced by the extension services in these countries. In the third section, we briefly analyze the changes faced by extension and training as compared to changes in the context and in the macro- and micro-economic conditions affecting farming production. In the fourth section, we analyze the handling of farms in extension services and look at the most important characteristics of the extension models that are now found in the countries analyzed, together with some non-traditional models on a small scale that offer service alternatives. Extension officer training forms the fifth part of this analysis, which is complemented by the sixth section that is dedicated to discussing the training materials that have been developed for this purpose. The demands of players, ranging from directors of services to end users, including change agents, are the points that are considered in the seventh part of this summary, in order to conclude with an eighth section that contains conclusions and recommendations that are inferred from the analysis of the preceding chapters.

2. IMPORTANCE OF THE FARMING SECTOR IN LATIN AMERICA

There are many aspects by which the importance of the rural sector in Latin American countries can be judged. In this case, reference is made to some ample indicators that characterize the sector while avoiding an historical analysis that would be fair and more explicative but for functional reasons, cannot be made a part of this analysis nor of the technical assistance in farm management.

2.1 Changes in the Rural Population

It is no secret that the rural sector in Latin American countries has changed radically since the mid-twentieth century. It has moved to a sustained depopulation of rural zones in favor of urban life or at least in systems based on municipalities, although there is a high dependency on farming activities in most of the population. This pattern has been accompanied by several political measures that have accelerated the LA urbanization process and have particularly encouraged urban industrial development in the second half of the past century.

The situation in some countries can be analyzed by way of specific example. In 1992, the rural population of Chile represented 16.5% of the total. Only 6 years later, in 1998, that proportion had dropped to 14.6%. Colombia is an even more dramatic case where 61% of the population lived in rural zones in the mid-twentieth century but 80% of Colombians lived in urban centers by the end of the century. Of course, the relative decreases do not always become absolute reductions. For example, in the case of Mexico, the rural population is approximately 25% of the total and although that proportion has dropped in the

last 70 years, its absolute growth is also sustained. There are now 24.6 million people in the rural zones of Mexico and it is estimated that there will be 26.2 million living in rural areas by 2010.

2.2 General Conditions of Poverty

There is not much debate as to the importance of poverty in LA and the need to seriously analyze the problem and search for a solution to the "social debt" that the economic development strategy followed by countries has created. Nor is there a discussion today of the preponderance and accent of these poverty phenomena in the rural areas of countries. It suffices to see some figures to understand what the general conditions of this phenomenon are: 74% of indigence and 57% of the poor in Colombia live in the rural sector, which is, in turn, the sector where violence has the greatest impact and creates the largest number of underprivileged in Colombian society. In Bolivia, 94% of the rural population is considered to be under the poverty line and 34% in a condition of extreme poverty. Illiteracy in rural Bolivia is approximately 67%, including functional illiteracy.

In 30 years, the population of Peru has doubled and most of the poor or indigent are found in the rural environment. This poor rural population has increased from 45% to 64% and continues to show very limited educational indicators. This situation is even more serious in the mountain range, where the scarcity of water and limited private investment have not allowed any modernization in income generation.

Even in countries with a lower poverty index such as Chile, the trend in this decrease has stood out in the 90's and is greater in rural zones. In 1998, rural poverty was 27.6% and indigence 8.7% while urban poverty was around 20.7%.

However, it is important to mention that some authors sustain that despite these figures that are so indicative of poverty in Latin America, hard-core poverty would be more accentuated in urban areas, principally because of the lifestyle and access to basic food available in rural zones.

2.3 Contribution of the Rural Sector to a Strengthening of Latin American Economies

The importance of the rural sector in the economy of countries has decreased generally as has the importance of the population in that sector in the last 50 or 60 years. The path and degree of relative development of countries clearly mark the comparative loss of importance of the sector in the domestic economy. However, some countries still continue to depend heavily on the rural sector for employment and the value of their exports as well as the consumption of goods and services for farming production. A short outline and some data help in comprehending these aspects.

For example, in Chile, the rural sector represents 5.9% of the country's GDP today while it represented 8% in 1990. The rural sector ranks 6th in sectors in the domestic economy while only 10 years ago it ranked 5th.

The loss of the farm sector's importance in Colombia is also evident. It went from a growth rate of 3.02% in the period 1980 to 1990 to a rate of 1.48% in the decade 1990 to 2000. The rural sector contributed nearly 40% of the GDP in the 50's and the now the extended sector–including tradable and non-tradable products directly processed from primary production–generates 22% of the national GDP. There is also an accelerated growth in the subsector of agroindustry. Farm exports represent only 28% of the entire farming GDP. The growth of the sector in Colombia was 1.2% per year during the 90's when the economy opened up as compared to the historical average 3.3% annual growth in the farm sector. The value of Colombian exports dropped severely and the planted area fell notably. For example, hectares of coffee dropped by 940,000 between 1990 and 1999.

Mexican farm products are now worth approximately 634 million dollars, which is only 3% of the national GDP. The value of raw farm exports in Mexico is around 3.904 million dollars. Fresh garden produce, fresh fruit, coffee and beef represent 95% of that amount.

In Bolivia, the contribution of the sector to the GDP has been decreasing from 29% in 1980 to 16.2% in 1985 and to 14.5% in 1999, although it continues to rank second among sectors that form part of the domestic GDP. The non-industrial farm product subsector has a share of 6.5% and the livestock subsector contributes nearly 4%. The farming and livestock sector contributed 35% of the total amount of exports between 1993 and 1997, representing 45% of the active economic population in the nation in that period. Fruit production is estimated to suffice to feed only 60% of the Bolivian population while the difference is made up by imports.

An on exceptional basis, the share of the farming and livestock sector in the GDP has grown from 11.6% in 1985 to 14.6% in 1999 in Peru. The farm and livestock GDP rose at a rate of 6% from 1991 to 1999 while the national GDP rose at a rate of 4.9% in the same period, showing a preponderance of the farming and livestock sector in the growth of the gross domestic product and in the contribution to the value of the country's exports.

2.4 Importance of Small-Scale Farming

Although the policy is not unanimous in the countries that were analyzed, there is a clear trend to focus extension services on mid-sized and small-scale farmers.

Perhaps because of the sustained subsidy policy of governments, there has been a preference to concentrate service in the relatively lower income sectors. This leaves large-scale agriculture to be serviced by the private sector through the many channels of access that large-scale farmers have with their high value of production.

It is important, therefore, to have a benchmark for the importance of the subsector in which the extension services and administration/management of farming and livestock exports are concentrated. Once again, a quick look at some countries is enough to understand the importance of the subsector.

Bolivian small-scale agriculture is comprised, by way of example, of some 700,000 small farm families that are located mainly in the altiplano and in the interandean valleys. They contribute close to 75% of the farming GDP of that country. Production units of less than 5 hectares represent 88% of all exports although only 1.4% of the total area. It is estimated that small farm zones have 35% to 41% of soils affected by erosion in Bolivia.

In Peru, there are 1,700,000 agricultural units, most of less than 5 hectares. The lack of irrigation and the type of projects that can be implemented in these zones make it difficult to produce enough to ensure an appropriate sustenance for a family. The division of properties makes it difficult to manage water and have access to extension services. As a result, in this case–as well as in most of the cases that will be analyzed later--the service is concentrated preferably on groups and organizations of small producers. In Peru, the dependency on imports has become increasingly severe, including basic products such as wheat, yellow corn, soybeans and milk products.

Of the 4.4 million productive units existing in Mexico, 45.8% allocate their production mainly to their own consumption. This is a characteristic that is found throughout Latin American countries and it is very important in the design and focus of extension services. There are 2.6 million small farmers in Mexico (farms of less than 20 hectares) who produce a wide range of products because of the ample heterogeneity of the country.

In Chile, the number of farms has dropped by 6% (1.6 million hectares) in the last decade and the cultivated area has decreased by 31% from 1994 to 2000. The production of milk, pork and chicken increased, as did the area planted with grape vines. Despite this, it is estimated that there are around 250,000 small farms producing in Chile.

Another way to look at the importance of small farms is by analyzing their contribution to exports. For example, one can see that in 2000, Chilean farm exports accounted for 27.5% of the total, worth approximately 5,000 million dollars. However, there is a tendency downwards in the export of primary

products, including fruit, and upwards for processed products. There is, in particular, a significant rise in products such as wine.

The principal Mexican products (82% of production) are corn, beans, sorghum, grass, wheat, coffee, cane sugar, oats, oranges and barley. Several of these products are clearly typically produced on mid-sized and small farms. Mexico has an agricultural trade deficit of around 1.998 million dollars.

The principal products from the Bolivian altiplano, which is a zone typically, populated by small producers organized into communities, are potatoes, barley, quinoa, some legumes, Camelids, ovines and cattle. Small farmers in the valleys also produce wheat, potatoes, barley, corn, fruits and garden produce. Bolivia is perhaps one of the most emblematic because the production by small and mid-sized farmers represents a very important portion of food security and non-tradable goods.

2.5 Integration of Small-Scale Farming to the Market

As inferred from the figures provided in Section 2.4, there is a vigorous participation of small-scale farming on domestic and even some international markets. It has not been said in vain that the small Latin American producers are the ones who feed the urban population on the continent.

Rural livelihoods of small farmers are designed generally to generate revenue and ensure the reproduction of the system through its sustainability. It is common to find a high degree of productive diversification on farms as one way of reducing risk. There is a clear distinction between commercial crops and subsistence crops. This distinction frequently results in the use of differentiated technology where priority is given to the use of more inputs for commercial crops that qualify for credits. Even small farmer organizations participate.

The presence of commercial crops generally signifies that there is a full involvement in the respective markets. Often there are also non-farming rural jobs to service their processing. The integration to markets is done through established channels, depending on the physical location of the producers, the capability of the social production organization in which it is a part and the access to infrastructure, transportation and relevant information for the sale of their products. In fact, one of the greatest demands of small farmers who are organized and receive technical assistance is precisely aid in improving their negotiation capacity. Other demands are commercialization channels to help stabilize their participation on markets through secure buyers.

Selling their production is one of the principal bottlenecks faced by mid-sized and small farmers in the countries selected. Rather than an absence of buyers, there are none who guarantee operations. Many small farmers who sell at the farm gate or in small local markets often feel themselves to be the victim of

intermediaries, especially when they receive low prices for their products. This explains the generalized preference for contract agriculture on the part of producers. It also explains the tendency to sell directly to large stores and supermarkets despite the great impositions and difficult conditions that the suppliers of those large businesses must satisfy.

Moreover, subsistence crops are generally for consumption by the family throughout the year and are not sold except in crisis situations or when the need for cash is urgent. Production is usually stored for consumption bit by bit or, like what occurs with the family orchard, is harvested as needed.

Of course, there are proportions of small farmers who have a very low level of participation on the markets for inputs and products. They are located in the more isolated regions or have achieved an income strategy more dependent on non-agricultural rural activities. Some of the elevated zones in Bolivia and Peru that face severe farming and weather limitations in addition to physical isolation are not integrated to markets. Families develop income strategies based on the migration of their members. Similar cases are found in the elevated zones in Ecuador and in the colonization zones of Colombia and Peru, where it is frequent for farmers to earn cash income from breeding livestock that require much less permanent contact with the market.

2.6 The Retarded Rural sector Institutions

The substantive changes that have occurred in most Latin American countries in the design of their development strategies, in their legislation and in government action have many implications for the rural sector. The formal institutions have been implanted principally by the government in most of the countries analyzed and has not undergone any change or adaptation with the same intensity that changes have occurred in the law, the economy and development strategies. The depletion of the ECLAC model and the opening to trade have not been accompanied by modernization of the government, although it was announced more than one decade ago in all Latin American countries. For example, in Colombia, the failure of the institutionality to adapt is seen in the budget allocations, the politicization of municipal technical assistance units, the inability to coordinate institutions in the sector and the ongoing loss of importance and of budget of the Ministry of Agriculture within the national context.

Despite the heavy decentralization that has occurred in Bolivia and the active presence of many finance agencies and sources that do business in that country, the formal institutionality has been traditionally weak and centralized. Different institutional systems have been tested by the government but with no effective consolidation. In fact, community institutions and outstanding trade associations in Bolivia have shown historic signs of a greater cohesion and strength than the formal institutionality of the government. It is obvious that there is an important lack of coordination in Bolivia among a good number of programs, especially of

bilateral donors and even inside government institutions. For example, the Unit of Productivity and Competitiveness of the Ministry of Planning does not coordinate with the Ministry of Agriculture, Livestock and Rural Development for political reasons rather than technical reasons.

As commented in another section of this analysis, the producers have begun to create their own institutions that in one way or another are dealing with the institutional vacuum caused by the governments' inability to respond to the dynamics of the sector and the changes generated by the system of development driven by the governments themselves.

2.7 Heterogeneity in the Rural Sector of Latin America

Both for reasons of history as well as a review of the data and other aspects indicated herein, it is clear that the rural sector in LA countries is highly heterogeneous. The traditional differentiation between the modern commercial sector and the small-scale agriculture encompasses a very wide range of subtle differences. However, taking into particular account the objective of analyzing the access and situation of producers regarding management technologies, it is convenient to discuss the sectors as a composite of two large categories of producers. Another way to generalize the dichotomy in the rural sector is by differentiating between those who farm because it is a wealth-producing business and the subsectors that farm as a way of life. The latter's response to the demands for technology are not necessarily in answer to the competition for products but rather to a share of the entire agricultural production of the land within a certain rural livelihood that is not based solely on farming and livestock production. Nonetheless, it is a variable depending on the substrata.

This aggregation is not, of course, unique and is used solely for the purpose of simplifying the analysis knowing that in some countries there continues to be a more gradual typification. For example, the Chilean Agricultural Policy Office classifies agriculture into four groups: subsistence, small-scale, mid-sized and large-scale. There is another typology in Chile that classifies farming and livestock producers into five strata: (i) modern entrepreneur (10,000 farms representing 3.7%); (ii) traditional entrepreneur (7.4% of farms); (iii) small integral producer (14.8% of farms); (iv) small producer with agricultural potential (22.2% of the farms); and (v) small producer with no agricultural potential (51.8% of all farms). The small farmer economy in this typification is comprised principally of types IV and V.

There are other ways to group together rural producers in order to show the heterogeneity of the same in countries, similar to what occurs in the allocation by geographic communities in Bolivia or farmer strata that is used in Mexico for research and even extension purposes. It is important to recognize that heterogeneity of the sector and take into account that extension services and

technical assistance in farm management and agro-business must include the principal characteristics of the target population they intend to serve.

3. CHANGES IN DEMAND FOR EXTENSION SERVICES, TECHNICAL ASSISTANCE AND TRAINING

Undoubtedly, the demands for technical assistance in connection with management and handling of agro-business have undergone profound changes in the last decade and a half in Latin American countries. Changes in the structure that began in the mid-80's, the reduction in the size of the government, the growing involvement of the private sector and of civic organizations have, among other factors, heavily marked institutions, the way to produce and do business in the rural sector of Latin American countries. The principal concern of farmers and of the formal institutionality dating back to the 60's--focused on productivity and the return to production factors--was altered from the time when the dual process began to reduce intervention by the government and open up economies, motivated by regional blocs and by negotiations of a more open world market.

Added to the concern to increase the productivity of factors was, in a very short period, a cumulus of concerns for the farmer that stem from the fact that the market became the criterion for resources allocation for public and private investment. Several political measures and programs that sustained several components directly affecting the production and trade function were suddenly suspended when government action was diminished. As a consequence, problems arose that were secondary and had been relatively covered by government regulations. However, now they must be faced by the producer and included in his matrix of decision variables. This is the case of the variability of prices of inputs and products, the suspension of sale mechanisms for commodities, the availability of credits granted by government institutions at subsidized interest rates, tariff protection and para-tariff protection of many farming and livestock products, incentives and direct subsidies to facilitate the export of some tradable products and subsidize access to certain non-financial agricultural services provided by the government in a very traditional and paternalistic scheme.

The opening up of the Latin American economies, although gradual, has wrought additional change. The concept of competitiveness now used in the farming and livestock sector implies an harmonization of the economies of the countries so it becomes necessary to achieve degrees of quality, forms of appearance, transformation processes and volumes of production that have the ability to compete in terms of price with similar products from other parts of the world while limiting the differences to the efficiency of sales channels and minimal costs of transportation.

Additionally, several global concerns enter into play that bit by bit become a part of the legislation of the more competitive countries. We are speaking of the sustainability of productive activities that implies streamlining the use of production factors, both of natural as well as human origin. These requirements are rapidly transferred to the degrees and standards of international trade and consequently integrate the factors of competitiveness that must be faced by Latin American economies on foreign markets. The rules and standards established in ISO 9000 and ISO 14000 set periods to integrate to the rules of international trade. The globalization phenomena have encouraged the merger of large companies, including supermarkets. The tendency is to comprise a few large multinationals that can also set their own standards and rules on quality because of their ability to intervene in the market. Those standards and rules are added to the above and are quite frequently expressed in an increase in costs because of the classification, packing, preservation, presentation and distribution of raw materials and primary products.

Producers have faced this panorama in different ways, individually and through the organization of associations, unions and organizations of large-scale, small-scale and mid-sized producers who have sought to position themselves on ample markets, such as the commodities market, or to take advantage of harmonization. They also seek niche markets that will allow them to charge better prices by differentiating their production. They also use advantages of the conditions required by certain exotic products on high-demand markets to place their production on a sustained basis. This response has been frequently complemented by the productive chain approach by which several governments have decided to face farming and livestock development. They facilitate the integration of links in the chain, introduce greater efficiency into processing and distribution to the intermediate and end consumer, and set down the basis to achieve a greater facility in achieving levels of competitiveness for the entire chain.

For agro-business extension and assistance services, these changes bring with them profound modifications both in the working focus as well as in the content of the assistance. The inclusion of so many new matters and access to globalized information begin to be a vital part of the schemes that are required by agricultural production to compete under actual conditions. It therefore becomes necessary to move on from the traditional concepts of farm management regarding the selection of activities, the maximization of production factors, the minimization of risk and the optimization of available resources. Assistance must be provided in matters such as commercialization, market insertion, the handling of price information, processing, the handling of foods or quality standards, placement and positioning on foreign markets, supply alternatives and a selection of inputs that do not violate international standards on the use of toxic products, etc. This constitutes a significant expansion in the decision matrix that agricultural producers must use, including those who seek merely to maintain themselves at the local market level.

These circumstances make it very practical to typify LA producers into those who farm as a business and seek to generate and maximize revenue through productive work in the sector and those who farm as a way of life. Simply put, the needs of these two large groups are different in connection with technical assistance and business management and administration assistance–even knowing the weave of differences that exist between the two. Commercial farming, regardless of the size of the producer or the organization implementing it, must compete nationally and internationally. On the other hand, competitiveness is still valid for those who develop livelihoods, including farming, as a source of income, but they would need to look at it from the viewpoint of the allocation of financial and human resources in order for competition to be a component of the livelihood. The objective would be not to view that small producer as a competitor in specific areas. This requires another type of decision and another type of management.

As a corollary, it can be said that the demands for assistance faced today by extension services are different, both in connection with production and productivity as well as management and administration. They number more than what existed 10 to 15 years ago. This means that not only must the profile of technical assistance be rethought but also the formal institutions that provide the service must be redesigned, as must the conditions under which that service can be provided to those who need it.

4. GENERAL MODELS OF EXTENSION SERVICES AND TREATMENT OF FARM MANAGEMENT

It can be said, from a review of the matter in the country selected, that there is not just one single way of implementing extension work. There are different models directly managed by the government. Ergo, different institutions and degrees of involvement had to be created. There are also models of mixed management between public and private institutions and civic organizations, especially NGO's who intervene in this sector through direct financial aid. Most often that aid comes from foreign sources.

There are, nonetheless, some characteristics common to the different models and organizations of extension services. For example, it would seem that they are clear on the new extension focuses, on the fact that the problems of productivity are neither unique nor perhaps the most important in farming today. The ways in which the extension services have been organized would indicate that those services seek to satisfy the need to achieve an appropriate relationship between the competitiveness of production systems, profitability, sustainability and clean agriculture.

Moreover, it is held that the concept of integral technical assistance (assistance to the different activities of the production unit, to the administrative,

commercialization and administration processes) is an idea not very well known among most producers and even to a large proportion of extension officers. For most producers, technical assistance consists of help in processing government aid and receiving recommendations for the application of "technology packages." This continues to reflect the old, predominantly productive, approach arising out of the green revolution in the 70's.

The remainder of this sector will group together the extension services according to some of the major characteristics that can be used to distinguish some models of action in those services.

4.1 General Models

Most Latin American countries have a unique centralized system designed to work downwards from a supply-side focus. This type of model was applied not only to extension services but also, in general, to non-financial services offered to rural users. In Mexico, for example, the Department of Agricultural, Livestock and Hydraulic Resources through the beginning of the 80's, except for small programs at universities and the Mexican Foundation for Rural Development, managed technical assistance. Those services were then transferred to the private sector and producer organizations (CMC, UNORCA, CCC, CNPR, Credit Unions, Self-Insurance Funds, etc.). They received the experts who left the government sector and channeled must of international aid. This precipitated the creation of a large number of NGOs that marks two trends in Mexican technical assistance: (a) the green revolution and technology packages used for more than 20 years that are still used in some places; and (b) a more systemic view of ruralism that attempts to create integral responses to the problems of actual production.

Starting in 1995, SAGAR resumed technical assistance, thus creating the National System for Rural Training and Extension (SINDER) that is comprised of the Extension Training Program and Elemental Technical Assistance Program. At SINDER, extension officers are not employed by the government but are rather contracted by end users. The programs work in decentralized fashion in states and a monthly fee per person helped subsidizes the payment of extension officers. Despite the intervention of the government and the consequent decentralization, the directives of the service and of action program continue to come from the central headquarters of the Department.

In 2001, SAGARPA sought to develop a professional services market for rural development. It would subsidize costs, develop buying power and help producers to identify demand. It proposed a rural focus for technical assistance and the creation of market-oriented economic organizations to face problems of scale and added value. Technical assistance is provided to producer groups and organizations, paid for with federal funds. Thus, the monthly allocation per

person helped continues. Technical assistance must be retained on the basis of products and continues a contracting process involving the following stages:

(a) Promotion, where an analysis is made and regional development plans and producer orientation shops are held.

(b) The integration of groups and identification of products. This is a stage where the diagnosis is prepared as is the strategic plan for the group or organization. Strengths, weaknesses, threats and opportunities are analyzed so as to identify project ideas or actions to be taken by the producer group.

(c) Elaboration of the project. This considers organization, supply, commercial, technical and administrative matters and an evaluation of environmental management and project risks, following a line of integration of the producer to chains of production and demand.

(d) Management and implementation to comply with financial, organizational and legal formalities to be met by the project; and

(e) Consolidation of the project, taking into account the need for training and technical assistance in operation and administration, evaluation and re-engineering of the commercial and supply strategy. This extension model began to be implemented in 2001 through national training of extension officers in the design of rural companies.

Since 1986, the Farming and Livestock Technological Development Program (PROTECA) has been in effect in Ecuador. In 1988, the Rural Development Program (PRONADER) was established, as was the Agricultural Services Modernization Program (PROMSA). Technical assistance has been provided through these programs that includes specific applications to the physical and biological diversity of the country. However, a centralized design and implementation scheme continues to be used. PROMSA is currently under way and is negotiating an extension of IDB and World Bank financing. Its technology transfer component works privately through a contractor or execution unit and several consulting companies as well as private technical assistance agents (AATP). This project is addressed to producer organizations to implement a private system with private transfer operators and agents who are in charge of increasing yield and reducing loss in production management.

PROMSA designed its technology component to work with farmers classified into two groups: (a) large and small producers who are organized under the technology transfer group work method (GTT) and (b) small producers who are organized under the Entrepreneurial Technical Assistance Program. In practice, the large groups of farmers never entered the programs but the small ones did. They are the actual participants, organized to form the GTTs. 20,000 direct

beneficiaries organized into 1,000 GTT groups are receiving technology transfer and assistance from 200 private technical assistance agents contracted by 29 companies. This technical assistance is directed towards specific products where the most important are livestock, peanuts, rice, onions, cocoa and potatoes.

Although the PROMSA transfer program was directed towards the adoption of technology to increase yield, it has been forced to include a certain reorientation towards commercialization and the formation of companies as a result of the operation of the GTTs. According to the 2001 Activities Report, activities not contemplated in the initial design have been included, such as the formation of micro-companies and strategic alliances. 95 alliances have been formalized for the purchase of inputs (64) and commercialization (31). Associative sales are made by the GTTs with the support of the AATP and commercialization specialists of the Project Technical Unit. The project acquired a wholesale spot on the Guayaquil market.

In Peru, public extension services that were offered through the National Institute for Agricultural Research (INIPA) were transferred to the Ministry of Agriculture in 1992. The Ministry has 189 Agrarian Agencies. There are some projects funded externally that constitute an important tool to providing free extension services to small producers such as PRONOMACH, the Sector Irrigation Project, UOP Projects and projects financed by the FIDA.

Agricultural Services Modernization Program (PROMSA)

The mission of PROMSA is to "increase the productivity and quality of agricultural production through the modernization of domestic systems of generation, technology transfer and agricultural health by increasing private participation in the implementation and financing of those activities." The program was designed with three components:

1. Generation of technology, which has three subcomponents: (a) the Competitive Research Fund; (b) Training and Strategic Alliances; (c) Strengthening of the National Institute for Agricultural Research (INIAP).

2. Agricultural Technology Transfer, which breaks down into: (a) Technology Transfer Groups (GTT); and (b) Entrepreneurial Technical Assistance Program (PATE).

3. Agricultural Health, which includes: (a) Epidemiological Oversight and Quarantine Control System; (b) Laboratory System; (c) Specific Projects; (d) Institutional Strengthening.

The target population of the transfer component is comprised of small producers who have a significant production potential and have oriented their activity to markets.

The work is done at three levels: Organizational development, technology transfer and the processing of alliances to promote the articulation of groups or organization with new public and private agents. This articulation is the basis of PATE, which is not truly an ongoing Assistance Program in Entrepreneurial Development.

One of the major achievements is the formation of local organizations of small producers to facilitate collective action, implement technical change processes, establish alliances with other public and private players, eliminate restrictions on access to credit, and plan and implement processing, added value and commercialization projects for the members' production. As of May 2002, there were 802 of these groups, of which 54% had established been legally established.

28% of these groups have had access to credit to finance investments or working capital and 29% have established their own savings and credit associations. 37% of these groups have organized the associative purchasing of inputs, which has enabled them to reduce the cost of purchasing and freight by as much as 20%. 29% of the groups have progressed to the associative sale of their products.

As of May 2002, 234 groups (around 4,700 producers) have implemented one or more activities and associative production sale projects. In many cases, this collective action is limited to negotiation with traditional intermediaries while continuing to sell at the farms. However, 60% of these groups have been able to progress in associative sales in other markets. 24% of the groups who are selling in association have been capable of establishing some type of agreement or contract with buyers (formal contracts, agreements or quotas) although two-thirds of the commercialization actions have been implemented under spot sale methods. One-half of the groups who were selling in association have achieved access to dynamic and relatively more exigent and sophisticated markets such as exporters, agroindustry and supermarkets.

A total of 227 groups (around 4,500 producers) have earned access to credit from institutions such as the National Development Bank, Savings and Credit Associations or the PL480 program. There are no reports on access to private banking. These groups say they have attracted a total of US$1.9 million. The average per group is US$8,395 while it is US$420 per producer.

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4.2 Models acknowledging heterogeneity

Of course, there are several models that incorporate the heterogeneity of human groups and the attending environments, which constitutes a different action format in relation to the more centralized one. The technical assistance of INDAP in Chile, whose target population is defined by law, follows an outsourcing scheme that has recognized the difference between producers since the beginning of the nineties, although it has undergone several modifications in that regard. It began with technical assistance plans differentiated according to regional medium-term plans by geographic work zones and by services of varying duration (in an effort to make the system more flexible). The latter include a model co-financed by rural municipalities. A 1995 evaluation revealed increases in productivity and in revenue as well as a positive rating by the users of those services.

In 1997, institutional changes were introduced to INDAP and a work focus was given preference with associative businesses of small producers oriented towards several segments of the types of producers that were discussed in previous sections. The first segment included type III and IV producers (small integral producer and small producer with agricultural potential) and the second segment included type V producers (small producers with no agricultural potential). The following methods were established for the first segment: Local Assistance (SAL), oriented towards structuring demand and creating objective conditions of organization, management and production for producers in an associative way; the Project Assistance Service (SAP), which was oriented towards facilitating a wide range of hard and soft technologies defined on the basis of the requirements of producers so as to develop their associative

business and support the associative management of projects; the Specialized Assistance Service (SAE), which was oriented towards facilitating specific assistance within a wide range of technologies to engage strategic ambits that ensure an entrepreneurial consolidation of the organization for operation of its agricultural businesses.

The Service for Local Development of Poor Rural Communities (PRODESAL) was created for the second segment. It works preferentially on the basis of alliances with municipalities and seeks to expand the capacity for forestry and agriculture by improving the degraded environment, increasing local management capacities and association between users. This work methodology meant that the assistance would be concentrated fundamentally on associative projects focused on servicing producers that were organized for economic purposes.

Beginning in 2001, the methods for the first segment were changed to Land Technical Assistance (SAP), Assistance in the Formation of Associative Companies and Assistance to Associative Companies. PRODESAL remained for the second segment. One particularity of these changes is that SAP is targeted towards technical assistance to producers in the technical and economical management of the productive hubs and basic economic and financial management of farms in order to contribute to an improvement in the competitiveness of productive activities and the income that they generate.

Moreover, SIBTA of Bolivia is a model that brings together several of the characteristics that have been used in this analysis to differentiate the principal extension models: it recognizes the heterogeneity of the poor rural sector and it uses a public-private functional scheme. Some definitions are benefited by the involvement of some circles related to the sector. It uses an outsourcing scheme but is centrally conceived and designed. This program was created the year after the liquidation of the Bolivian Institute of Agricultural Technology (IBTA) and it is not yet fully operative. This is a system financed by an IDB loan and the participation of bilateral donors who channel funding through SIBTA.

ASSISTANCE IN THE FORMATION OF ASSOCIATIVE COMPANIES

The objective is to facilitate access by pre-existing groups of producers and associative farm companies to technical assistance. It is oriented towards developing or strengthening their associative agricultural business management capacity. This means:

- Supporting the development of associative business ideas.
- Contributing to the solution of critical factors that affect the associative process.
- Supporting pre-existing companies in overcoming their actual weaknesses in connection with management so as to facilitate their stable and competitive insertion into the market.

This service has been designed for producers in the entrepreneurial segment who have the following characteristics: new groups of small farmers who are dedicated to land production and management and who freely and conscientiously wish to enter associative businesses in order to work as an associative farm company in the medium term; as well as for pre-existing Associative Farm Companies that have been in operation for at least one year or have certain weaknesses in some areas after more than one year of operation and therefore need support to ensure their optimal performance.

The service is structured in two stages that represent two levels of development of associative economic entrepreneurship. The applicants may, depending on the degree of development, opt indistinctly for the first or the second stage of the service.

Stage 1: oriented towards studying and preparing the implementation of an associative business idea. It lasts a maximum of one year. INDAP provides a subsidy per group to retain technical assistance. This Fund may be used in three ways:

1. Pre-feasibility studies.

2. Short-term work plans.

3. Basic training in organizational development and management.

Stage 2: Addressed to groups that have successfully completed Stage 1 and pre-existing associative companies. It is oriented towards formulating and beginning the start-up of a strategic project that will give body to the business idea and the institutionality it requires. It lasts a maximum of two years and INDAP provides a subsidy per group or company to retain technical assistance. This fund can be used in two ways: to propose or implement the strategic project and support.

The technical assistance must be provided by private consultants specialized in the required areas who will be retained by each group or associative company. If the consultant is not registered in the INDAP Consultants Registry, the Institute should previously approve his contract.

It is mandatory for the interested parties to contribute to the financing of the assistance. The minimum contribution by the interested group will be 15% of the total cost for the first year and 20% for the second and third years.

This system is a model of articulation between the public and private sectors in the country, directed towards a technological modernization of agricultural, forestry and agro-industry through the involvement of the Ministry of Agricultural, Livestock and Rural Development and private foundations that address the public interest or are mixed in nature.

The vision of SIBTA is to have an agricultural sector where technological innovation in agricultural chains of production raises the levels of competitiveness so as to expand and consolidate the presence of the sector on the international markets. It seeks to reduce rural poverty, achieve more social equity, ensure environmental sustainability and contribute to the security of food for the population in the country. It maintains a consulting committee to define technological innovation policies, strategic plans and the type of technological demand for each macro-region to each of which one of the existing foundations corresponds (altiplano, valleys, tropic and flatlands). SIBTA has a Coordination Unit for the Program that is the liaison with the IDB and other finance sources in regard to administrative, financial and technical considerations. The Technological Development Policy Union acts as the standing secretary to the consulting committee of the SIBTA on behalf of the Ministry of Agriculture.

Operationally, there are the Foundations for Agricultural Technological Development, who receive requests and establish the alternatives for response that are contracted, through bidding, for implementation with the private sector. The concept of a market for technological innovation services refers exactly to participation of the private sector in execution of the applied technology innovation. The work contracted from the private sector is done at the level of the Competitive Innovation Fund, which finances projects to create, transfer and adopt technology. The financing of these projects can be no less than US$20,000 but no greater than US$100,000, to last a maximum of three years. These projects should include one or more of the following activities: research, validation, training and information, and technology transfer.

The method of working operationally through mixed foundations creates a new possibility for coalition between the public and private sectors, including decentralization that works on local levels. It facilitates determining the demand of users negotiated collectively by the municipal authorities that in way or another must also negotiate the annual operative plans and the medium-term municipal development plans.

Despite the progress in decentralization, Bolivia has held national debates in order to define courses of action for many sectors of the economy, including agriculture. A definition was therefore implanted of a focus of production-demand chains and within them, priority chains that must be serviced by public and private mechanisms. This decentralization, on the one hand, and definition of priority chains from within, on the other, constitute an ambiguity in the definition of the work of the SIBTA that seems to concentrate on the first links in

the chains since the projects are centered on research, validation and dissemination of technology and, therefore, assign a second priority to the more sophisticated links in the chain that make productivity more expensive.

4.3 Decentralized models

Given the progress in most of the Latin American countries in reforms towards a political-administrative decentralization, it is more difficult nowadays to establish extension products or models that follow a totally decentralized focus as compared to those that do not because the continuum of decentralization is evident in the construction of the institutionality for the public and private sector of those countries. For this reason, a distinction has been made between the models that are defined centrally and those that are defined more on the periphery. These latter are called decentralized models.

One example of this is the National Agricultural Technology System of Colombia that works at the level of the Departments of Agriculture and the Municipal Agricultural Technical Assistance Units, or UMATA. This model is an answer more to the degree of administrative decentralization that has been implemented in Colombia, which has delegated to municipalities the responsibility of offering and providing rural sectors with technology transfer and agricultural extension. The UMATA were created in this process. They receive assistance from several centralized institutes of the Ministry of Agriculture engaged in research and technology transfer. Nonetheless, they maintain a capacity, albeit limited in terms of farm management and agro-business services, to define priorities at the municipal level and to agree on and identify demand and negotiate locally the allocation of priorities in those demands.

Perhaps it is in these decentralized models where one can best find the participative models. Although they are not detected so clearly in the countries selected for this analysis, they do have characteristics that meet the functions of decentralization and participation. There are sound indicators that the participative approach is present in the extension services analyzed in this paper, which could be corroborated by specific examples such as the evaluation of technical assistance companies in Chile, which is influenced by the concept of users, among other evaluation standards.

Furthermore, the aforesaid seminars on determining general plans for development that are held in Bolivia as part of the National Debate reveal a more representative participation as does the Agricultural Sector Bargaining Tables in Chile. They involve delegates from important groups and associations in the sector but at the same time they are more selective because they do not the direct participation of most users.

4.4 Models that emphasize management and administration with a more integral approach

Another way to organize management and administration of exports and agro-business is by emphasizing those aspects while continuing with central or decentralized definitions of projects. One example is the pilot phase begun in 2001 by the Program for Development and Modernization of the Rural Micro-company (MER), which is sponsored by the Chilean Development Corporation (Corfo). This is a program for micro-farmers, who sell less than 2,400 UF per year (approximately US$58,000). The MER finances the systems and technical assistance for 100 micro-companies in Region IX of Chile. The subsidy is used to improve business management, production, technology and commercialization in areas relating to garden produce, fruit, fish breeding and bee breeding. The participants have an individual business plan and receive up to 80 UF for assistance and up to 90 UF for infrastructure, inputs, greenhouses and technical irrigation.

As an alternative model among those that emphasize management and administration, Ecuador has established the Agricultural Information System (SICOA) that integrates people and institutions involved in the generation, transfer and spread of knowledge to improve productivity with the participation of the public and private sector. Its objective is to generate and transfer know-how and information to economic players in the sector in order to support them in their decision-making, problem-solving and efforts at innovation so that they can achieve and maintain levels of competitiveness, make this process sustainable and ensure opportunities for small and mid-size producers. SICOA is planning to develop the sector more from the perspective of production for the market than from productivity and commercialization. It includes action for the SMBs with cash management programs, accounting and market manuals, among others.

Rural Micro-Company Support Project (PADEMER)

This is a rural modernization and farm entrepreneurial development tool supported by the Colombian government and IFAD (International Fund for Agricultural Development) . Its objective is to reduce rural poverty through an increase in employment and the income of poor rural families. It supports the development of rural companies with an emphasis on female heads of household and the environment.

PADEMER has three components, namely: 1. Technological Services; 2. Financial Services; and 3. Institutional Reinforcement.

The Technological Service component seeks to help identify and overcome the problems with commercialization, deficiencies in production, administration and organization. Moreover, through training, consulting and technical assistance, it seeks to improve competitiveness, productivity, and access to markets, profitability and the use of natural renewable resources.

The technological services also include the implementation and formulation of commercial management, commercialization and technology development. PADEMER has a system of project co-financing for its technological services, implemented by the Corporation for Development of Micro-business, or CDM. In this co-financing,

PADEMER covers up to 70% of the costs of the project while the other 30% must be assumed by the NGOs, government entities and other co-finance entities.

The activities that can be implemented in the project are:

- Assistance: it is a teaching process where the advisor helps the entrepreneur resolve concrete problems, generate a positive attitude towards change, diagnose his problems and propose, evaluate and select alternative solutions.
- Technical Assistance: this aid must be specific or isolated through joint work between the entrepreneur and the experts to resolve specific and concrete problems of the enterprise.
- Consulting: activities performed by an expert to determine a problem and present possible solutions.
- Training and Formation: theoretical-practical educational activities are conducted for a certain specific type of production aimed at the human resource related to each sector.
- Technology Development: based on existing or adaptable technologies, a technical-practical improvement process is implemented to strengthen the productive structure of the company.
- Technology Transfer and Orientation: the intent is to update, adapt and modernize the production process. Soft and hard technology is considered. The intent is also to satisfy special information needs and facilitate access to specialized technical, commercial and financial information networks.

Business Management: the activities and events that are conducted in this component are: assistance in the technical formation of management and administration of the company, financial assistance in order to prepare a safer access to credit and, lastly, specific individual assistance such as industrial and permanent extension services to micro-entrepreneurs in commercial and technical aspects and management of the micro-company.

Commercialization: this component supports the execution of business feasibility studies, sector marketing studies and specific research and analysis of commercial relations and possibilities for the products of the rural micro-companies.

These studies are performed on the basis of demand and the needs of micro-companies detected in the investment projects. An analysis is made as well as a search to place products and streamline access to the market by the products of rural micro-companies.

One must take into account the market and commercialization factors in the preparation of projects in order to understand whether the micro-entrepreneur will find a market for the production, understand the marketing processes in order to be able to sell that production and determine the prices according to season, quality and other factors.

Other activities performed in this area are:

- Assistance in commercial areas and in determining market potential so as to transfer information on the organization, the potentials and the restrictions of

local and distant markets.

- Training and assistance in the execution of the project to launch itself on the market with the production and perfect its negotiating conditions. Also to find new markets and new productive opportunities.
- Assistance in soft technologies for classification, standardization, product presentation, promotion, publicity to micro-companies and other actions that increase the possibilities of selling such products.
- Assistance in price information, negotiation opportunities, the possibilities of forming consortiums or making agreements to ensure sales and to bind the micro-company to production contracts with an agreed price.

4.5 Business management centers

A model quite used today is the idea of Business Management Centers (CG) that were implanted principally on the basis of service centers developed in some European countries. In Chile, beginning in 1995, the Ministry of Agriculture started up several CGs through INDAP and FIA that work with small and mid-sized producers in diverse regions of the country. CORFO has also implemented some CGs through its operators using PROFO (Productive Development Program).

The Chilean CGs reflect the demand for services such as planning, business management control, market information and commercial assistance, accounting, tax audits, organizational training and assistance. There are currently 24 CGs that can be classified into two large categories, depending on the group of farmers to which they are targeted: a) CGs formed by small producers with financing from the INDAP and the FIA who seek to support producers in entrepreneurial decision-making of the associative economic units of rural agriculture, based principally on an economic, financial and technical analysis of available production and marketing alternatives; b) the CGs formed by mid-sized producers who are principally financed by CORFO. A private intermediary administrates 90% of the latter. Unlike the above, these centers are comprised of individual farmers so no associativeness is required in their formal activity in order to receive the services. In both cases, the contributions of the institutions decrease gradually over time, which means that the contribution from the group of organizations or individuals using it must grow in that same period.

The CGs have an organizational structure of at least three professionals with different profiles who generally run the commercial, technical-productive and management control system areas of the agro-businesses. Operationally, the CG experts make visits to producer organizations every two weeks or monthly in order to gather information for management control, train the farmers in that control and train the managers of the organization to keep generating information in an ongoing flow. These CGs have been kept separate from the technology transfer mechanisms that INDAP provides through outsourcing with private entities, NGOs and other providers of these services.

The Chile Foundation operates the Entrepreneurial Agricultural Management Support Program since 1988 for the purpose of contributing to an improvement in the management of agro-business by developing and transferring widely applied methodologies to associative groups of producers. These instruments support the CGs, the GTTs and the Producer Development Program in a way where services are paid for by the programs or by individual users.

MANAGEMENT SUPPORT BY THE CHILE FOUNDATION

Since 1998, the Chile Foundation has provided support to the Rural Agriculture Management Program within the framework of the Ministry of Agriculture-Chile Foundation agreement. The Program's mission is to contribute to an improvement domestic farm and livestock management through the development and transfer of widely used management methodologies and through training, products and services, according to the needs of producer associations. The Program has supported Management Centers linked to the "Agrarian Innovation Foundation – FIA" and "Agricultural Development Institute – INDAP" as well as development programs linked to the "Production Development Corporation (CORFO), Technology Transfer Groups (GTTs), and producers associated to the Supplier Development Programs (PDP).

The Vision of the Agriculture Management Program has four substantial goals: a) to increase the Program's coverage in terms of the number of activities implemented nowadays and the inclusion new specific groups to those activities; b) to establish a common knowledge and skill base of professionals in associative groups; c) to develop and support an "informal" and autonomous network to transfer management control methodologies to the agricultural sector; d) to develop on an ongoing basis and adapt management methodologies in the areas of human resources, commercialization, technology, production, etc. In general terms, the Chile Foundation's Agricultural Management Program has defined the following courses of action, based on the needs of professionals and producers:

TRAINING AND SUPPORT

Training of professionals and producers is essential to the correct and efficient transfer of the latest information on administration. For these purposes, courses are being offered in several regions of the country in relation to a certain productive sector (milk, meat, potatoes, processed vegetables, citrus fruits, grains, etc.). The courses analyze different aspects of agribusiness, such as the management of human resources, accounting, commercial area, operations, etc. Additionally, training courses have been implemented through the Agricultural Entrepreneurs Program, aimed at developing and improving producers' entrepreneurial capacity. This Program seeks to strengthen the leadership and entrepreneurial capabilities of producers and professionals in the sector, which may be reinforced through training and follow-up activities.

PRODUCTS AND SERVICES

The Agricultural Management Program has created a software called "*Agrogestión*" (Agromanagement) and it is developing, together with users, methodologies that will provide solutions for financial and tax accounting as well as management issues. It will be applicable to the reality of the agricultural, livestock and forestry sector. Information and interpersonal communication are essential in the decision-making process, which is why a web-site has been developed. The site is regularly updated insofar as market and technical information and Program events are concerned. At the same time, the site has helped form a community of producers, professionals and associations.

In addition, significant experience has been gained throughout the years and a consensus regarding management criteria. The transfer of these to farmers and breeders is of

considerable importance. Several publications have been issued, such as: a) Manual on Commonalities in Management Control in Agricultural Enterprise, b) Economics and Management of Dairy Production, c) Strategic Planning for Management Centers and Associative Groups, d) Management Centers in Denmark, France and Spain, a View of their Experience.

4.6 The Market for Extension Services: Outsourcing

Privatization or outsourcing of the services that ultimately reach users does not necessarily constitute an extension model. In fact, centralized and decentralized models, as well as participative and specific models, use outsourcing as an alternative for the supply of services. This approach, however, is due to the eagerness of State institutions to reduce their size and pass on many of their old activities to the private sector, under the premise of no direct intervention by the State in productive or production-related activities pertaining exclusively, according to this approach, to the private sector. However, due to the relevance it has acquired for extension schemes and agribusiness management, it is convenient to examine it separately as a method of service to rural producers.

The origin of outsourcing has varied from country to country: in Mexico, for example, technical bureaus, professional organizations, NGOs, producer and other organizations were created that as a whole constitute a market for technical assistance. The producers themselves, who recruited extension agents, created room for this market.

Surely, the best example in Latin America is found in Chile, where outsourcing began a little over 20 years ago, when the Government stopped providing extension services and technical assistance. During the course of this period, many service companies, NGOs, producer associations and other institutions have disappeared, including some universities, and these services are now provided through INDAP, who is in charge of their operation and financial support. INDAP conducts various forms of limited invitations to tender in different zones of the country to allocate zones and groups of beneficiaries. It rates enterprises and allocates certain areas characterized by a concentration of poverty where they can provide their services—differentiated according to the strata and modes defined by INDAP.

In Bolivia, as already mentioned, SIBTA designed its own per-project operating system that must be implemented in the field by private companies and/or individuals who are selected, in a way similar to the Chilean system, through tenders to implement the projects approved by the Fund managed by the Foundations that make up SIBTA. In Bolivia, NGOs provide traditional technical assistance and development activities, particularly those funded externally. However, they often execute projects for international organizations or agencies with predefined plans or with the participation of the end users.

Outsourcing is also used by PROMSA in Ecuador through a mechanism of private technical assistance agents. It is still, however, in a developmental stage. This kind of mechanism is not yet considered to take up the space left by the

public sector, but NGOs, municipalities and Provincial Councils are playing an increasingly larger role in the provision of technical assistance services. This may be supplemented by the beginning of an administrative decentralization process in Ecuador under which Municipal Administrative Units ("UMA") are being created. These units are included in the design of local farming development programs that will eventually constitute another center of demand for local services to the rural sector.

The privatization of extension and management has also taken on other forms of operation such as, for example, the Colombian producers union or the compulsory funding implanted some time ago in Colombia through loans to mid-sized and large-scale producers. The difference between these efforts lies in that the more organized unions developed their own technical assistance and management services for members that made financial contributions to the union. In the second case, loans to large-scale producers made it mandatory to hire technical assistance to guarantee the success of their activities and allocate part of the loan to hiring specific technical advisory services. This form of operation was discontinued once the sector's credit programs were dismantled and anomalies were discovered in the provision of services, with the collaboration of professionals in the agricultural sector.

In Peru, the private sector, NGOs, unions, and some universities offer information and extension services, although there is no specialization of suppliers, nor are technical assistance or management services supplied specifically. In some regions in the country, however, these services are provided by NGOs and cover approximately 37% of the total supply of extension and entrepreneurial system services.

Beginning in 2001, the INCAGRO project, implemented with a loan from the World Bank, began a process in Peru to promote the participation in developing a basic agricultural services market. Co-financing is offered for research, information and extension projects presented by producer organizations allied with private sector suppliers of basic agricultural services. These are donations selected by contest and subject to defined terms regarding the quality of the projects and participating organizations. Obviously, in INCAGRO's work, there are more services available for farming than for livestock. There is also a noticeably higher supply of production-related elements than for programs executed through negotiated loans and, in particular, for those related to entrepreneurial agricultural management.

4.7 Models for large-scale and commercial agriculture

Although in the past few years it has been traditional for the Government's extension services, whether or not outsourced, to focus on small and mid-sized producers, it is also true that extension services were aimed at large-scale and commercial agriculture. At present, the services provided follow—in one way or another—a model discussed in this analysis.

In Colombia, for example, large-scale owners and producers have continued with the contest system to select agricultural administrators, economists, and professionals, accountants and assistants, both for office staff and for field workers. This holds true for large-scale producers of palm oil, sugar cane, pork, milk and beef, export flowers, table grapes or bananas.

Chile is another example where, under INIA sponsorship, technological transfer groups (GTT) were formed. These groups represent a private effort whereby producer groups combine to hire technical assistance. These groups are inspired by similar organizations existing in the 1980s in Chile and other South American countries. Groups of around 15 to 18 individuals join together to obtain professional technical assistance. Since 1990, there have been modifications to the tools used, and at present these groups consist of 1,200 producers organized into 87 GTTs. The activities of the groups are not identical, but they include matters such as: training in social dynamics, community actions, training in farm machinery, business management, demonstrative research assays, training in personnel management, visits to research centers, field trips, trips and tours, visits to farms and specialized seminars.

Since 1995, CORFO has conducted Production Development Programs (PROFO). Groups of at least five companies providing goods and services may apply for these programs, intended to resolve issues of scale that could not be resolved or approached individually. The idea is to incorporate modern management techniques or new process and commercialization technology. Entrepreneurs qualify if they have sale volumes between 1,200 and 100,000 UF per year (approximately 28,000 to 2.5 million US dollars) and exports under US$ 2.5 million per annum.

CORFO also operates the Technical Assistance Funds (FAT), intended to integrate modern business management techniques and new commercialization technology and strategies. This subsidy helps finance strategic planning, organizational restructuring, commercialization strategies, quality products, business administration, environmental management and new technologies.

A Supplier Development Program is underway in Chile, also sponsored by Corfo. It seeks to strengthen suppliers. This program is attempting to increase the competitiveness of Chilean production chains through the creation and consolidation of stable subcontracting between small and large companies that will facilitate productive specialization and complementation between suppliers and demanders. Users must commit to pay up to 30% of the annual cost. This program was designed for mid-sized agricultural enterprises.

In Mexico, large producers have access to technical assistance through specialized consultants. In Mexico, FIRA operates the Special Fund for Technical Assistance and Security for Agricultural Loans, which promotes technical assistance to support projects financed through a system of reimbursement of the service costs. Currently, FIRA offers the following services: reimbursement of integral technical assistance when shared with producers, training for producers, bank officers and technological agents for

improvement and innovation in agricultural development. It also seeks to develop, demonstrate and provide training in agricultural techniques.

AGROBUSINESS SHARED RISK FUND

The general objective of the program is to encourage the development of new or established agribusinesses with a vision of the market that will aid in their insertion to the production-demand chain. The program seeks to develop entrepreneurial capacity, further synergies and strategic alliances and include modern technology and financial services in order to generate economically sustainable employment and income alternatives, preferably in rural areas. It also seeks to maintain a higher end price paid by consumers to the benefit of producers. Specifically, it seeks to:

- Support the establishment of new small and medium-scale agribusiness that will generate sustainable production development alternatives.
- Cooperate towards the consolidation of already established medium and small-scale agribusinesses so that they may overcome their production and competitiveness problems through a more efficient coordination of their production chain and alliances with other economic players.
- Support the establishment and improvement of agribusiness that reduces producer transaction costs through their own goods and services companies.
- Link, coordinate and/or supplement resources from other SAGARPA programs, such as the "Farmers' Alliance," as well as from other programs in the three levels of government and those available in civil society.

The Program is aimed at primary or rural sector producers who form part of financial organizations or legally constituted enterprises, of national, state, district, regional or local associations, that add value to their raw material production, diversify their sources of employment and/or associate for these purposes with other economic agents in the production – demand chain. The program will operate in the 31 federal divisions and the Federal District.

The program may provide the following kinds of support: Direct contribution, with a partial shared-risk funding of investment in agribusiness for the design of business plans, studies and projects; contribution of the necessary resources for the preparation of audits or technical assessments, equipment, infrastructure, technical assistance and agro-industrial and agro-entrepreneurial extension, training and start-up expenses. Liquid guarantees to facilitate obtaining credit for investment and working capital.

The general components that may be supported are the following:

Development of business plans: This refers to agribusiness development plans prepared by outside specialists, to be formulated at least for the short and medium-term, with the intention of establishing the measures to be adopted—of a technical, administrative, organizational, financial, marketing, commercial, legal, or entrepreneurial nature—to improve the performance of existing agribusiness or favor an increased success of the new ones. Professional consultants, bureaus or lawyers' offices that are either certified or meet the regulations established by SAGARPA must preferably do this.

Preparation of audits or technical assessments: with the purpose of determining the problems and efficiency and efficacy levels that characterize the organization and functioning of existing agribusiness, and to identify in first instance some possible lines of improvement.

Training: Actions to train or consolidate the human resources required for the project's development and operation, in matters of entrepreneurial development and managerial skills, commercialization, organizational and technical and operational development.

Technical assistance and agroindustrial and agroentrepreneurial extension: Activities carried out by external agents with the purpose of providing advisory services in the development and consolidation of the agribusiness project, favoring the training of human resources, managerial administration and development, the process of constant improvement and an improvement of the decision-making process.

Infrastructure: This refers to the acquisition, construction or improvement of facilities that will allow the start-up or improvement of operations of agribusiness and contribute to its consolidation.

Equipment: This involves the acquisition, transport, installation and testing of new equipment and machinery required for the production or commercialization of goods or the rendering of the services that constitute the object of the agribusiness, and that allow the start-up or improvement of the operation of said business and contribute to its consolidation, without including equipment that may considered as luxury items or unnecessary for the purposes mentioned above.

Development of studies and designs: This involves the preparation and contracting of studies (pre-investment, business plans, market, etc.) and designs (of facilities, equipment, processes, systems, etc.), necessary for the installation or improvement of agribusiness.

Technological, agro-industrial entrepreneurs and fishing companies for the transference of accessible, reliable and inexpensive technology; specialized information to banks, agents and producers; producer organizations, risk control and commercialization. FIRA serves a more developed producer sector that use integral entrepreneurial approaches in their project implementation, which strengthens the organizational aspects for the generation of economies of scale.

In Ecuador, the GTT model was initially applied in the period between 1985 and 1993, in the Cattle-Raising Program "PROFUGAN", with technical assistance from Germany. Between 1992 and 1998, INIAP formed 30 TTG groups in the National Fruit Growing Program, with advisory services provided by COSUDE from Switzerland. This program was able to achieve its own capacity for savings and loans, made efforts towards diversification and attempted to establish a fresh fruit commercializing enterprise. Between 1995 and 2000, the Development Program in "Occidente de Pichincha" formed 42 GTTs grouping 4,028 producers, 80 of which commercialize their own products.

Jointly with these commercial agriculture models, mention should be made of the technical assistance provided by agroindustry in contract agriculture, particularly in manual labor intensive farming that usually does not take place in large areas, such as vegetables, some fruits, or industrially produced tomatoes, as is the case in Chile. This modality implies that producers who contract the production and

sale of their raw material with the agroindustry, acquire the obligation to receive technical assistance and, in some instances, business management assistance, from the agroindustry. This means that there is an obligation to maintain a pattern in relation to the production and product management, so as to minimize heterogeneity of the final product. For many producers, this is an adequate alternative to stay in business, as it guarantees a market, although it may be necessary to enter into relatively sensitive agreements regarding price, and the possibility of rejection of products due to problems in the quality of production.

4.8 Some non-traditional small-scale models

In addition to the various forms of provision of services presented in this section, the diversity of the extension services that may include technical elements of agribusiness administration is large, but there are specific programs that, while being quite small, contain processes and approaches that could be replicated at a larger scale. In this section, a quick review presents a very consolidated summary of the most interesting programs.

One example is the development in Colombia of "ACTUAR" and "Fundación Carvajal" agro-enterprises and agribusinesses, as well as the managerial advisory services in agribusiness provided by a petrochemical enterprise, also in Colombia. These are very specialized programs that seek the creation of managerial positions and for agribusiness to have the necessary training to compete in niche markets both domestically and abroad.

In Chile, "Fundación ANDES" developed the Rural Production Development Program, aimed at strengthening the technical and management skills of small-scale producers, fishermen and aquiculture workers, encouraging the design and execution of innovative projects that will increase the income obtained, and taking advantage of market opportunities. This program is based on small donations that the Foundation grants by contest.

The National Fund for the Support of Social Enterprises, "FONAES", under Mexico's Treasury Department, promotes the operation of viable productive projects, providing access to loans and micro-loans, risk capital contributions, and training on the establishment of companies addressed to groups of producers, indigenous groups and the urban poor. This program operates the "Fund for Entrepreneurial Support, Accompaniment and Formation", which aims at coordinating productive investment resources, and human and entrepreneurial development, providing resources for research studies, project planning, training, technical assistance in fairs and exhibitions. These resources allow recruiting professionals for periods from four to six months to provide the specialized assistance in the topics mentioned above.

In Bolivia, CIOEC promotes three programs intended for Farmers Economic Associations: a) organizational development b) commercial planning and c) support in legal and taxation matters. Technical assistance and training are provided in terms of enterprise operations. Technology is linked to matters such as strategic planning, operational planning, budget management, structure of

responsibilities and responsibilities manual, monitoring of the administrative process, financial and accounting information system, operational audit methodologies, administration of credit and rotating funds.

In Peru, the Rural Institute "Valle Grande de Cañete" offers training services, technical assistance and entrepreneurial management services to producers with average income levels, who pay for the services rendered. The Institute offers services related to: soil assay laboratories, easier access to loans, and integral support for business plans. Also in Peru, CRITECNIA enterprise—located in "Valle de Chincha", offers training services to medium-scale cotton producers, as well as assistance in the processes of obtaining loans, purchase of inputs, price negotiations with cotton ginners, and integral assistance with production. Users must be willing to pay a proportion of the goods and services received.

These illustrations of non-traditional, small-scale models tend to specialize in management services and in matters that currently affect the competitiveness of agricultural enterprises, with a certain mixture of cost recovery from those who demand their services. It is noticeable that many devote their efforts to average income target groups, which reaffirms the need of many public extension services to subsidize the services rendered to lower income producers.

4.9 Prevalence of group assistance and of producers economic associations

Of the many examples presented in this section, a high proportion is geared to groups and economic associations of small and medium-scale producers. There are cases, such as INDAP in Chile, in which assistance programs for producers require that producers organize themselves before they can be provided with the services and become program users. In INDAP "direct action" option alone, there are 420 associations grouping around 31,000 producers households.

In Ecuador there are approximately 8,000 associations—of various levels—that bring together 1,200,000 producers. Ninety-five percent of the associations are geared to productive or loan projects and very few to commercialization or other elements of rural development.

The programs of the "Populorum Progressio Ecuadorian Fund, FEPP", cover 20 of the 22 provinces in the country, incorporate 1,916 grass roots organizations, 116 second degree organizations and benefit a total of 57,849 families. The programs executed by this Fund are related to the creation of a savings and loans cooperative, a commercialization cooperative, to the access to land (purchase, certification and award of land titles), construction of housing, provision of drinking water and irrigation water, tree nurseries, and training for young producers who seek incorporation to the associations' enterprises or to establish new ones.

These examples clearly illustrate not only the magnitude of the organizations promoted as requirements for access to rural development and production assistance programs, but they also allow a perception of the fact that individual care of agricultural producers is negatively affected by cost effectiveness and

coverage, that require a dispersion of producers in rural areas. In some places, it may be seen that the administrative and organizational solvency of enterprises is lost because the individual capacity of their members is not equal to that of their community enterprise, and such factors as management, productivity, supply and product quality go in detriment of the enterprise and end up affecting its competitiveness. A certain balance that will allow the development of entrepreneurial associations and the emergence and strengthening of the individual enterprise is required as the focal point to approach the design of this type of services.

4.10 **Strategies to approach the problem of management**.

An aggregated review of the assistance services in matters of farm administration and agribusiness reveal the need for an approach geared more to a support of the decision-making process rather than to accompaniment and direct intervention, in facing the various problems that currently affect the competitiveness of the agricultural sector.

Vital problems such as the decision of what to produce, where, how and who to sell to; how to find and position themselves in niche or foreign markets; how to finance and how much to invest in the differentiation of their products (adding value); how to organize the productive enterprise and how to become part of the rural associations that can leverage enterprise management, are topics addressed through three strategies (which each institution and program highlights to a higher or lesser extent according to their objectives and dedication): training, supply of information and direct assistance to strengthen rural associations. Some institutions that fulfill very specific tasks, an enterprise the producers they serve in activities such as negotiation tables, participation in business rounds, personalized management plans, preparation of projects for financial institutions, or tours and visits to companies that have already established successful programs. However, application of the mentioned strategies is specified by showing the actual problems, explaining their effect, analyzing cases that have successfully overcome said problems, and provide training in analytical techniques and in obtaining and reading the relevant information.

The development of these strategies is consistent with the complexity of the competitiveness and the established policy of no direct intervention by the State neither in the markets nor in the productive function. The opening up of the economies and the pricing process in the markets are considerable realities that are beyond the reach of direct intervention or of attempts to modify them from a microeconomic level. Therefore, understanding the phenomena and the relevant information to understand their components are, perhaps, the most efficient instruments to support the decision-making process of the direct actors.

This approach implies a considerable effort by producers and entrepreneurs to maintain a minimum access to the information and implement systems to access the technical information that will allow them to make decisions. These

challenges are the greatest barriers to internalizing the mechanisms that will help enterprises in their decision-making and, consequently, the greatest challenge for the administration and management of agricultural production enterprises.

5. EXTENSION AGENT TRAINING

In general terms, extension agent training presents strong limitations stemming from traditional university education of farming professionals, i.e., primarily agronomists and veterinarians, who usually undertake extension work. The curricular mesh of these professions and similar ones, such as veterinary, forestry engineering, etc, do not include the necessary intensity in subjects specializing in extension, communication or the most significant current issues concerning this specialization, such as administration and training in the different topics required for agriculture's aim towards more competitive markets.

Undoubtedly, new professional careers have emerged in most Latin American countries focused on issues such as foreign trade and production, or food security, etc., and that postgraduate and "*extension* level" courses are carried out, which increasingly point to the present needs of extension. However, it is also true that university training is limited and does not allow an adequate exercise of extension activities. This is an important issue that should be tackled in any serious scheme geared to strengthen extension and agribusiness administration as a specialized activity or topic.

An example of this is that new specialization areas have started to emerge in Mexico, such as rural development, sustainable development, agroecology and others that follow the systems approach. Postgraduate studies in Mexico (such as rural development at UNAM) recognize aspects such as peasantization, productive diversification, and market scale and instability, and transference models, e.g., the "peasant to peasant" one.

In Colombia careers have been launched in rural administration, livestock administration, foreign trade, and various postgraduate programs and specialization courses in rural development, economic development and business administration have also been started.

In Ecuador, through an agreement subscribed by the postgraduate institutes of the agricultural and extension sciences faculties of Universidad Central del Ecuador and various NGOs (CIADA, CESA, IEDECA, COOPIBO, FUNDES and CINDES) a MBA degree in agricultural economics and rural development was launched in 2000, addressed to extension agents working in these institutions. Also in Ecuador, the technical unit carrying out PROMSA technology transfers trained 200 private extension agents in 2001, in issues dealing with entrepreneurial management, indicator measurement after results and costs, and trade and environmental management in agriculture.

5.1 Specialized Training

In general, training specializing in agribusiness and farm administration issues involves technical updating of professional and intermediate technicians in charge of these activities and who have previously received some type of formal training. It also deals with administration and management specialization addressed to professionals in the extension area who have university training or more traditional intermediate level training, with less emphasis on this type of technical issues.

Many programs and specialized training courses are underway in the countries considered in this study. In Chile, for example, INDAP has implemented various training programs addressed to their own staff and that of private companies that supply INDAP with technical assistance services for their users. In most cases, this training has centered on production techniques although there are some training examples in production systems and an extension level course on competitiveness. A course called “approach and methods to rural development planning at local level” has been imparted by an NGO to over 250 technicians, most of who are linked to technical assistance and to INDAP.

It also should be noted that demand for this type of specialization has re-kindled, mainly on the part of young professionals looking for jobs. In Colombia, for example, this demand is being covered by some NGOs (Fundación Carvajal, FUNDESAGRO, FUNDEJUR, CICADEP, CIPEC, among others), SENA and some universities that offer this type of specialization as extra-curricular activities. In Mexico, the Rural Development Leaders Program (ICRA, RIMISP and SAGAR) offered a specialized four-year duration course that formed 153 technicians, 54 of which were extension agents. This course followed a systems approach in designing development projects and plans, integrating actors to the regional realm and executing development plans aimed at production units. The National Training Institute of the Rural Sector, INCA-Rural, offers a counterpart to the emphasis traditionally placed on the dissemination of technological packages, placing extension agents in the context of rural economy, producers associations, the market, value adding, financing and business administration. INCA-Rural training proposal deals with access to information, knowledge, methodology and instruments to prepare diagnosis, development projects and rural enterprise development. For this purpose, it proposed a group of “extension agent trainers” and an “extension-level course in enterprise design for the rural sector” has already been approved.

Bolivia does not have a formal training program for extension agents, only isolated initiatives scattered in time and space. The private sector has regularly participated in training tasks, but it too does not organize a program, but modules or short and isolated activities that resemble in-service training. Only some specialized programs such as potato seed production have succeeded in training technicians, through their attendance to international programs or specialized courses imparted outside of Bolivia.

PROTECA in Ecuador launched a training program for extension agents (in the country and abroad) but it did not include farm management or agribusiness, only extension techniques and technical-productive training, thus contributing to strengthen the productivity approach that characterized this rural extension project. Also in Ecuador, the national Financial Corporation, CFN, in agreement with IDB, carries out the Entrepreneurial Services Program, which serves agricultural sector companies. It works through the use of coupons, which constitute one of the pillars of the microenterprise-training program. Prior to launching the program a market study was carried out countrywide to determine its feasibility and to learn of the sector's needs. An initial survey was carried out which sought to focus on the nature of micro enterprises, the working profile of their owners and their interest in receiving training. Later, a personalized campaign was launched on the need to improve microenterprises productivity level. A motivated microentrepreneur or one interested in obtaining training registers and receives a coupon that he/she can trade in for a 20-hour training course to be taught in a previously qualified ICAP, in conformity with his/her specialty or interest. The ICAP takes the coupon as a partial payment and trades it in at CFN for US$10; the difference in training cost (between US$12 and US$40 per cycle) is paid by the microentrepreneur. The courses range from 20 to 80 hours. Coupons are valid for 60 days and can only be used for training qualified beneficiaries. The incentive to obtain training is motivation and a subsidy of US$10 per period. Their training material is specific for this initiative, which belongs to ICAP. Between 1999 and 2001, 6,108 courses were paid by CFN through 80 ICAP, benefiting 40,242 microentrepreneurs who received 82,654 coupons. 1,713 courses dealt with entrepreneurial management, 2,462 with techno-productive issues and 33 centered on different multidisciplinary topics.

Peru does not supply specialized training for rural extension and administration service providers. Extension agents indicate that their sources of greatest knowledge are short courses offered by universities, some NGOs and information captured in INTERNET. A small percentage reveals having taken courses abroad and almost none has received training on service enterprise management. They also indicate the lack of financing instances to allow their access to training or electronic communication infrastructure, which would facilitate capturing regular and specialized information.

5.2 Producer Training

If extension agent training is vital for services to reach users and for administration specialization to allow offering complex techniques in a simple way, producer training is no less important. It ultimately implies creating and conveying user abilities to enable the proper management of their own enterprise and to obtain the information they need to maintain production dynamism and the capacity to compete in markets.

In Ecuador, PROTECA (1986-1994) does not report any extension agent training directed to farm management, instead it has intended to increase

productivity in 23 production items that were once considered territories. However, since 1997 the National Program for Agrarian Technology Training and Transfer is underway, carried out by the national Institute for Rural Training, INCA. This program contemplates training in four areas: livestock technologies, entrepreneurial management, sustainable rural development and competitiveness support. In 1999 it started training 60 producers' associations (7,200 users) in 180 events. In 2001, INCA started a Rural Entrepreneurial Training Project, CER, designed to cover three training areas: strategic participative planning, (carried out in the Gatozo-Zambrano commune), entrepreneurial management (Gatozo-Zambrano commune) and post-harvest management (La Balsa del Miguelillo organization). Almost 100 producers interviewed in Ecuador said they have no knowledge about nor apply formal farm management techniques and 22% kept a register of activities and costs. Only 15% had checking accounts. These producers expressed their hesitance to pay for training services in farm management.

6.0 TRAINING MATERIALS

An immediate consequence of the extension agents' deficient training in topics dealing with farm administration and other relevant matters in today's agriculture, are the empirical difficulties of assimilating training materials, since their understanding and handling require previous knowledge and foundation, so as to avoid limitations in terms of the topics or specialization that will affect assimilation of the teaching material. Perhaps this is why many of the training programs found in this survey of selected countries devote effort to preparing training materials to suit their own needs. Thus, the leaders program in Mexico developed a CD-ROM containing the extension course materials, individual readings and web links providing a wide-ranging bibliography that can be accessed by the trainees, which complement said training without displaying the course's theory and materials, which makes it difficult to read the materials contained in the CD.

SAGARPA produced the book "80 tools for participative development: diagnosis, planning, monitoring and evaluation" and a CD containing the readings of an extension course on enterprise design. This book contains material aimed to improve and systematize community participation in sustainable development. It provides the general basis for participation and communication: it teaches diagnosis techniques providing the elements to grasp the general social and community aspects, resource management, production systems, animal production, gender aspects, communication and extension; it provides analysis and problem solving tools, planning of activities for implementation, and, finally, it provides elements to carry out participative monitoring and evaluation (construction and application of quantitative, qualitative and impact indicators).

DISTANCE ENTREPRENEURIAL MANAGEMENT TRAINING PROGRAM ADDRESSED TO SMALL-SCALE PRODUCERS. INDAP-TELEDUC PROGRAM

This is a training service undertaken in the framework of an agreement with TELEDUC, Universidad Católica, and disseminated through the national television network, Channel 13. It serves INDAP users and its organizations in training techniques aimed at:

• Learning the legal and formalization aspects of farming associations.
• Learning the main management elements involved in a farm and/or associations.
• Learning the accounting and technical aspects of planning in agricultural organization and enterprises.
• Learning forms to improve trade processes through associative agricultural enterprises.

INDAP-TELEDUC TRAINING:

Training is carried out through distance television courses. At the same time, during the television courses, user groups receive the support of monitors, radio shows are also transmitted through a network of local radios and a monthly newspaper is also published.
During 1999 the course "Formation and Management of Associative Agricultural Enterprises" will be imparted. Information about subsequent courses is available at INDAP Area Agencies and will also be informed by various mass media.

WHO CAN REQUEST THE SERVICE AND WHAT THEY SHOULD DO:

Producers and peasant organizations can apply, preferentially Technical Assessment Service users. Farmers that request this service must have a schooling level of at least *6 years* or equivalent, be genuinely interested, be willing to form study groups, study associatively and form part of an associative business initiative
This is done by means of an Application Letter addressed to the respective Area Agency, requesting participation in the courses. Application dates must be consulted at same offices.

INCA-Rural, FIRA and some universities have developed human resource training material, which they use in their rural development and agricultural enterprise generation programs. These materials are specifically prepared for their training programs and are used in together with trainer assistance. Some NGOs in Mexico produce special materials, called soft and ecological technologies, to train technicians working with direct actors of development.

In other countries, the relation between material production and technician training is not clear. In Bolivia, for example, training materials show dispersion, reiteration and a vague quality in terms of content.

On the other hand, a parallel effort is made in the generation of training material for producers. In Colombia, for example, there is material directed at two producer levels: a) small farm operators with basic management levels have available worksheets to register accounts and general guidelines for simple analysis of collected information (Humanized Management at Fundación Mejía) and b) more advanced producers, large scale farm operators and coffee growers

have AgroWin, a computerized system developed by the coffee research center, which includes technical-economic indicators.

INDAP and TELEDUC in Chile have launched a course to improve the management capacity of small–scale producers. It has been imparted since 1997 and started with 300 students through television. As course material, six notebooks corresponding to modules in the following topics are used: Marketing and commercialization. How to sell better, the purpose of production. Who to think of when we produce; finances. How to manage money; association to face the market. How to make the correct decisions; final evaluation. Planning a business project.

While foreign cooperation to Bolivia was channeled through NGOs, important training and communication initiatives were financed. A great deal of training material was produced for this purpose (worksheets, pamphlets, almanacs, booklets, series, etc.). Although no formal evaluations were undertaken, it can be stated that a) there was much duplication; b) quality control was insufficient; emphasis was placed on the "popular education " style instead of centering on delivering accurate, correct and practical information; d) not much creativity was demonstrated in the use of mass media and e) very few practice periods and exchanges between peasants were carried out to make up for the high level of illiteracy. In sum, it is fair to say that there is training material aimed at change agents and there is less material aimed at producers and peasants economic enterprise promoters. However, it is also fair to say that for the most part it is material that is specialized in the specific needs of the programs that created them, which can leave aside very important aspects and does not necessarily constitute generic training widespread application material. The basic training of extension agents, producers and promoters is no doubt a generalized limitation, although specialized materials have tried to go beyond that barrier through basic examples and explanations.

These materials' learning efficiency, at least for the purpose of this paper, is an empirical question that should be tackled before considering general recommendations on the use of such materials.

7.0 THE ACTORS' PERSPECTIVE

This section collects the most relevant opinions of different actors that were interviewed in the analysis of each topic in each country. Conversations were held with representatives of some trade associations, with extension service managers, extension agents and producers who gave their views on some topics that were summarized in this section.

A very significant aspect that stands out in these conversations is that there seems to be clarity regarding the actors' integral needs and priorities in aspects such as commercialization, and in general, competitiveness and all that comes with it, in technical and operational terms, as opposed to the importance of

productive aspects which determined extension activities for many decades in most Latin American countries.

The small and medium-sized Colombian producers corresponding to producers, who own a productive business and therefore produce for the market, mention needs such as management, market intelligence study, product quality management, price information, volumes, delivery points and contract agriculture, among others. However, an important point in the analysis of Colombia's situation is that small producers state that they are not willing to pay for the service. The groups of producers that live off agriculture and are therefore lag behind in productive terms with regard to the above do not have a categorical opinion about their management needs. It is not a commonly used input for most producers, with the exception of coffee producers who belong to an organized and very structured union and have received technical assistance for a long time.

The Table for Family Agriculture Development in Chile discussed the following: development of internal and external markets and trade support; improved productivity and natural resources; strengthening of competitiveness; development of clean and quality agriculture; production financing and promotion; development and strengthening of organizations and human resource formation and training. Thus it is clear that in this list - certainly complex and containing current topics- productive aspects, although taken into account and clearly in all cases requiring attention, are only one of many topics that concern household-type producers.

The analysis of technical assistance and training demands in Bolivia undertaken by Fundación AGROCOL, indicates the following: low-cost agroecological practices; associative enterprise management and (social) promotion training; information on local and international market trends; market information (studies) for different products and delivery points; support in identification and opening of markets; support in change processes led by producers themselves; support in identification and technical assistance of new products and adequate management of a gender approach.

According to the PROCADE network in Bolivia, peasants' technical assistance demands have evolved: there is an exhaustion of training approaches and methodologies centered on NGOs, which were taken to a global and generalized level. In Bolivia, peasant economic organizations generate demands that deal with market openings and financial resources, development and communication with different actors, including large and medium-sized entrepreneurs, and State spokespeople.

7.1 Importance of trade associations and the construction of a new institutional framework

The institutional lag (centered on the rules of the game, actors that participate and scenarios in which activities take place) mentioned in some countries such as Colombia, have caused the multiplication of organizations by products such

as rice, African palm, livestock, pork, cacao, coffee, cereals and, recently, fruits and vegetables. It is the consolidation and multiplication of private institutions that go beyond public action given their commercial management capacity, institutional coordination technique, and agribusiness management. Associability has advanced in social capital construction in the case of Colombia, achieving the creation of some "competitiveness agreements" in various chains such as cotton-textiles-clothing, rice-mill producers, dairy products, potato-processing, corn-soy, yucca-balanced food-poultry-pork, citric-processing, banana-exports, shrimp, forestry chain, palm-oils-processors, cacao-chocolates, tuna, panela and fish-farming, aside from the traditional organization of coffee producers that involves processing and export but also manages some very important human and social capital spheres in Colombian life.

Public and private actors in Colombia have made progress in the construction of productive and social alliances to attract resources and thrust investment toward structured initiatives in the form of regional projects, councils and nuclei to promote the agreement of productivity agendas, associative loans, contract agriculture, crushing stock exchange shares, shelter harvests with future supply orders and a series of negotiations to "sell before sowing".

In Mexico, FIRA thrusts strategic alliances through the Articulated Integrating Enterprises in a specific activity (corn, wheat, coffee, livestock, etc.) in which participants representing all links in the chains, suppliers, insurers, finance institutions, government and technical assistance and government programs. They also establish quality standards and agree on price indicators and production volumes, and even establish contracts, cover risks, reduce production and trade costs.

In Bolivia, a joint action undertaken by the Industry Chamber and the Consejo Consultivo de la Agenda Estratégica para el Desarrollo (Consultative Council for the Strategic Development Agenda) has selected the productive chains on which technical assistance to farming producers will center. The Consejo Consultivo is a private-public instance formed by the main producer unions and the economic Ministries. Although the organization capacity is still an empirical query, the sector's dynamics is moving toward a change in institutional framework based on the association of different links, chains and trade associations.

Some organizations in Ecuador indicate their demands as follows: lack of basic education to work as a group in the technological and entrepreneurial change processes; the need for preparation in entrepreneurial management processes; lack of loans and inefficiency in the production process; strong losses due to product management and storage; need of greater technical assistance with an entrepreneurial approach and lack of development in reaching input and product markets.

This small sample of countries and list of needs and actions regarding the integral initiative for production is very significant in at least two aspects: productive sector actors throughout the chains have created an institutional framework that was unheard of some years ago, based primarily on the

organization of actors and the participation of the State to achieve a space of dialogue, and to obtain support in terms of services and policies geared to facilitate business for chains with active participation at different levels. On the other hand, it clearly indicates that these organizations' requirements and this new institutional framework are going beyond the old production-leaning criterion. They integrate the needs of the different chain links and the competitiveness requirements of today's markets in terms of strategic and economic decisions and forms of trade based on quality standards and levels, rather than production itself. Although this production requires homogeneity and high productivity, it is perhaps the best-known component that commercial agriculture faces today.

7.2 Extension service managers perspective

As mentioned above, in some countries interviews to actors also spread to service managers. In the case of Colombia, for example, they recognize that the coverage of extension service is not sufficient, particularly in agribusiness management, but they claim significant reach in the areas of, e.g., the importance of management, production cost analysis, manual and computerized management systems and others dealing with competitiveness. They find restrictions in the expansion of management and extension services due to budget and public problems. The significant scope they indicate refers to the fact that despite insufficient coverage there is progress when including other topics that supplement the productive aspects of technical farming assistance. Service Managers in Colombia also indicate the importance of management centers and the need for extension services to be centered here, especially in regard to non-traditional topics in competitive agriculture.

SAGRAPA managers believe that the extension model implemented in Mexico does not consider an integral approach in the management of household production units (farm management) because it has traditionally concentrated on productivity. They also recognize that this is not changed due to limitations on the part of extension agents, which stem from their university professional training.

In the opinion of MAGDER, Bolivia, the main problem of technical assistance and extension services is the applicability of a traditional, fragmented and inefficient distribution system in the physical flow of products. This generates major handling losses and significant sanitary problems; the existence of farming production scattered in thousands of units throughout Bolivia makes stock collection difficult; the lack of adequate storage structure indicates another problem that affects the efficiency of extension technicians. This has led MAGDER to privilege the promotion of stable producer organizations, foster the supply of support services aimed at production and trade, and establish a training fund to "learn by doing" and to expedite trade loans.

7.3 Extension agents' perspectives

In Colombia, extension agents see their role in management and farming programs as assessors, facilitators, counselors, dynamizers and companions in the process, but see themselves less as teachers, technology transferors, coordinators or administrators of the program. This acknowledges the technical diversity of specialty topics required today for commercial agriculture and the aspects of rural life that by far exceed farming production problems.

Mexican extension agents admit their mission is biased toward productive aspects, but they explain this is based on the design of extension programs imposed by official institutions or financing sources. Mexicans think that producers hope to obtain answers to production problems and help in processing certain government services, rather than an attention to their productive-commercial problem, since traditionally extension services have only centered on productive aspects. There is concern about incorporating components such as trade and integral attention to the production unit and they believe extension agents are sufficiently prepared to include these services to producers in their usual activities.

Extension instances in Peru have various aspects that need to be improved in their performance, such as the availability of market plans for services they offer, overcoming the work-team's limitations (vehicles, computers, etc.) and access to information sources. Unlike Mexicans, they feel the need to reinforce training teams with specialized training and professionals from other disciplines that contribute to assemble integral service.

8. CONCLUSIONS AND RECOMMENDATIONS

The synthesis of the country analysis presented in this paper provides ample information on different aspects and characteristics of assistance in agribusiness management and administration through extension services in various locations. However, since specialized assistance is divulged through extension services, it is very difficult to separate both concepts, which would be by all means superficial. Consequently, the most relevant points on which to conclude and make recommendations are considered jointly for extension services and technical assistance in farm and agribusiness management.

With this premise in mind the most relevant aspects are as follows:

- It is necessary to acknowledge the rural sector's heterogeneity, from the structural characteristic that influences the process of institutionalizing services for the rural sector, including non-financial services. Although the dichotomy classification is useful to simplify the understanding of the sector, it is very important to broaden this concept to specify what is understood by each sector and what this generalization implies or, on the contrary, choose a typification that allows more refined management of

the sector's heterogeneity in Latin America. The final objective in refining this concept is to offer a differentiated service design, according to each sector's main characteristics.

TECHNICAL ASSISTANCE PROJECT FOR SMALL PRODUCERS, PROSAT

This project indicates that in areas and with producers that have not received much technical assistance in the past, demand tendencies center on several aspects in the productive system, with no identification of a particular interest. There is no direction toward any type of market, only to an improvement of the productive process and its commercialization. Among the poorest peasants that this project serves, attention is placed on migration, which hinders, in all cases, the identification of improvement demands on the part of the property's productive staff.

On the contrary, in the case of producers that are more defined in terms of production specialty (seed producers, livestock fattening, dairy producers, handcraft, etc.), the demand for technical assistance tends to follow their specialty, oriented mainly to the "more refined" stages of the productive process (e.g.: cleaning of nematodes for potato seed production, selection of animals according to fattening process type, innovation and diversification of handcraft design, etc.) and the specific aspects of post-production and/or commercialization.

There are also cases in which peasants have changed their main production or place emphasis in some sectors as a reaction to market signals. In these cases, they are clear about the innovation they want to introduce to improve production and connection to commercialization channels, which enables them to present specific service demands.

This means that it is not possible to identify relatively homogenous interests even in one area, municipality or community in Bolivia, since one of the basic topics is precisely peasant specialization and the different social, economic and cultural rationales in which production is immersed. Therefore, to think of one national system to serve all demands is practically impossible. In this framework it is essential to start by accepting that Bolivia has a majority of peasants and indigenous organizations that are far from facing the challenges posed by globalization and market opening, in the sense that their daily challenges are much more local, basically linked to daily survival and included in a complex life strategy scheme, which contemplates migration as a very important element and involves different members of the family and community organization.

CLAUDIA RANABOLDO, Technical Assistance Service and Training Analysis on Farm Management. Bolivia Case.
February 2002.

- It is also necessary to clearly distinguish between a productive approach and a rural approach to services, especially in terms of empirical conditions in agricultural business management. The livelihood of an important proportion of producers in Latin America has more income generating components than agricultural production. It is very important also to recognize that most producers that do not work exclusively in

agricultural production belong to the strata with the greatest need of attention and greatest risk of falling into poverty levels.

- Therefore, technical assistance for agribusiness management needs to consider the components of producers' livelihood and establish criteria to achieve competitiveness. These two concepts are not necessarily the same for small producers and for those who compete with a purely commercial agriculture. This means, for example, that producers that practice agriculture as a way of life may require competitiveness levels in their agricultural activity as a whole and not necessarily in each production good, as commercial or specialized producers traditionally want. In this line of thought, the production management criteria require a different commercialization approach in each case and a primary production process, also different to those required by purely commercial producers. The small rural producer differentiation and condition must be incorporated in the management assistance design and therefore in the chosen extension model, if this is the means through which production management assistance is to be delivered.

- As a consequence of the above, and given the micro and macro conditions in which agriculture competes, it is essential for extension and management assistance services to take into account the real needs of producers in order to provide a productive economic response to domestic and international market competitive conditions. As discussed above, this implies re-thinking technical capacities and extension approaches to include disciplines and work tools to assist producers. The relative loss of importance of productive aspects vis-à-vis the other competitiveness aspects, must necessarily be reflected on technical assistance, training materials, and associative or individual attention plans. This also refers to the need to re-thinking profiles and training of extension agents and program managers to incorporate agriculture real demands.

- Both the heterogeneity considerations and the application of competitiveness concepts require agile, yet efficient and effective work mechanisms in agribusiness assistance. Even if not considered in the country analysis that generated this abstract, it is pertinent to propose the alternative to organize extension by project instead of by program as done in most countries. This would be a way to tackle differentiation and complexity introduced by heterogeneity. Working by project enables the use of specific designs applied to each type of producer and his local context in which agribusiness management assistance takes place. This project and context specification are achieved through open participation of producers, not only to determine their needs but also to qualify the assistance, to make it consistent with the permanent change in agro-economic dynamics. Of course this can lead to change of extension agent and technical assistant profiles, and also the composition of work teams

and the way in which project needs are met. Most probably, traditional and periodic visits as well as systematic training will be modified by introducing different criteria such as long term action plans, goal achievement programs in a determined time period, value aggregate schemes in a specific period. Training for producers and their families, promoters of associative enterprises, and agribusiness managers will become very important work strategies, and relatively easy to put in practice, if actions are organized by project.

- As a complement to the above, there exist the need to incorporate the experience accumulated by other civil society organizations and the private sector, such as NGOs, consultants or technical assistants. Opening up to the participation of different actors in extension projects can become the format through which the experience, methodology and knowledge can be captured.

- In this sense, participation of the different types of Rural Organizations has been decisive in several of the analyzed models. This is a fact that is reiterated in recent literature and becomes an essential element in the extent that programs place greater emphasis in determining real demands and evaluation of results by direct users. The definition of topics, contents, priorities and problems to be solved could hardly be appropriately defined without the participation of direct actors. Likewise, any privatization scheme affecting assistance and training requires a resolute, direct and permanent participation of direct users and, for evident reasons, their organizations.

- Once the real problems affecting agriculture have been incorporated, it would be convenient to consider if current Management Centers can be transformed into functional information centers, providing producers information and the capacity to understand highly dynamic topics beyond productive issues. An example could be the availability of local and regional information on finance sources, specialized services, domestic and international market quality, regulations and standards, etc. This information service could be managed through a geographic information system, which could include information on production infrastructure services and management techniques that enable farmers to become competitive.

- A direct consequence of the above is the need to develop public and private training programs to form a new type of extension agent to carry out specific technical duties required by current agricultural production. The purpose of this is to understand causes, aspects, processes and variables that affect competition in national and international markets. It is important to design these programs for public and private institution agents in order to develop a human resource-training plan in agribusiness

management in Latin America rural sector. As corollary, training and the generation of applied knowledge for organized and individual producers represent another one more need. Particular components or experiences of the extensions projects can de systematized to generate knowledge and reach relevant generalization levels in the mid-term to help producers to achieve competitive production systems.

The former general conclusions most be understood within the limitations and characteristics imposed by the major types or models of agricultural extension discussed in this paper. This is particularly important for a technical cooperation agency like FAO, which has an ample contribution to make to governments and specialized agencies dealing with farm and agribusiness management. The greatest contribution that FAO can make probably lies in the institutionalization of a new assistance and training approach vis-à-vis the problems and competitiveness that agriculture faces today. The updating of assistance program content and capacity to respond to producer needs is certainly a basic principle in achieving an efficient and effective assistance for rural producers.

The permanent participation of private agents –including NGOs, universities, rural organizations and research corporations- facilitates technical cooperation to help design extension projects in which, management skills play a determinant roll. For an agency like FAO, the introduction of modern farm management as a major component of rural technical assistance should be very challenging. This implies to develop the means within government and private technical assistance agencies to help small and medium-size producers to reach capacity to compete in agricultural product and service markets.

It is clear that there are many alternatives to promote the institutionalization a new approach. Even when the selected way of doing this offers and includes relatively well known actions, it would seem reasonable to establish some basic criteria, such as: a) permanent an growing links to the private sector (rural organizations, producer unions, agro-processors, market agents, financial institutions, etc.) which are important actors in the production-commercialization of goods and services; b) technical cooperation with official institutions that actually participate in the rural sector's economy and in market economy, beyond those that specialize in agriculture only; c) close link with public and private training and formal education institutions including those that work directly with producer organizations. The purpose of this is to ensure contents, materials and methods needed to update programs according to producers' real needs; d) link with certain applied research institutions to carry out joint follow-up, evaluation, and systematization activities and, e) test alternatives to create a technical feedback flow to allow tuning-up processes and to re-thinking procedures as much as results on technical assistance and training efficiency and effectiveness become known.

The implementation of the former criteria into public and institutional policy may result in a formidable task. Quality standards, applied cost-effective working methods and, broad negotiating capacity must be developed and institutionalized at several levels within the organic system from which the extension services and technical assistance depend.

Nevertheless, a number of circumstances should be taken into account when designing technical cooperation programs. The first issue to recognize is that in a number of Latin American countries the use of outsourcing mechanisms is likely to continue. Several government policies seek to reduce state size and to involve the private sector in the development of agricultural sector. This condition places particular characteristics for technical cooperation, given the great number of independent agents that participate in the provision of technical assistance to farmers. Policies to assist rural producers in managerial procedures and organize the system by projects are not enough to ensure effectiveness under outsourcing schemes. Training and enhancing the capacity in private firms and third sector institutions to develop particular managerial plans to be implemented by agribusiness in the long run are required. The construction of applicable training guidelines and, perhaps, a network of successful examples should be identified in order to have real and replicable cases that may be used for both training and demonstration purposes.

Likewise, there are several countries in LAC that seem to preserve a more direct state participation in the agricultural development process. Technical assistance is seen in those countries as one of the state services that the Ministry of Agriculture should provide. This decision usually determines a more vertical organization and state institutions not very permeable to decentralization and participatory schemes. Technical cooperation for programs with these characteristics may be more direct, yet not simple to be implemented. Management capacity in centralized extension systems is not a usual characteristic. Because this scheme is quite traditional, extension policy and development agents may need strong input from technical cooperation agencies in order to update the understanding of modern agricultural competition. Basic training in management concepts as well as in-service case analyses may be required to establish common bases to implement a rural business management assistance program. A strong need for institutional modernization can be anticipated as one of the major efforts of any technical cooperation agency.

Furthermore, the continuum between producers who practice agriculture as a way of living and those who are small agricultural entrepreneurs will influence the design of technical cooperation programs. Differences in approaching competitiveness and diversity in the market integration sign management plans that are required by different types of production units. Of course, the recognition of these differences and the capacity to respond to all this producer's demands are part of the technical cooperation that must be provided to technical assistance agents and the institutions for which the work.

The roll of technical cooperation to construct information centers could be crucial. Technical expertise and experiences from different countries in the world are of particular help when designing these service centers. Several information systems and information collecting strategies are to be set together in the implementation phase of these centers. International experts may have a fertile roll to play in training national technicians and bringing experiences that have proven success in different environments. Information platforms, novel software and local-oriented information collection must be successfully assembled to make those information centers work. FAO technical assistance would make a difference to accomplish this task.