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PERFORMANCE OF AGRICULTURAL EXTENSION SERVICES IN MEXICO: CASE STUDY IN NAYARIT STATE

By

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ABSTRACT

PERFORMANCE OF AGRICULTURAL EXTENSION SERVICES IN MEXICO: CASE STUDY IN NAYARIT STATE

By

Elizabeth Landa Franco

In 2001 the presence of a new Federal Government in Mexico resulted in several changes in the rural policy. One of the programs that suffered more changes was the extension services. This study assesses the new strategy implemented that seeks through the implementations of income-generation projects promote the rural development. This is an exploratory study intended to draw conclusions that serve to assist stakeholders and decision makers to improve the program.

This study was conducted during Dec 2001-Feb 2002 in Nayarit State in Mexico. Data were collected from extension advisers, farmers' organizations and key administrators of the program. Findings showed that the new strategy adopted in 2001 compared with the 1996-200 extension model, brought about improvements in aspects such as the extension advisers' training and in the activities implemented by the extension advisers.

However, there are still some deficiencies related to the operation and monitoring of the program that limit the program outcomes. Thus, in order to improve the quality of the services delivered it should be promoted the participation of the beneficiaries in the program as well as the implementation of some changes in the institutional structure in charge of the operation of the program.

To my mother:

for her guidance, support and love

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

The history of economic development shows that few countries have achieved sustained economic growth without first or simultaneously, developing their agricultural sector. In most developing countries, agriculture is the most important economic activity providing income, employment, and foreign exchange. Without an efficient agricultural sector, a country is severely constrained in its ability to feed itself or import foreign products for domestic consumption and development (Evenson and Feder, 1991).

In a world undergoing structural adjustment and market liberalization, the dominant public organizations serving agriculture (research, extension, credit) are being challenged to look for less costly and more pluralistic systems than can be privatized or served by nongovernmental organizations. In light of this rapidly changing global economic environment, one of the most important policy initiatives that is needed in extension is to shift the primary focus of power and responsibility for extension to the clients, this is 'put the farmers first'. There is abundant evidence that the 'normal' incentive system facing government employees, even under the most enlightened circumstances, puts a premium on not making a mistake and on length of service but not necessarily on service to clients, particularly small farmers. However, some studies have found that the most important determinant of extension success is the strength of farmer organization (Antholt, 1998).

The opposite side of the accountability coin is to expect the beneficiaries of extension to be responsible for some of the support, even if it is only a proportion of the total cost. This is important for three reasons. First, it gives the beneficiaries ownership and drawing rights on the services. Second, it takes some of the financial pressure off the central government and, therefore, gets at the issue of financial sustainability. Lastly, if ownership and responsibility rest with clients, the basis for more demand-driven, responsive service is established.

The exact nature of the accountability and responsibility relationships have varied among different countries such as Zimbabwe, China, Chile, among others, that have tried different arrangements to achieve it (Antholt, 1998). Mexico has now the opportunity to make changes to its agricultural services in order to assure that agricultural services are available, adequate, relevant and responsive to the farmers' needs.

Background

Agricultural services in Mexico have a recent history, beginning in the 1940s. During this time three different stages can be identified:

1. Before the 1980s. By 1960, the importance of technological change in agriculture was beginning to be recognized. The establishment of the International Maize and Wheat Improvement Center in Mexico (CIMMYT) led to the development of high-yielding varieties that were responsible for the increases of production between 1960 and 1970. The success of the Green Revolution was attributed to the short, fertilizer-responsive maize and wheat varieties, to irrigation and to improvement in national institutions and an

increase in the number of trained agriculturalists (Mellor, 1998). The high-yield varieties were made available along with technical assistance and support for basic agricultural institutions. Thus, during this time there were nearly 20,000 extension workers hired by the federal government working in the field (Altamirano, 1999).

2. Between 1980-1995. The debt crisis in 1982 triggered a wave of policy reforms under the umbrella of a structural adjustment program. This program has two phases (Staatz and Eicher, 1998). The stabilization phase attempted to reestablish macroeconomic balance by reducing government budget deficits (by cutting governments spending and increasing revenues) and lowering balance-of-payments deficit (typically via currency devaluation and export promotion). It was the first phase of this program –cut in the government budget- that resulted in a reduction of the governmental structure in such away that the extension services nearly disappeared between 1988-1995.
3. After 1996. As a result of storage of national grain supply due to the high international prices of food commodities, the decrease of the production in the winter 1995-1996 by 19 million of tons, among some other factors the federal government decided to implement extension services anew. Thus, in 1996 an extension program was implemented. Its objectives were:

   - Promote the technological change and to increase the agricultural production through technical assistance,
   - Spread technologies validated by research institutions,
   - Encourage farmers' organization and
   - Increase farmer's income.

The main characteristic of most of all programs implemented in Mexico, both those implemented before the 1980s as the last one, is that they were designed with an innovation-centered approach since their primary function was in terms of technology transfer from 'outside' to the farm. The specific objective was to widespread technologies and to increase the productivity. The inherent problem that undermines this approach is its insufficient appreciation of the farmers' circumstances. Rather than starting from the farmers' conditions, and daily-faced constraints, it starts from ready-made and outside packaged innovations, to be grafted onto the socio-economic context of a farm which may not be capable of absorbing them (Rivera, 1997).

The main processes of the 1996-2000 extension program were:

a) Each year a written agreement was signed between the Federal Government (FD) and each of thirty-two State Governments (SG). In this agreement program's goals were specified. The Federal Government contributed 70% of the operational cost of the program and the State Government provided a 30% match.

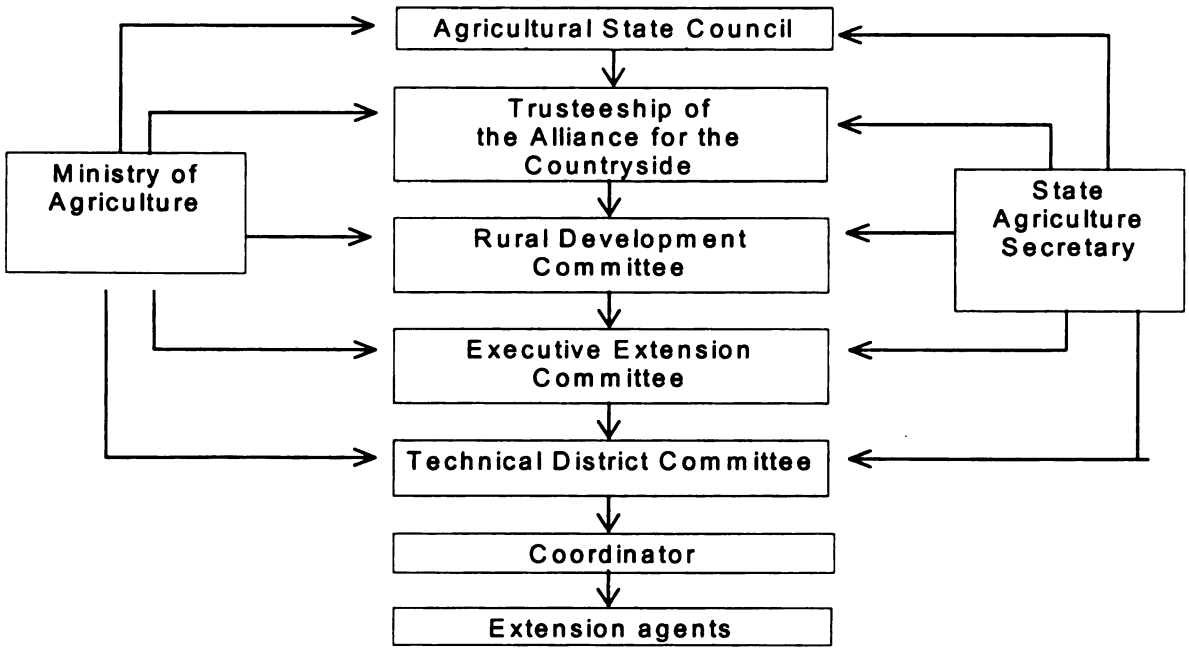
b) Extension workers and coordinators were hired for six to twelve months and trained by the National Institute of Agricultural Training (INCA Rural in Spanish).

c) Extension workers received economic support to establish demonstrative plots, to carry out field tours of technological exchange and to encourage farmers' organization.

d) The target population was groups of 80 to 120 farmers whose total production area was 500 to 600 hectares.

e) Specific institutional arrangements were established for the program operation, these are shown in the Figure 1.

Figure 1 Institutional arrangements of extension model 1996-2000



The responsibilities of each of these institutions are described in detail in Chapter 2.

One of the main characteristics of the last program was the evaluation process included in its design and implementation. Thus, 30 states and one national evaluation were carried out each year. Different research institutions and universities conducted these evaluations.

After five years of operation of this program, the evaluation studies showed that the results attained were important but scattered and heterogeneous. Extension activities had little influence on the evolution of patterns of awareness and adoption of recommendations and, therefore, limited potential for impact. In terms of the impact on agricultural production and efficiency, the results indicated a small but positive impact of extension services

on technical efficiency but had not effect on overall economic efficiency (Muñoz, 1999; Muñoz, 2000; Santoyo 2001).

The main program weaknesses identified by the evaluations were:

a) Extension agents' training was focused only in technical aspects. The fact of including only technical aspects in the training program contributed to keeping the focus of the extension service on simple and basic agronomic messages (Muñoz, 1999).

b) Unclear definition of extension agents' activities. The extension workers centered their work on farm visits to deliver technical messages. However, it had not established a standard about the quality and quantity of these visits, which resulted in an infrequent and ineffective provision of visits. Likewise, due to the lack of economic support, the demonstration plots and field tours of technology, included among their activities, were rarely carried out (Muñoz, 2000).

c) Extension agents' worked only 6-8 months. Extension agents were contracted to deliver extension services for a specific period of time, usually six to eight months. After this, they had to look for a different work for the rest four months in the years, limiting with this the permanence of the extension agent in the community (Muñoz, 2000).

d) Lack of mechanisms to advise, monitor and measure the extension agents' performance. Even though the extension agents delivered weekly and fortnightly different reports specially designed to monitor their work,

an information system was nonexistent and it was impossible to monitor their work through these reports.

Likewise, with the information available about the extensionists' activities, it was impossible to establish the impact of the supply of extension services on productivity at the farm level, and measure the extension agents' performance (Muñoz, 2000)

e) Inefficiencies in the work carried out by the organizational structure established for the operation of the program. Management of the program was weak. The institutional arrangements limited the timely flows of appropriate and reliable information to provide regular feedback from beneficiaries on service content.

The Executive Extension Committee in charge of monitoring the program limited its work to the follow up of the weekly and fortnightly reports delivered by the extensionists, even though these reports did not reflect the real work conducted by the extension agents in the field (Muñoz, 2000),

In 2001, a new team of agricultural policy makers analyzed the outputs of the last extension program and concluded that the important constraints faced by the farmers, such as a deficient integration to the market, lack of knowledge to adequately manage the farm, and lack of an agricultural project made it difficult to reach the competitiveness on base of the technological efficiency through the classical model of extension, this is, transferring knowledge from the research institutions to farmers (Santoyo, 2001).

Thus, in April 2001 a new strategy to deliver agricultural services was proposed. Its main objective was to promote the rural development encouraging farmers' organization and empowering rural people to make decisions to develop and implement income-generation projects. This means that the extension agents had not only the responsibility of transferring technological knowledge to growers to improve their productivity, but they should also have the capacity to integrate all aspects of the economic chain (production, transformation and commercialization) and identify a income-generation project through which add value to agricultural production.

Since the extension personnel have tasks beyond to the conventional extension concept, under this new strategy, the extension agents are called Extension advisers (EA).

The new strategy works with the same institutional structure of the 1996-2000 program. However, there were implemented some changes in the processes intended to correct the deficiencies of the former program. These were:

a) The core of the training program for the Extension advisers is the identification and evaluation of income-generation projects. The INCA-Rural had the responsibility to certify the quality of the training, which would be facilitated by institutions with experience in the subject.

b) The Extension advisers and coordinators should present before September 30th 2001, an individual income-generation project for their farmers' group or community which will be implemented within the next two years.

c) Establishment of an information system at a national level. Through this information system, it would be possible to access a database of each one of the Extension advisers. This system would be developed at two levels. The

first level would include general information about advisers including their annual record of activities. The second level will include information about farmers' needs assessment, working plan, reports of activities and the income-generation project.

d) The institutional arrangement for the program's operation is the same as shown in Figure 1, which will be described with more detail in Chapter 2. The main change is that the Executive Extension Committee has now the responsibility of establishing standards for measuring the quality of the services delivered to the farmers.

The long run objective of this strategy is to make the services more demand-driven and responsive to farmers' needs. The program is designed in such a way that the position of Extension advisers in the program will be conditioned to the delivering of specific 'products'. These products are: the farmers' group or community needs assessment, the income-generation project, implementation and consolidation of the project.

Purpose of the study

Recognizing the importance of the implementation of this new agricultural strategy, which was the result from the analysis of the 1996-2000 extension program outputs, the purpose of this study is to assess the new strategy proposed by the Federal Government in Mexico in 2001.

Since this is the first year of operation, it will be carried out as a base line study for Nayarit State that will seek to describe the initial situation of the farmers' economic organizations (FEO) beneficiaries of the program in terms of their social and economic characteristics. This base line evaluation will allow

assessing the impact of the program after two or three years once the projects identified are working.

This study is intended to provide information for the federal government, program administrators and different stakeholders who are interested in being provided with feedback about the program implementation. This study will also provide information intended to improve the program.

Research questions

Question 1. What is the profile of extension advisers and what is their perception about the training program?

Question 2. What kinds of income-generation projects did the Extension advisers identify?

Question 3. What is the level of involvement of the beneficiaries or members of farmers' organizations in the projects development and implementation?

Question 4. What is the current mechanism to advise and monitor the extension advisers' work?

Question 5. What is the extension advisers' perception about the new strategy?

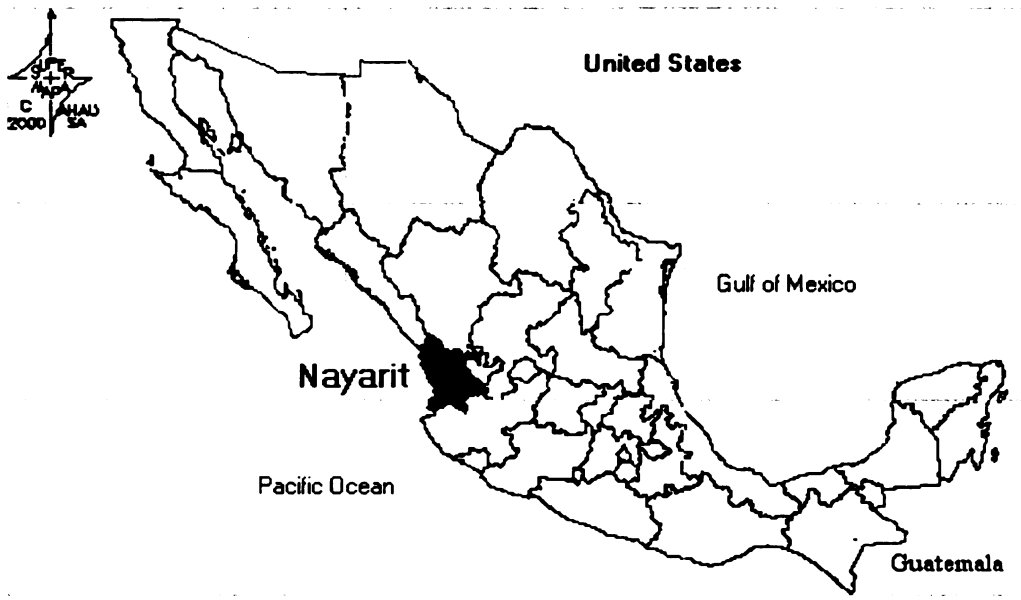
Scope of the study

Because of the difficulty implied to realize a study undertaken on a national level, the study was carried out only in one state of the country, in Nayarit state. Nayarit is an agricultural state, 19% of the total area is dedicated to agricultural production and it ranks number six at the national level in production of beans and sorghum. The agriculture activity contributes nearly 20% of the

gross state product (INEGI, 2001). Although it is a small state (1.4% of the national area), it presents some conditions that allow conducting a good case study, such as willingness of the program administrator in the state to support and participate in the data collection as well as interest in the results of this study.

Nayarit is located between the 20º 37`30" and 23º 00`30" north latitude and 103º 58`04"and 105º 45`06" west longitude (Figure 2).

Figure 2 Location of Nayarit State



Limitations of the study

One of the main characteristics of the case study is that the results and information obtained are valid only for the area under study. Thus, although the program is being implemented in 32 states of the country, and in some of them the conditions and situation could be similar to those present in Nayarit state, the results of this study absolutely could not be generalized to the rest of the country.

Some of the results of this study are intended to serve different stakeholders, mainly the people in charge of the program, who could make the changes needed to improve the program, though always taking into account the specific conditions under which the program was implemented in Nayarit state.

In the same way, because the characteristics of the farmers' organizations are so different throughout the country, the base line evaluation just could be used for future impact evaluations in Nayarit state, and not like a reference of the current conditions of the farmers' organizations at national level.

Definition of terms

Base line study: A description of a situation prior to implementation of an activity. Base line studies are used to measure results and accomplishments and to serve as reference points for ex-post evaluation (Horton, 1993).

Beneficiaries: People, households, organizations, communities, or other units that are affected positively by (or benefited from) a research program or activity.

Evaluation. The periodic assessment of a projects' relevance, performance, efficiency, and impact (both expected and unexpected) in relation to stated objectives.

Professional adviser. Practitioner with wide socio-economic, technological and ecological knowledge who assists the active participation of growers, institutions and NGO's with the purpose of improve the production, productivity and quality of life of the rural population.

Stakeholders. People who are affected by any program or activity. The stakeholders of an extension program include farmers, extension agents, administrators, and government, among others.

Income-generation project: Set of actions or activities addressed to need satisfaction or to the solution of a specific problem faced by a group of people.

Abbreviations

SG. State Government

FD. Federal Government

VEE. Executive Extension Committee

PA: Professional Adviser

INCA-Rural. National Institute of Rural Training

FO. Farmers' Organizations

CHAPTER 2

REVIEW OF RELATED LITERATURE

This study is an assessment of a new strategy to deliver agricultural services in Mexico, the processes implemented and some of its first results. The theoretical foundation for this study emerged from a review of literature on program planning and extension systems, program evaluation and comprehensive evaluation approach. It was also a review of literature related to training evaluation and the use of indicators in evaluation.

Program planning and extension systems

According with Boone et al.(1994) the major outcomes sought through planned extension programs are to effect the needed changes in the overt and covert behaviors of targeted populations that will empower them to cope with and bring to an acceptable and successful resolution to the issue, need or problem with which they are now, or will be confronted.

An ideal and operational concept of a program includes (1) a definition of a major program or need that is a critical concern to a targeted population and to significant other stakeholders who are affected or have a keen interest in the problem or need; (2) clearly focused objectives; (3) carefully selected change strategies or interventions that are linked to the objectives and that will assure learners' achievement of the behaviors defined in the objectives; and (4) a concise identification or description of expected outcomes (i.e. results, impact) that should be attained as a result of the plan and its successful implementation.

Continuous diagnosis, study and reflection on those program components and possible other alternatives that might be pursued to obtain maximum impact are extremely important. Data obtained from ongoing and well-planned evaluation studies are critical to the decisions and choices made with regard with these four components of the planned program.

Thus, armed with accurate and objective data about the problem that has been defined, validated, and legitimized; knowing who constitutes the target population with regard to the problem; and possessing accurate information that is based on how informed the target population is about the scope and nature of the problem, the next step is to design a program to help the target population acquire the knowledge, skills, understanding of, and commitment to taking the actions needed to correct the problem.

Historical overview of extension services in Mexico

The extension services in Mexico have a recent history, initiating at the beginning of 1940. At the end of that decade, there were only 49 extension agents in the country, in 1954 the number increased to 230 and eight years later, there were 258 agents (Altamirano, 1999).

It was not until the beginning of 1970 when the Extension Office within the Ministry of Agriculture was established and 1,500 extension agents were hired. Years later, the Extension Office disappeared and the extension services were transferred to the National Institute of Agriculture and Research (INIFAP).

Between 1970 and 1990, the Federal Government in Mexico designed and implemented at least ten different programs intended to create an

institutional structure to deliver technical agricultural services. However, since most of these programs worked only for short periods of time (six or fewer years), they did not contribute to creating the desired structure, even though by 1985 there were nearly 20, 000 extension agents working in the field (Altamirano, 1999).

Some of the failures of these programs that reduced their effectiveness of transferring the knowledge and technology to the farmers were:

- The low number of extension agents compared to the number of farmers,
- The concentration of efforts in irrigated areas and commercial farmers leaving no attention to seasonal regions and small farmers,
- The lack of preparation and training of the extension agents to meet the farmers' needs,
- The low wages for the extension staff,
- The lack of linkages between research and extension, and
- The low rate of adoption of technology by farmers.

By 1982 Mexico initiated a structural adjustment process which resulted in the reduction of its governmental structure in such away that during 1988 the public extension services nearly disappeared. At this time, the strategy followed consisted of stimulating the private sector to provide the technical services. The strategy promoted the creation of private offices supported with public financial resources and in some cases the hiring of extension services obligatory to farmers with agricultural credits (Altamirano, 1999).

For the creation of these offices, the governmental institutions developed a program in which the cost of the technical assistance was partially reimbursed to farmers. The support was decreased 20% each year, initiating with 80%, after

five years the farmers should be able to cover totally the cost of the service. Unfortunately, this strategy did not work, mainly because the farmers did not want to cover the cost of the service after the third year, when they had to pay 60% of the cost of the service (Altamirano, 1999).

One of the first programs developed under this philosophy was the System of Integral Technical Assistance (SATI in Spanish). This program was initiated in 1982. The central idea of this program was to offer services of extension to all those individual and organized producers that received credits from a commercial bank. The cost of these services was covered under a scheme of providing decreasing amounts during a period of up to five years. As the reimbursement diminished, it was assumed that the producers would contribute with a proportion greater every time, until covering 100% of the costs with their own resources (Muñoz, 2000).

This system of subsidies or decreasing reimbursements was emulated in other governmental extension programs such as the Program of Regional Stimulus (PER in Spanish), High-yield Maize Program (PROMAP in Spanish), and the Low Income Producers Program (PROBISCI in Spanish), among others. In the case of PER and PROMAP, an additional component was included in order to induce the adoption of technology by the farmers. This consisted of granting an economic stimulus to those producers who obtained a yield superior to a regional average. In the PROBISCI, unlike the rest of the programs, no governmental institution participated in its operation because it was a

nongovernmental organization which had the responsibility of contracting, supervising and evaluating the extension advisers' performance (Muñoz, 2000)

In 1996, in order to overcome the adverse effects of a possible grain shortage that was anticipated by 1996 as the result of a strong drought that affected the country in 1995 and a fall in the international grain reserves, the Federal Government implemented public extension services again, the Basic Agricultural Technical Assistance Program (PEAT in Spanish). This program was part of the Alliance for the Countryside, the agricultural policy implemented in 1996. The program objectives were to increase the agricultural production by spreading technologies developed by research institutions, increase the farmers' income and to encourage the development of farmers' organization.

In this program the Federal and State Governments disbursed resources in way of subsidies to able farmers to cover the payment of the technical services. This program tried to facilitate the transition from a deprived public service to one of a demand-driven private service and it was assumed that farmers could contribute to revalue the extension services.

Rural Policy in Mexico: The Alliance for the Countryside

Alliance for the Countryside is the policy basis of the Federal Government of Mexico to promote agricultural and rural development. The program was initiated in 1996 with the combined efforts of farmers, State and Federal government and other organizations involved in the agricultural development in Mexico (Suvedi, 2000).

It is a Federal Government strategy, in the frame of a process of decentralization, that grants federal resources, functions and programs to the State governments, fortifying the decentralization and giving more attributions in the decision making process to the state, municipality, farmers and their organizations.

Under this initiative, all States sign a technical agreement with the Federal Government each year, committing funds to support rural and agricultural development programs identified by the Alliance. Each State decides which programs of the Alliance it would like to invest in, based on its own needs and priorities. It is called the Alliance because the funds to support these programs come from a partnership of the Federal Government, State Government and farmers. The ultimate goal of this Alliance is empower to the State Government to make investments in areas of their needs and priorities (Suvedi, 2000).

The alliance for the Countryside is based on a public policy intended to bring about structural changes to address the needs for agricultural development. It was designed to address the problems facing agricultural producers including low productivity and low level of technology adopted by the farmers (Suvedi, 2000).

The objectives of the Alliance for the Countryside as stated in the National Development Program (1996-2000) are the following:

- To increase farmers' income
- To achieve an agricultural production growth rate higher than the population growth rate.
- To improve the balance of trade

- To support the overall development of rural communities.

The Alliance delivers its services through four generic programs: agricultural improvement, livestock improvement, rural development and sanitation. Under each State Agricultural Committee, there is one sub-committee to represent these four generic programs. An individual farmer or a group of farmers may apply for the funds by submitting an application to the State Agricultural Committee. An appropriate sub-committee reviews the applications and the recommendations are forwarded to the State Agricultural Committee who makes the final funding decision. The funding is provided on a demand-driven and first-come first-served basis (Suvedi, 2000).

The objective population identifies itself accurately. It establishes a maximum amount by beneficiary and a percentage of the total cost of the project, in order to assist the lower income population. Periodic mechanisms of supervision and internal evaluations of the process and impact are conducted each year (SAGARPA, 2002).

The decentralized operation of the Alliance for the Countryside, the co-participation of the beneficiaries by means of their economic contributions and the presence of other agents involved in the sector to integrate resources and to add capacities in common directions, previously established, has allowed the accomplishment of more profitable productive investments, and an efficient public resources allocation. The Alliance has six basic characteristics:

1) The Alliance operates in the frame of decentralized functions and resources arranged between the Federal Government and the State

governments. It means that the sources of the resources public are federal and state and that, even though the operation rules are defined federally, the operation is essentially state responsibility.

2) The Alliance demands the financial co-participation of the beneficiaries, since these must contribute complementary resources to the subsidies of the programs. Actually, it is the beneficiaries who must determine the yield of their investment, which increases the efficiency in the allocation of resources to the units of production. Additionally, in most of the programs, the beneficiaries themselves select the suppliers making the purchases and directly contract the services that they require, which exert their capacity of selection. At the same time, this promotes the creation of a competitive market of goods and services.

3) The Alliance is designed to take care of the demand of the beneficiaries. For that reason, participation in the program requires presenting an explicit request so that that the demand does not exhaust the existing resources for a program, the state institutions in charge of the program can make changes between programs and components that locally are judged necessary to respond to the demand of the producers.

4) The Alliance allows flexibility in its instrumentation. When operating through programs that at the national level, the diverse Farming State Councils can make decisions to determine the stratification of their producers and to grant differentiated supports, as well as to include

concepts in favor of a productive activity, of a region or a specific type of producers.

5) When demanding co-responsibility of the beneficiaries, when orienting themselves to the demand and operating by means of bipartite or tripartite devices, the Alliance reduces some risks on its operation that could distort its actions.

6) A sixth characteristic determines that the participation of the producers occurs in a organized rather than individual way through farmers' organizations. A special emphasis of the programs is placed on the producers with lower incomes. (SAGARPA, 2002).

The institutional arrangements to operate the new strategy

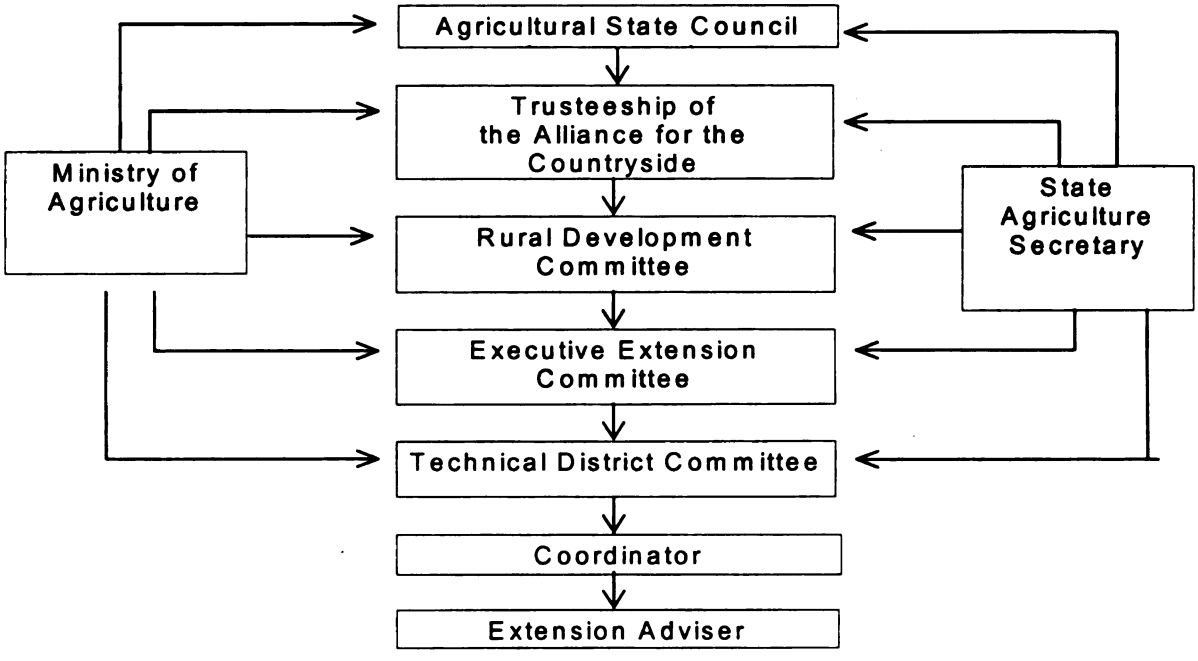
The objectives of the new strategy to deliver agricultural services in 2001 is promote the rural development encouraging farmers' organization and empowering rural people to make decisions to develop and implement income-generation projects.

The structure to operate this new strategy is the same established to operate the 1996-2000 extension program. The institutional structure is shown in Figure 3. Part of this structure is also used to operate the Alliance for the Countryside programs.

This structure resulted from the decentralization process that began in Mexico in order to delegate functions, responsibilities and resources to the states. Thus, each State had established the State Agricultural Council to oversee the management and operation of the Alliance for the Countryside

programs. The Council members come from various levels of state government and related agencies. The funds of the Alliance are managed through a Trusteeship that is managed by the State Agricultural Council. The Federal Government has established the procedures and guidelines for the management of the Trusteeship fund (Suvedi, 2000).

Figure 3 Institutional arrangements to the new strategy (2001)



In general terms it is the Ministry of agriculture at the federal level who is in charge of the program design, establishment of rules of operation and the evaluation of the program. On the other hand, at the state level there are two different institutions, the Rural Development Committee and the Executive Extension Committee that assume the operation of the program, to take responsibility of the administrative and financial functions, technical operation and decision-making (Muñoz, 2000).

The responsibilities of each of these institutions are to:

Ministry of agriculture

- Establish and publish the program's operation rules.
- Design the agreement that is signed between the Federal and State Government.
- Coordinate the program a national level.
- Monitore the program.

State Agriculture Secretary

- Head the Agriculture State Council.
- Handle the Trusteeship of the Alliance for the Countryside.
- Apply jointly with the Secretary of Agriculture the operation rules.
- Share responsibility with the Ministry of Agriculture in the promotion and diffusion of the program.

Rural Development Committee

- Approve the farmers' groups and authorize the extension advisers contracts.
- Negotiate with the Trusteeship the funds for the operation of the program.
- Approve the extension advisers' selection process and the training program.
- Authorize the payment to the extension advisers and coordinators.

Executive Extension Committee

- Establish the program's budget and activities' schedule.
- Support the integration of the farmers groups.
- Select the extension advisers and coordinators.
- Coordinate and verify jointly with the Technical District Committee the work of the extension advisers and coordinators.

Technical District Committee

- Support the coordinators and extension advisers in the integration of farmers' groups.
- Keep in contact with the extension advisers, coordinators and farmers.
- Validate the coordinators' work schedule.
- Validate jointly with the VEE and the coordinators the extension advisers' work schedule and approve their reports.

Coordinators

- Support the extension advisers in establishing the farmers' organizations.
- Support extension advisers in all the activities implemented with the farmers.
- Keep in contact with the extension advisers and farmers.

- Support extension advisers to develop and implement the income-generation projects identified by the farmer's organizations.
- Validate jointly with the Executive Extension Committee the extension advisers' work schedule and approve their reports.

Program evaluation defined

Horton, Peterson and Ballantyne (1993) defined evaluation as the judging, appraising, or determining worth, value, or quality of proposed, on-going, or completed activity, generally in terms of its relevance, effectiveness, efficiency and impact. Relevance refers to the appropriateness and importance of goals and objectives in relation to assessed needs. Effectiveness refers to the degree to which goals have been achieved. Efficiency refers to the cost-effectiveness of activities. And impact refers to the broad, long-terms effects of research or extension.

According with Rossi and Freeman (1982), evaluations are undertaken to (1) judge the worth of ongoing programs and to estimate the usefulness of attempts to improve them; (2) asses the utility of innovative programs and initiatives; (3) increase the effectiveness of program management and administration; and (4) meet various accountability requirements.

The major purpose of program evaluation is to assist in reaching decisions on future directions, design, and funding of programs. Decisions on whether programs should be terminated, curtailed, maintained, or expanded are aided by program evaluations. Such evaluations may also suggest reformulation of program objectives, delivery organization, educational methodology, and intended audiences (Bennett, 1976).

Organization, programs or activities are monitored or evaluated for many reasons: to check on progress, to assess productivity and results, to monitor resource utilization, and to decide on future support. Different methods may be used to assess the impacts, but in each case, the purpose is to provide managers, scientists, or those who sponsor the program with indicators of its benefits or negative effects. Assessment done when the program is being planned (ex-ante studies), or while it is still under way, can provide information to help decision-markers identify the most promising directions for future activities. Assessments done after programs are completed (ex-post studies) can extract lessons to improve the design of future programs. They also provide an indication of the magnitude of benefits (or problems) that have resulted from program activities (Horton et al., 1993).

After completion of a project, two types of ex-post evaluations may be done: final evaluation and impact evaluation. Impact evaluation defined by Bennett (1979) is assessment of a program's effectiveness in achieving its ultimate objectives or assessment of relative effectiveness of two or more programs in meeting common ultimate objectives. In a final evaluation, the emphasis should be on learning lessons to improve future programs (Gapasin, 1993), and may address the following issues:

a) The relevance of project objectives;
b) Whether objectives were attained;
c) The cost-effectiveness of the project;
d) The contribution of knowledge;
e) The outputs produced;
f) Adoption and use of new information and technologies;

g) Lessons learned;

h) Possible follow-up activities, including new programs.

Impact evaluation determines the long-term effects of research and the extent to which program results have contributed to broader development goals, such as increased farm production, food self-sufficiency, or natural resource conservation (Gapasin, 1993). Impact assessment in the broadest sense is evaluation of the effects of programs. Various kinds of effects can be assessed, including changes in yield, production, income, food security, social welfare, and the environment.

Various types of impact assessment can be done. An economic impact evaluation can estimate the rate of return on investments several years after the program has been completed. These evaluations can be usefully compared with earlier ex-ante evaluations, where objectives were set and expected outcomes were project during planning (Gapasin, 1993). The results of impact assessment can also be used to convince policy makers to allocate more resources to the program by demonstrating the benefits arising from it.

Comprehensive evaluation approach

Program evaluation begins with collecting and analyzing objective and valid information that leads to the conceptualization, the design and implementation of the planned program, and extends through assessment of the impact of the planned program. Thus, some authors elect to utilize the concept of "comprehensive evaluation" which is defined by Rossi and Freeman (1985) as "analysis covering the conceptualization and design of the planned programs [interventions]; the monitoring of program implementation; and the assessment of

program impact [utility]. Rossi and Freeman (1985) allege that the assessment of initial decisions in conceptualizing the planned program, as well as those decisions made in monitoring its implementation, are essential to any analytical and objective assessment and measurement of impact that can be connected and conclusively attributed to the planned program.

This approach to program evaluation (labeled as comprehensive evaluation) is consistent with Boone's proposition that evaluation is critical to every decision and choice made in the programming process. Simply stated, program evaluation to establish cause and effect cannot be construed as a separate process that occurs after the conceptualization, design and implementation of the program (Boone, Pettitt and Safrit, 1985).

Previous attempts to assess program impact as a result of planned (extension) programs have failed or yielded suspect evidence (impact) because of the following factors: (1) little attention was given to the importance and use of data obtained through systematic and rigorous evaluative inquiry in defining the problems of critical concern to the people that could be solved through planned educational programs (interventions); (2) few extensionists consciously used the problems defined, to study, analyze and map target population affected either directly or indirectly by the problem; (3) there is a tendency to not to identify and involve leaders or spokespersons of the target population, as well as other stakeholders, in refining, redefining and validating the problem, as well as obtaining their legitimation and support of programs that could lead to the resolution of the program; (4) further, for the most part, extensionists acting

alone, have conceptualized and designed planned program (interventions) for responding to problems; (5) most extensionists have given little or no thought to developing and implementing a system of systematic monitoring and evaluating program activities, while they are being implemented, to determine whether or not they are indeed reaching the target population and their relative effectiveness; and (6) the lack of a monitoring system has resulted in many extensionists proceeding with program activities that, in the end, were judged to have been useless in attaining the results sought through the planned program (Boone, Pettitt and Safrit, 1985).

Comprehensive program evaluation, as defined, performs a critical function in generating scientific data that extensionists can use in making informed decisions and choices throughout the planning, design and implementation, and evaluation and accountability sub-processes that are inextricably linked to constitute what is referred to as 'the programming process" in extension (Boone, Pettitt and Safrit, 1985).

Training Evaluation

According with Mabeza (1973) evaluation of training involves the systematic collection of information about a training activity, and its use for determining the accomplishments, relevance, effectiveness, and impact of the activity. Evaluation can focus on training needs, program design, content, delivery, outcomes, and impact on behavior and organizational performance.

What is training evaluation?

Training evaluation is a system, process of collecting and assessing information about a training activity, which can be used to judge its accomplishments, relevance, effectiveness and impact.

Any organization that conducts training as part of its human resource development needs to make key decisions on the design of its training activities, its training strategies, the delivery of training events, and the communication of its training programs (Mabeza, 1973). Training evaluation can be used to:

- Provide information on training needs
- Measure progress towards achieving training goals
- Assess the quality of training delivery, facilities, and materials
- Expose a training program's strengths and weaknesses
- Help to determine the impact of training (for example, changes in an individual's job behavior or in an organization performance)
- Meet routine accountability needs
- Provide information to justify continued or expanded support for training

Doing training evaluation

There are five stages in the training cycle at which evaluation can take place a) needs assessment before the event, b) during the training event, c) upon completion of training, d) after resumption of job-related activities, e) assessment of changes in organizational performance after the event (Mabeza, 1993).

Needs assessment. In reality, training objectives are often based on the mandate of the financing agency or on the interest of trainers, rather than on assessed needs. But ideally, training needs should always be carefully assessed before training activities are designed or implemented. This process begins with

identifying the strength and weaknesses of the organization, program or target group for which improvement through training is sought. After that has been done, then training objectives should be set –based on these identified needs.

Once a training activity has been delivered, it is useful to reassess needs. This can be done by going back to the drawing board, taking a fresh look at institutional needs, and comparing the conclusions to those outlined in the training prospectus. The results can then provide a basis for adjusting training goals and priorities.

The training event. There are two main feature of a training event that should be evaluated: content and delivery. Trainees can provide a feedback on training content through questionnaires and interviews. This is especially useful for evaluating the relevance of the content because trainees know their work environment and the constraints they face.

In evaluating the delivery of a training event, the important considerations are the trainees learning and level of satisfaction with trainers and facilities. One method for evaluating delivery is to use evaluation forms, which should be comprehensive but simple. Participants fill out the forms during the course or at the end, depending on the range of material covered and the length of the course.

Trainers may be given the opportunity to apply what they have learned by taking tests or working in projects or case studies during and after the course, which also provides an indicator of how much useful learning has occurred. Another way to evaluate delivery is by observation, where the evaluator sits in on

training sessions. However, this technique can make the presenters and the trainees nervous and can influence their behavior.

Completion of training. At the end of the training event, immediate outcomes may be evaluated. The focus at this stage is generally on learning criteria, which includes increased knowledge, acquired skills, and changed attitudes that can be attributed to the training. Pre -and post-tests are common approaches to this. The pre-test is given to trainees before the training begins, and the same or similar test is given at the end. The two tests are compared to assess changes in knowledge that occurred as a result of participation in the training event. Another approach is to administer a final questionnaire, followed by discussion and interviews with trainees. This can provide feedback on how participant feel about the training event –its relevance, the quality of materials, etc.- as well as their expectations about using what they have learned when they are back at work.

Resumption of Job-related activities. Here the goal is to assess the extent to which new knowledge, attitudes, and skills are being used in the job. Usually this type of evaluation is done six months to a year after the training event and seeks to respond to questions such as who uses the training? What parts of the training are being used? How is the training being used? When and where is the training being used?

Change in organizational performance. The ultimate impact of the training should be assessed in term of changes in organizational performance; however, this is difficult to measure because there are so many other factors that

affect organizational performance. There are several procedures that can be used to evaluate training impact –organizational audits, performance analysis, observation, organizational surveys, document reviews and hearings, and cost-benefit studies- but this all tends to be complicated and costly. Several of these procedures have been carried out in more developed countries to assess formal education, but few have been used to evaluate training programs in less-developed countries.

Indicators in evaluation

What are indicators?

According with Gallopin (1997) (cited by Suvedi et al., 2000), indicators are variables. A variable is an operational representation of an attribute (quality, characteristic, property) of a system. Indicators are observable phenomena that point toward the intended and/or actual condition of situations, programs, outcomes (Benett and Rockwell, 1994) (cited by Suvedi et al., 2000, and help gauge the performance of natural system as well as the human endeavors. Indicators can be used to measure the "health" of the economy or the environment, and monitor progress toward, or away from, stated goals, or point to a problem or condition. If there is a problem in moving away from a stated goal, an indicator can help determine what direction to take to solve the problem, or to get back on track to meet one's goal (Pomeroy, 1997) (cited by Suvedi et al., 2000), The most important feature of indicators compared to other forms of information is relevance to policy and decision-making.

Function and use of indicators

Gallopin specified the following major function of indicators (cited by Suvedi et al., 2000), to assess conditions and trends, to compare across places and situations, to assess conditions and trends in relation to goals and targets, to provide early warning information, and to anticipate future conditions and trends.

Indicators can be helpful to farmers, extensionists, researchers, professionals, as well as to policy makers. The Rural Industry Research and Development Corporation in Australia advanced the following reasons why indicators are important to farmers, but the same reasons can also be applied to the other groups (RIRDC, 1997) (cited by Suvedi et al., 2000):

a) Indicators can help people notice changes at an early stage and seek advice if required;

b) Profitability indicators can highlight strengths and weaknesses and show trends;

c) Land and water quality indicators can highlight natural resources issues which may be 'sleepers' and not obvious to the eye until they are well advanced and difficult to address;

d) Managerial self-auditing skills can assist individuals to appraise honestly their talents and to plan for professional development;

e) Off-site impact indicators can ensure that individual businesses do not contribute to problems for the wider community; and lastly

f) Indicators can be used as a tool to educate people in sustainable resource management issues.

Criteria for choosing indicators

In the area of agriculture, there are two sources with slightly different sets of indicator selection criteria. The Rural Industries Research and Development Corporation in Australia used the following criteria to judge the usefulness of a given indicator to measure progress in achieving a more sustainable agriculture in that country (cited by Suvedi et al., 2000). The indicators selected using these criteria were to be used at both the farm level and at the regional/national level.

a) It is measurable?
b) Is it relevant and easy to use?
c) Does it provide a representative picture?
d) Is it easy to interpret and does it show trends over the time?
e) Is it responsive to changes?
f) Does it have a reference to compare against so that users are able to assess the significance of its values?
g) Can it be measured at a reasonable cost, and can it be updated?

The second source is the Organization for Economic Cooperation and Development OECD) (cited by Suvedi et al., 2000) what is primarily concerned with policy and economics issues in the industrialized world. The indicator selection criteria used by the OECD are described as follows:

Policy relevance: The indicator should identify issues of importance to policy makers and which can be addressed (potentially) through policies. The indicators chosen should be flexible so as to incorporate new issues and abandon old ones.

Analytical soundness: This concerns the extent to which the indicator can establish links between agricultural activities and environmental [and social]

conditions. It should be possible for the indicator to explain a link between agriculture and environmental [social] issues which is easy to interpret and applicable to a wide set of farming systems. The indicator should also be able to show trends and ranges of value over the time.

Measurability: Appropriate data must be available [or obtainable] to measure the indicator. The indicator should be developed from established national or sub-national data, preferably using a time-series, where this is available, given the lengthy time period for many environmental effects to be become apparent. Moreover, the attributes measured for each indicator should also be sensitive to specific national or sub-national situations, as such attributes (for example, measurement of soil quality) will vary between and within countries [regions, states and counties].

Level of aggregation: The level of aggregation seeks to determine at which level the indicator can be meaningfully applied for policy purposes and not to conceal more than it reveals. The criterion highlights the issue of encapsulating the special and temporal diversity of the environment and the geographical scale. There is no unique way to address the aggregation issue for each indicator and it is most effectively tackled pragmatically, on an issue-by-issue and indicator-by-indicator basis.

Concern with the use of indicators

While indicators do serve a number of useful purposes, there are also some pitfalls and down sides associated with their use. According with Pomeroy (cited by Suvedi et al., 2000), while indicators enable us to see 'the big picture'

by looking at smaller pieces of specific phenomena, there are a number of dangers associated with their use:

a) Indicators, if not sufficiently flexible or current, will not be reliable reflection of social, economic and environmental trends.

b) Once defined, there is a risk that indicators themselves may be targeted, rather than the situation that they are supposed to represent.

c) It cannot be assumed that indicators can be transplanted easily from the one culture of context to another, or from the one era to another. In other words, indicators are time, space and society specific.

d) A presumption is often made that aggregation is always possible or advisable, and that a mass of complex data can be reduced to a simple statement or set of statistics. However, the information that is lost from aggregation may be critical for showing the whole picture.

e) It is often assumed that if an indicator changes in the right direction, people, the environment or the economy is better off. However, if the measure used as an indicator of change is too narrow, or ambiguous, it will not reflect the whole picture and may give false or misleading impressions. Indicators are descriptive, not explanatory, but this distinction is often ignored.

CHAPTER 3

METHODOLOGY

The purpose of this chapter is to describe the methods and procedures used to assess the new strategy to deliver agricultural services in Mexico. This was an exploratory study intended to draw conclusions that serve to assist stakeholders and decision makers to improve the program.

The questions that guided this research were five:

Question 1. What is the profile of extension advisers and what is their perception about the training program?

Question 2. What kinds of income-generation projects did the Extension advisers identify?

Question 3. What is the level of involvement of the beneficiaries or members of farmers' organizations in the projects development and implementation?

Question 4. What is the current mechanism to advise and monitor the extension advisers' work?

Question 5. What is the extension advisers' perception about the new strategy?

Design of the study

Since only one state of the country was evaluated, this study was conducted as a case study of the national program. Program evaluation that is based on a case study is a focused, in-depth description, analysis, and synthesis of a particular program or other object (Stufflebeam, 2001).

Before describing the methodology it is important to analyze the program processes and how the research fit into it.

Processes followed to implement the new strategy of extension services

	2001									2002	
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Jun
Program design	X										
Publication of operation rules and distribution of the technical guide		X									
Contracting of advisers by the State			X								
Extension advisers' training at the State level				XX	XX						
Projects' deadline						X					
Deadline to submit projects for funding							XX				
Evaluation of projects by State							XX	XX	XX		
Implementation of the projects										XX	XX

This research was conducted between December 2001 and February 2002. The methods for gathering information included participant observation during training workshops of extension advisers carried out in August; content analysis of the income-generation projects carried out in December and the semi-structured interviews with program administrators, surveys of extension advisers and farmers' economic organizations on January and February.

Population and sample

The target population for this study included the 82 Extension advisers working in Nayarit State and 82 farmers' organizations beneficiaries of the

program in 2001. The sample consisted of 42 Extension advisers and 30 farmers' organizations.

The extension advisers' survey was sent to all extension advisers in Nayarit State through the coordinators, 42 Extension advisers responded to the survey. The response rate was 51 percent.

In the case of the farmers' organizations, in order to gather a representative response a random sample of 30 farmers' organizations was selected, 10 of them received funding for their project in 2001 funded and 20 did nor receive funding in 2001.

Data Collection

a) Extension advisers' survey

The extension advisers' survey was conducted to assess the usefulness of the training program. In addition to the training questions, advisers were asked about farmers' participation in the income-generation projects identified and their perception about the new extension strategy.

The extension advisers' survey consisted of both closed- and open-ended questions. It also included Likert type scales to measure respondents' opinions and attitudes toward the training program.

The researcher also gathered qualitative data about the training program through participant observation. The observation focused on the trainers' experience, the instructional design followed, the learning procedures utilized by the trainers, the extension advisers' participation, and the infrastructure and facilities.

The data was collected through a self-administered questionnaire conducted by the coordinator who had the responsibility to contact the professional staff at least once per week. A direct group administered questionnaire is one that is administered to a group of people assembled at a certain place for specific purposes (Ary, 1996).

b) Farmers' organization beneficiaries

Due to the time and financial resources available, a random sample of 30 farmers' organizations was selected. The basic characteristic of random sampling is that all members of the population have an equal and independent chance of being included in the sample (Ary, 1996).

A total of 45 farmers were interviewed, 30 organizations' representatives and 15 organization members. For organizations with fewer than 15 members, only the representative or another member of the board or trustees (secretary or treasurer) was interviewed. For those farmers' organizations with more than 15 members, an additional member was randomly selected and interviewed. This was done so for two reasons. On one hand, it was thought that the access to the information about the project would be greater in the small organizations compared to the big ones, and interviewing only the representative in both cases could overestimate the results. The second reason was to find differences in profile between representatives and members of farmers' organization.

The questions asked of the representative included farmer's organization profile such as number of members, year of official establishment, organization objective, and activities realized or services offered to the members.

The rest of the questions were divided into three different sections and asked of both the organization representatives and members.

- Respondent's level of participation in the income-generation project identified.
- Level of satisfaction from the services provided by the program.
- Demographic characteristics.

Before conducting organizations' survey, the instrument was tested to identify ambiguities, misunderstandings, or other inadequacies. Likewise, the field test was indirectly used to measure validity, that is, whether the questionnaire was really measuring what it was supposed to measure.

Since in Mexico many of the farmers do not know how to read and write the data gathering technique used was a face-to-face interview. In a face-to-face interview, the interviewer reads the questions to the respondent in a face-to-face setting and records the answers. One of the most important aspects of the interview is its flexibility and the possibility to repeat the questions in case the meaning explained in the questions are not understood by the respondent (Ary, 1996).

c) Program administrators

In addition to extension advisers and beneficiaries' survey, semi-structured interviews were conducted to the people in charge of the program at various operation levels. The kind of information gathered was related to different aspects of the program such as: criteria used in the selection of Extension advisers, activities realized by them, changes in extension advisers' training

process, selection of beneficiaries and problems with the implementation of the new strategy.

d) The income-generation projects proposals

The program established that each extension advisers should deliver by September 30, 2001, at least one development project for a group of farmers. In this case, it was possible access all these projects (N=82). The projects were assessed using a criteria developed by the Ministry of Agriculture to be used in the 32 states of the country participating in the program.

Data analysis

Surveys were coded and analyzed using the Statistic Package for Social Science (SPSS). In the case of the extension advisers' survey, the analysis consisted of determining the demographic characteristics, response frequencies, percentages, range and measures of central tendency and dispersion.

To assess the training course, advisers were asked about the program instructional design and the different issues included in the training.

The analysis of organizations' survey was divided in two parts: organizational information and respondents characteristics.

Statistical analysis such as the t-test was used to examine if the respondents (farmers) differ in their ages, educational level and attendance at meetings.

Criteria and indicators used

Income-generation projects' assessment

In order to assess the quality of the income-generation projects delivered by the Extension advisers, the Ministry of Agriculture in Mexico developed five criteria to be used in all the states in the country. These criteria included completeness of the proposal, participation of the beneficiaries, relevancy of the project identified, congruence among the proposal elements, and accuracy of project information. The detailed description of these criteria is as follows:

a) Completeness of the proposal. This aspect was verified by the extent to which the different themes developed during the training program were included in the document. If all the basic components, chapters and sub-chapters were included, the project was considered as **complete**. If it included the basic components and the chapters, but was lacking one or more sub-chapters, the project was considered as **partial**. If the project included the basic components, but not all the chapters it was considered **incomplete**. Finally, if it did not include the basic components, it was **not acceptable**.

b) Participation of the beneficiaries. The farmers' level of interaction and involvement in the project could be scored as real, formal or non-existent.

The participation was considered **real** when the project proposal clearly showed the commitment established by the organization members to contribute or participate in the project, with both physical and financial resources. The participation was considered as **formal** when the participation of the organization

members will had been evaluated only by their attendance at the different meetings and workshops carried out during the design of the project.

The participation was considered **non-inexistent** if none of the two latter options had been reached.

c) Relevancy of the project identified. Relevancy is shown when the project effectively contributes to solving a problem or taking advantage of an opportunity.

There are three levels in this category: complete, partial, and nill, which were assessed if the project defined had taken into account the organization's internal and external conditions.

When the project took into account only the internal or external aspects, it was considered **partial**, when it includes both was considered **complete**, when it did not take into account any of the aspects then it was considered **nill**.

d) Congruence among proposal elements. The different parts included in the project should be congruent among themselves. In this category, the following components of the project were considered: organizational aspects, commercial aspects, the technical- process, administrative structure of the projects, and financial analysis of project. Thus, a project could be considered as **incongruent, little congruent, fairly congruent** or **congruent**.

e) Accuracy of project information. The data included in the project should have real values within the technical and commercial frameworks used. This means that the information included in the document such as yields, prices

of sale, input quantities and prices and the financial resources to implement the project, should be valued according to the regional and local conditions.

If the value of a parameter was not very coherent, this criterion had a value of 0 and a value of 1 if the parameter used was real. If the number of parameters to evaluate is five, the criterion of truthfulness could get a value between 0 and 5.

Parameter	Value
Yields	0 or 1
Prices of sale	0 or 1
Inputs required (quantity and quality)	0 or 1
Inputs cost	0 or 1
Financial resources available	0 or 1
Total	5

The truthfulness categories were as follows: 0 to 2 not credible, 3 to 4 conditioned, and 5 credible

Project's global score

Once the projects were assessed using the above criteria, a global score was calculated according to the following table:

Value	Criteria				
	Completeness	FO's participation	Relevancy	Congruence	Accuracy
2	Complete	Real	Complete	Congruent	Credible
1	Partial	Formal	Partial	Fairly congruent	Conditional
0.5	Incomplete			Little congruent	
0	Not acceptable	Non-existent	Nill	Incongruent	Not credible

According to the numeric values established in the first column, a calculated a global score was calculated adding the different points obtained by the project in the different criteria. Thus, the project was:

Satisfactory 8-10 points
Acceptable 6-7.5 points
Not acceptable 0-5.5 points

Farmers' level of involvement in the project

In order to assess the implementation of the projects, one additional element (i.e. farmers' participation) was included. Five criteria were used to develop an indicator to give a measure of the farmers' level of involvement in the project. Each positive answer had a value of 20 percent, and the criteria were as follows.

Criteria	**Value**
Knowledge about the project	20
Attendance to any meeting	20
Knowledge about the total investment	20
Knowledge about the organization's investment in the project	20
Willingness to contribute/invest	20
Involvement indicator	**100**

CHAPTER IV

RESULTS

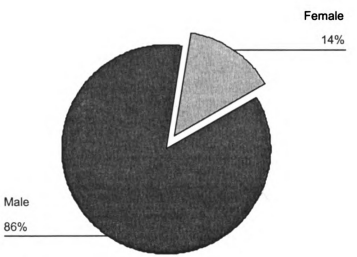
This chapter describes the most relevant findings obtained. They provide evidence directed to the research questions and were drawn from different sources of information as described in Chapter III. The discussion of findings is arranged to answer the research questions set forth in this study.

Question 1. What is the profile of extension advisers and what is their perception about the training program?

Extension advisers' profile

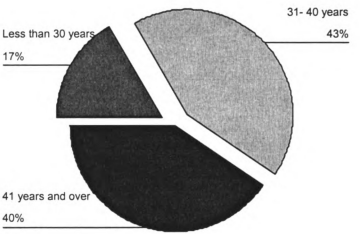
A majority of advisers (86 percent) were male and 14 percent females. Regarding their educational level, all of them had a bachelors degree, 88 percent had a degree in agriscience and 12 percent in animal science.

Figure 4 Extension advisers' gender



Age of Extension advisers ranged from 25 to 55 years with a mean of 38 years and a standard deviation of 7.6. Extension advisers' professional experience ranged from 1 to 30 years with a mean of 13 years and a standard deviation of 7.8. Even though there is no information about the activities performed by the advisers before they were hired by the program, as for many years agricultural services such as inputs supply (seeds and fertilizer), credit, and commercialization were offered by the government it is possible that those advisers 41 years old and older (40 percent) spent many of these years working in a governmental institution and had little experience working with farmers' organizations.

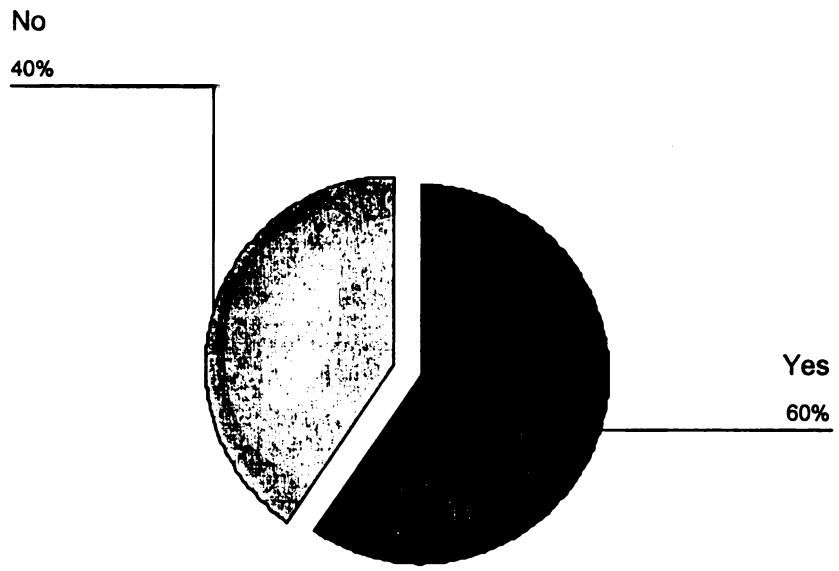
Figure 5 Age of Extension advisers



The program established that Extension advisers were natives from the communities. This objective ensures a better knowledge of regional and local

conditions as well as the remaining of advisers in the villages. Currently, six out of ten advisers live in the community where they serve farmers' organizations.

Figure 6 Extension advisers' residence



Quality of the training program

Nearly three fourths of advisers expressed that the quality of the training program was good, and one fourth said that it was fair. Advisers said the training was good because the content was adequate, updated, provided them with the tools needed to carry out their job with the groups, and all the information provided was very useful.

Table 1 Training quality (N=42)

	Frequency	Percent
Excellent	5	12
Good	26	62
Fair	11	26
Poor	0	0
Total	42	100

Some advisers rated the quality as fair because the sessions were too long (12 hours/day), there few days of training, it was a lot of information in short time, some concepts were not explained in depth, and they thought that more examples were needed for a better understanding.

Table 2 Trainers' quality (N=42)

	Frequency	Percent
Excellent	8	19
Good	28	67
Fair	5	12
Poor	1	2
Total	42	100

A majority of advisers (86 percent) rated trainers' quality as good and 12 percent as fair. However, since the training sessions were divided among three different trainers, according to the advisers, not all of them possessed the knowledge and experience needed. Some trainers only read the slides and presented examples that were from other states having different local conditions.

In the participant observation realized by the researcher, it was possible to observe some of the trainers' deficiencies. The most important was, indeed, the lack of experience in income-generation projects and in other the use of learning procedures inappropriate to transmit the information.

The lack of time was also a weakness in the training program because it was not possible to present many examples, and more time was needed to promote the discussion and the exchange of experience among advisers. Likewise, too long of sessions resulted in tedious sessions and low extension advisers' participation in the case studies used to apply the knowledge learned.

Table 3 Percent of respondents rating the instructional design (N=42)

	Good	Fair	Poor
Content adequate to the program objectives	93	7	0
Linked to farmers' needs	66	29	5
Updated information	74	21	5
Timeliness	40	40	10
Time allocated	28	40	32
Handouts and materials	88	12	0
Usefulness	73	24	3

Among the different instructional design components, the content, handouts, and materials were the most important to advisers. A majority of them, 93 and 88 percent respectively, expressed that these were good. Furthermore, with the written materials and handouts, each adviser received a CD with all the information presented in the training program and additional readings and examples.

Nearly three fourths of advisers expressed that the information presented was current or updated and agreed that the information was useful. About one third (34 percent) said the duration of the training was short and about 10 percent mentioned that the training was not timely.

Assessment of the projects and use of the training to develop the projects' proposals

Global score

The Rural Development Committee in the state decided to ask the support of two different institutions to assess the income-generation projects using the five criteria (completeness of the proposal, participation of the beneficiaries, relevancy of the project identified, congruency among the proposal elements, and accuracy of project information) developed at central level by the program administrators. One of these institutions was the National Institute of Agriculture Research (INIFAP). The second one was the Nayarit State University. Half of the projects were assessed by the INIFAP, the other half by Nayarit University.

In the agreement signed by these institutions, it was agreed that they should make a second review of those projects that did not receive an acceptable rating in the first review. Thus, the projects with a low global score (i.e. less than 6) were returned to advisers. These projects were expected to be improved and re-submitted for a second review. The score given in this review was considered as the final score.

Before analyzing the final score, it is important to report the results obtained in the first assessment. It should be noted here that the program rules did not mention that projects might be submitted for a second review. Thus, in the first review, less than half of the projects (45 percent) were scored as not

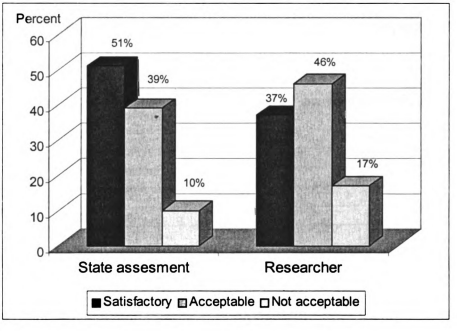
acceptable, and almost two fifths (38 percent) were acceptable and 17 percent were scored as satisfactory (Table 4).

Table 4 Results of first of round rating of proposals (N=82)

	Frequency	Percent
Satisfactory	14	17
Acceptable	31	38
Not acceptable	37	45
Total	82	100

Figure 6 shows the final score obtained for the projects. The first three bars show the score obtained by the state evaluators to add the five criteria (completeness of the proposal, participation of the beneficiaries, relevancy of the project identified, congruency among the proposal elements, and accuracy of project information) developed by the Ministry of Agriculture. The last three bars show the global score obtained by myself (researcher) using the same criteria.

Figure 7 Projects' final global score (N=82)



Nevertheless the criteria used were the same, the scores given by the state level institutions and the researcher were slightly different. Hence, for the state evaluators, half of the projects were satisfactory, while for the researcher two fifths of the projects (37 percent) were ranked in this category.

In the information provided to the researcher by the State Executive Extension Committee, only the income-generation projects' global score could be observed. However, following are the result obtained by the researcher in each individual criterion used to assess the projects. The difference in rating between the state evaluators and the researcher's global score could due to the subjectivity with which these criteria were evaluated.

Completeness of proposal

According to the complete criterion, two thirds of the projects were found to be partially complete and one fifth was incomplete. The major deficiencies were the commercial nature of the proposal and the financial aspect of the evaluation.

Table 5 Completeness of projects' proposal (N=82)

	Frequency	Percent
Complete	10	12
Partial	55	67
Incomplete	16	20
Not acceptable	1	1
Total	82	100

In the case of commercial aspect, it was common to find little information about the commercialization channels to be used or about the appropriate market

(local, regional, or national) wherein the product would be commercialized, according to the volume produced.

Extension advisers were asked about the quality of the training program. Findings in Table 6 show that at least two thirds of the advisers rated the training quality as "good". In the financial analysis, 41 percent of the advisers indicated the quality was poor, which could explain the deficiencies observed in the projects.

Table 6 Extension advisers' rating of training issues quality (N=42)

Training issues	Good	Fair	Poor
Organization needs assessment	71	26	3
Commercial aspects	67	31	3
Organizational aspects	73	24	3
Technical process	76	19	5
Administrative structure of project	76	19	5
Financial analysis of project	54	41	5
Judgment of project	60	33	7

In the case of commercial aspects, advisers rated the quality as good, however, in the projects it was possible to observe some deficiencies. Two factors could explain these deficiencies. On one hand, according to the advisers, the length of time allocated to the training was insufficient. A lot of information was provided in a short time, and some issues were not clearly explained.

On the other hand, the extension advisers' lack of experience in commercialization issues had an impact on the proposal. It should be noted that though advisers had on average 13 years of professional experience, it is possible that most of this time was dedicated to work in technical aspects or in government offices rather than in farmers' organizations.

Participation of beneficiaries

With the simple reading of the projects proposals, it was difficult to assess the real participation of farmers in the development of the projects. In most of the projects the advisers said that farmers had interest and they were willing to contribute and invest in the project. However, from the researcher's point of view this can only be assessed through the fieldwork. For this reason, overall projects were assessed with formal participation.

Relevancy of the project

Approximately three out of five (62 percent) of the proposal ideas were considered as 'completely relevant' to the organization, while 38 percent were considered as 'partially relevant'. In some cases, the professional adviser took into account solely the internal conditions, and in other cases only the external organization conditions, never both as they should have.

Table 7 Relevancy of projects (N=82)

	Frequency	Percent
Complete	51	62
Partial	31	38
Total	82	100

Congruency of proposal

Less than half of the projects (43 percent) that extension advisers developed were congruent, that is, where the information presented in the different chapters was related and was described in a logical way. The other half of the projects, (51 percent) were found to be fairly congruent. For those projects

with little congruence, the problem found was incongruence with the information presented in the commercial strategy and the financial evaluation.

Table 8 Congruency of proposals (N=82)

	Frequency	Percent
Congruent	35	43
Fairly congruent	42	51
Little congruent	5	6
Total	82	100

Accuracy of project information

Concerning the truthfulness of the numerical and monetary values presented in the projects, a strong majority of the Extension advisers used in the financial evaluation credible values of product prices and inputs, as well as other services required for the project.

Table 9 Accuracy of project information (N=82)

	Frequency	Percent
Credible	80	98
Conditioned	2	2
Total	82	100

Question 2. What kinds of income-generation projects did the extension advisers identify?

Activities involved in the projects

A majority of the projects developed by the advisers (88 percent) were focused on two activities: agriculture and livestock production. More than 60 percent involved an agricultural activity, while one fourth were related to livestock activities.

Table 10 Type of farm operation involved in the projects (N=82)

Activity	Frequency	Percent
Agriculture	52	63
Livestock	20	24
Fisheries	3	4
Non- agriculture	6	7
Agriculture and livestock	1	1
Total	82	100

In the projects classified as non-agricultural we found projects involving activities such as carpentry, a beauty parlor, a dressmaker, a bakery, and a grocery store, among others.

Within the projects that involve agriculture activity, one third (33 percent) were intended to grow orchards and a similar percent (31 percent) were projects about row crops (corn and beans), while 15 percent were projects to raise vegetables.

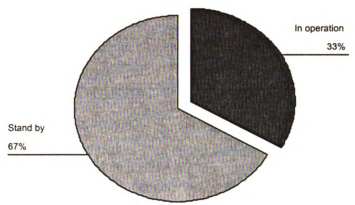
Table 11 Type of agriculture activity involved in the projects(N=82)

	Frequency	Percent
Orchards	17	33
Row crops	16	31
Vegetables	8	15
Forages	4	8
Flowers	1	2
Other	6	12
Total	52	100

Projects' current situation

One third of the projects were funded and are currently in operation, and the rest (67 percent) were in "stand by" waiting the funding support of the Alliance for the Countryside[1] 2002 program resources.

Figure 8 Projects' current situation (N=30)



According to the program rules, advisers should seek different sources of resources to finance the projects. This includes commercial banks and local micro finance institutions. Because currently, there are no subsidized credit programs in Mexico, and only few a people have access to commercial credit services, this could be a major limitation for funding the projects.

[1] Alliance for the Countryside is an agricultural policy implemented in 1996 that includes 20 sub-programs intended to support farmers in activities such as crops, livestock, animal health, vegetal sanitation and irrigation. It is a decentralized program, its resources come both from federal and state level. It promotes the beneficiary participation through its contribution to complement the support (subsidy) given by the program.

An attempt was made to analyze the total amount of resources required to implement the projects. The average amount of support needed was found to be approximately US $91,847 with a standard deviation of US $130,966. The Alliance for the Countryside had in Nayarit State a budget of US $ 1.1 million in 2001 to fund such projects. This means that many of projects could not be financed with the Alliance funds.

Table 12 Total resources needed to fund projects (N=82)

	US$
Minimum	2,517
Maximum	761,100
Mean	91,847
Standard Deviation	130,966

However, it should be noted that most advisers decided to apply for the Alliance for the Countryside 2001 resources to finance the projects instead of seeking alternative sources, even knowing that the Alliance resources would not be sufficient to finance all the projects.

From the 82 projects proposals submitted for funding in 2001 only 14 (17 percent) were funded with Alliance for the Countryside 2001 fiscal year resources. The remainder are waiting for the 2002 resources that will be allocated to the State between April and May 2001. However, not all the projects are expected to be supported.

Here is important to point out that for funding these projects the State Rural Development Committee did not take into account the projects' assessment carried out by the INIFAP and Nayarit University. Because the deadline to allocate the Alliance for the Countryside resources was October 31

2001, those projects that were submitted before this date had more opportunity to be funded. Thus, 57 percent of the projects funded were rated as satisfactory and the remainder 43 percent as acceptable.

Number of projects submitted by advisers

According to the State Executive Extension Committee, beginning in January 2002, extension advisers were required to work with at least 80 farmers. This was established in the program rules. To accomplish this, advisers were encouraged to develop more than one project. It was found that on average 20 farmers were involved in the projects, with a minimum of four and a maximum of 106 farmers. This means that each adviser should develop at least four projects to include the 80 farmers required.

Figure 9 Number of projects submitted by advisers (N=82)

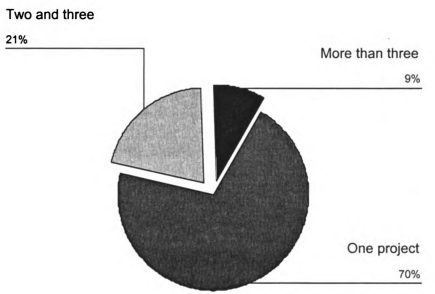


Figure 8 shows that nearly one out of ten Extension advisers have worked in more than three projects, while more than two thirds (70 percent) have developed only one project.

The problem, however, is that in some cases the advisers, in order to meet this requirement (80 farmers), only promoted the different Alliance for the Countryside programs and invited the farmers' organizations to choose for the project the support of the programs that were the most suitable for them. This means that projects were not the result of an actual needs assessment.

In other cases, it was possible to identify the adviser's influence in the definition of the project. Thus, in nearly one fifth of the projects (17 percent), the organization's representatives indicated that the project was the professional adviser's idea.

Projects funded and implemented

From the farmers' organization sample, 10 of the 30 organizations obtained funds to implement the income-generation project developed by the advisers. Some characteristics of these projects are shown above in Table 13. One characteristic is the source of funding, 70 percent of the projects funded were financed with the Alliance for the Countryside 2001 resources. This could be important because it means that nearly one third of advisers sought alternative financial resources. However, it is worth noting that those projects financed with the farmers' organizations' own resources were very small and did not require much money. In other way, it is difficult for organization members to contribute the total amount of investment.

It is also worth noting that 30 percent of these organizations were established recently (between 2000 and 2001) solely to get the funding for their project. Likewise, the organizations that seem to be working in a group are those organizations created before 2000 that have experience offering services to their members. Perhaps, because of this previous experience working together, they are convinced that this is the best way of working.

Table 13 Characteristics of agricultural projects funded and implemented

No.	Activity or kind of project	Number of members	Year of FO establishment	Source of resources	Type of organization services
1	Fertil-irrigation	4	2000	Alliance	None
2	Livestock	10	1999	Alliance	Inputs delivery, marketing
3	Pineapple packaging	11	2000	Bank	Inputs delivery, marketing
4	Production of nopal	7	-	Own	None
5	Livestock	22	2001	Alliance	Inputs delivery
6	Grow flowers	10	-	Own	None
7	Blackberry production	31	1999	Alliance-Bank	Inputs delivery, marketing
8	Livestock/dairy	6	2001	Alliance	None
9	Livestock	10	1997	Alliance	Inputs delivery, marketing
10	Machinery	22	2002	Alliance	None

Beneficiaries profile

Farmers' organization has been a priority in recent years within the rural development policies of Mexico. For this reason, the new extension strategy stated that the Extension advisers should work with farmers' organizations or informal farmers' groups instead of individual farmers. Since farmers' organizations do not prevail in the countryside, some advisers started working in the establishment of farmers' organizations, and others completed the

requirements to legalize the organization in 2001. However, 27 percent of extension advisers indicated they are still working with informal groups.

Findings of this study indicate that two thirds of farmers' organizations (68 percent) are new. They were established during the last two years (Table 14). From the groups currently established, advisers formalized 37 percent of them during 2001.

Table 14 Year of establishment of farmers' organizations (N=30)

Year	Frequency	Percent
1997	1	5
1998	1	5
1999	4	21
2000	5	26
2001	7	37
2002	1	5
Total	19	100

Respondents were asked whether their farmer's organization offered any services to their members. The fact that farmers' organizations are new may explain why half of them do not offer any service to their members, while 37 percent offer services related to inputs delivery and another 37 percent offer marketing services (Table 15).

Table 15 Kind of services offered by the farmers' organizations (N=30)

	Frequency	Percent
Inputs delivery	7	37
Marketing services	7	37
None	10	53

A similar situation was observed in the case of the organizations' assets. More than three fourths (79 percent) of the organizations' representatives

indicated that they do not have any asset. Only five percent own offices and buildings, and 16 percent own tractors and machinery (Table 16).

Table 16 Farmers' organizations' assets in Nayarit State (N=30)

Kind of asset	Frequency	Percent
Offices and buildings	1	5
Trucks, tractors and machinery	3	16
Other	1	5
None	15	79

Organizations' representatives were asked to indicate the number of members in the organizations or groups. Table 17 shows that one third of them have fewer than 10 members and more than half (53 percent) have between 11 and 30 members.

Table 17 Farmers' organizations' number of members (N=30)

	Frequency	Percent
Less than 10 members	10	33
Between 11 and 30 members	16	53
More than 31 members	4	13
Total	30	100

Nevertheless the pronounced farmers' awareness regarding the importance to belong to organized groups, it is important to point out that this awareness was the result of the interest of getting any kind of governmental support (such as seeds, animals or money) as some advisers indicated to farmers.

Some organization members mentioned that the extension advisers talked with them about the various Alliance for the Countryside sub-programs, and they explained the characteristics of each program and asked them to choose one of the area sub-programs to develop the project.

Although there were exceptions noted, in the organizations that offer services of inputs delivery, their members have proof that they can get important savings working jointly, and they were sincerely interested in the project. However, in most of the cases, farmers agreed to organize solely to get the program support, yet they prefer to continue working in individual way. For instance, in the case of some livestock projects, where the project included the purchase of cattle heads, the respondents indicated that once the support was obtained, the heads would be divided among the members, according to the number of heads that each of them could afford to pay. In this case, there is a risk that the organizations established by advisers do not function as farmers' groups. If they were formalized only to fulfill the requirements for the project, farmers will team together temporarily while they receive the support. After that, due to the lack of farmers' commitment, the organization could disappear.

Respondents' profile

As indicated in the methodology section, 45 farmers were interviewed, 30 organizations' representatives and 15 organization members. For those organizations with 15 members or fewer only one of the organizational representatives was interviewed, and an additional member was interviewed in the organizations with more than 15 members.

Half of the organization representatives were between 45 and 64 years of age, while 60 percent of the members were in the same age strata.

Table 18 Respondents' age (N=45)

	Representative (%) (N=30)	Member (%) (N=15)
Fewer than 25 years	0	7
Between 26 and 44 years	30	20
Between 45 and 64 years	50	60
65 years and over	20	13
Total	100	100

Regarding the educational level, two thirds of the organization representatives have more than primary school, while more than half (54 percent) of the members have the same education level (Table 19).

Table 19 Respondents' education level (N=45)

	Representative (%) (N=30)	Member (%) (N=15)
Never went to school	3	7
Until 3rd grade	30	40
Primary school	20	7
Secondary school	27	27
High school	17	7
Bachelor degree	0	13
Other	3	0
Total	100	100

An independent sample t-test was applied to find out whether or not the age differs between the representatives and the members. The difference of the mean was found not significant at 0.05 level ($t = .720$, $p = .475$). This means there is no difference in the average age of the two groups of respondents.

A Chi-square test was applied in the case of educational level, the significance was higher than 0.05, this means there is no difference between representatives and members of farmers' organizations in educational levels.

Another characteristic studied was the main farm operation. Table 20 shows that 60 percent of the representatives and less than half of the members (47 percent) had row crops as their main farm operation. The second farm operation was livestock/dairy activity practiced by 23 and 13 percent of the representatives and members, respectively.

Here it is worth saying that almost two thirds of the respondents (62 percent) had experience in the activity involved in the project. However, for 38 percent, the activity involved in the project is new.

Table 20 Respondents' main farm operation (N=45)

	Representative (%) (N=30)	Member (%) (N=15)
Row crops	60	47
Livestock/dairy	23	13
Vegetables	7	13
Orchard	3	13
Sugarcane	7	7
Other	0	7
Total	100	100

Some respondents agreed that the low marketing prices faced by some crops, mainly the row crops have forced them to look for other more profitable farm operations such as raising vegetables, growing orchards, or by combining row crops and livestock as a way to add value to the agriculture production to convert the maize and sorghum in meat or dairy.

Figure 10 Farmers' experience in the activity involved in the project (N=45)

Question 3. What is the level of involvement of the beneficiaries or members of farmers' organizations in the projects development and implementation?

The farmers' attendance at meetings was used to measure indirectly the farmers' participation or interest in the projects. Analyzing the number of meetings attended, Table 21 shows that the farmers' organization members had major participation in the meetings implemented by advisers. It was found that 60 percent of the farmers' organization representatives attended more than five meetings, compared to 67 percent of the members.

An independent sample t-test was applied to find out whether or not the number of meetings attended differs between the representatives and members.

The difference of the mean was found not significant at 0.05 level (t = .175, p = .862). This means that there is no difference in the average number of meetings attended by the two groups of respondents.

Table 21 Respondents' attendance at meetings (N=45)

	Representative (%) (N=30)	Member (%) (N=15)
Fewer than 5 meetings	40	33
Between 6 and 10	50	67
More than 11 meetings	10	0
Total	100	100

In order to learn the farmers' level of involvement in the project, several questions were asked both of the representative and members of farmers' organizations.

The first question was related to the knowledge about the project. They were asked 'whether they know the title of the project'. In this question all the respondents, representatives and members answered affirmatively.

In the remainder of the questions, there were some differences. Table 22 shows that all of the representatives attended at least one meeting implemented by the extension advisers, while 93 percent of the members did so.

Similarly, in the question related to the knowledge about the total investment in the project, almost two thirds of the representatives (63 percent) showed awareness compared with one third (33 percent) of the members.

In the same way, the representatives showed more access to the information related to the corresponding organization's investment contribution compared with the members, 60 percent and 47 percent, respectively.

Lastly, the respondents were asked about their willingness to contribute or invest in the project. A great majority of the representatives (83 percent) answered affirmatively, compared to 60 percent of the members. For some of respondents, both representatives and members, their willingness to contribute was conditioned to the amount of investment, only 3 percent of representatives and 20 percent of members answered negatively to this question.

Table 22 Comparison of farmers' participation in the project (N-45)

	Representative (N=30)	Members (N=15)
Knowledge about the project	100%	100%
Attendance to at least one meeting	100%	93%
Knowledge about the total investment	63%	33%
Knowledge about the organization's investment in the project	60%	47%
Willingness to contribute/invest	83%	60%
Involvement indicator	**81**	**67**

Even though a higher percentage of respondents indicated willingness to contribute to the projects, it is worth noting that in the case of those organizations created before 1999, not all the members were willing to invest in the project.

The answers to these questions were used to build an indicator to measure the farmers' level of involvement in the projects. Table 22 shows that the organization representatives have an involvement indicator of 81 percent, compared to the members' involvement indicator, 67 percent.

One of the reasons that could explain this difference is that the adviser has more communication with the representative, because the representative signs fortnightly the adviser's work-plan as well as his paycheck.

In order to determine the extension advisers' perception about the farmers' participation in the project, they were asked to respond to questions related to the farmers' participation in the activities undertaken to develop the project. Table 23 shows the results.

Table 23 Extension advisers' perception about farmers' participation (N=42)

	Good (%)	Fair (%)	Poor (%)
Attendance at meetings	66	24	0
Participation in the needs assessment	85	12	3
Participation in activities to implement the project	90	10	0
Interest to contribute or invest	66	26	8
Level of involvement	81	19	0

Extension advisers were asked a question related to the farmers' attendance at meetings, the adviser's answer reflects either the number of farmers as well as the consistency of the attendance.

About two thirds of advisers (66 percent) rated the farmers' attendance at meetings as "good". Over four fifths (85 percent) of the advisers indicated that farmers have participated in needs assessment. Nine out ten indicated that farmers participated in activities to implement the project.

Lastly, two thirds of advisers felt that the farmers have sufficient interest to contribute or invest in the project and 81 percent rated the overall level of involvement as good.

Analyzing farmers' participation is important because according to evaluation studies implemented by the World Bank in area development projects[2] among the different factors that assure the success of these kinds of projects are aspects such as commitment and beneficiaries' participation.

The OED (1993) reported that 'ownership' of the project is vital, by the rural people to be directly affected, the government –at the political level- and the principal agencies involved.

Rural people's commitment to a project's goal, while rarely analyzed, is a crucial determinant of outcome. Beneficiaries' participation in planning and implementing development projects is so important that government's genuine commitment to this approach can be viewed as a leading indicator of government commitment.

In the case of beneficiary participation (from identification through to operation and maintenance), it was found that 'participation' in a development project implies that members of the community to be affected initiate changes, not that they merely accept, or do not object to changes offered to them by outside agencies. This implies that individuals help to identify the goals of the project, are provided with authority, and then become substantively involved in decision-making. Involvement in implementation allows smooth adjustment to changing circumstances and may lead to communities taking responsibility,

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[2] Area development projects are investment projects designed to develop a rural area largely to benefit the rural poor. They often serve low potential, degraded areas neglected by investment strategies. Many are multi-sectoral, with activities in agriculture (crops, livestock, conservation, fisheries, forestry), water supply, health, rural infrastructure, and small-scale off-farm enterprises (OED, 1993).

through their own organizations, for maintenance of the investments. Participation helps to ensure that only investments what have prospects of being sustained, are financed (OED, 1993).

Question 4. What is the current mechanism to advise and monitor the extension advisers' work?

In order to advise the professional adviser's work, the program design included coordinators. A coordinator had the responsibility of advising the work of ten advisers through different activities. The activities were to accompany advisers to the meetings with farmers, support advisers to realize the needs assessment and establishment of farmer's organizations, help them gather the information needed to develop the project, and support them in the activities needed to implement the project. The coordinator had also the responsibility of meeting fortnightly with the Executive Extension Committee to discuss the adviser's achievements.

The coordinator activities were intended to improve the quality of services delivered, however, during the fieldwork from the interviews with the program administrators, the researcher could perceive and observe only in a few cases a sincere participation of the coordinators in the activities realized by the advisers. It seems that the coordinators believe that their role in the program is solely meeting weekly with the advisers. Sometimes, they participate in the meetings with farmers, but they did not make any difference in the activities implemented by the advisers. That is, coordinators did not provide feedback, suggestions, or recommendations through which advisers could improve their work.

In fact, if coordinators actually carried out their work, the number of projects scored as non-satisfactory in the first review would have been lower. The problem could be due their lack of training and experience to support advisers. On the other hand the program design does not seem to consider any mechanism to reward or punish the quality of coordinators' and extension advisers' work.

Regarding the monitoring mechanism, it is worth mentioning that it was proposed, at central level, the development of an information system with the objective of gathering information about all the Extension advisers working in the 32 states in the country. However, it was not possible to implement the system in 2001, now it is being improved in order to meet all the requirements needed to start working in 2002.

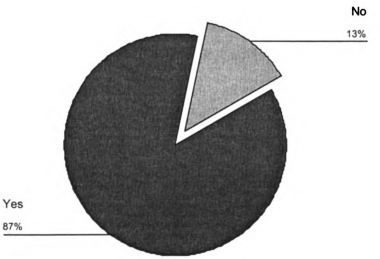
On other hand, extension advisers' performances were assessed through the 'products' delivered. For this first stage of the program, the 'products' considered were: (a) the group or community needs assessment and (b) the income-generation project. According to the operation rules, those advisers who not deliver the products in a fashion would be fired.

Since the beginning of the program in June 2001 to the end of January 2002, 14 advisers were fired. The program administrators said that advisers were fired because they did not accomplish the 'products'. This might be considered as an advance, compared to the former extension program where the advisers never lost their jobs because there had been no way to assess them.

It was thought that with the coordinator's supervision and the 'products' delivered by the extension advisers, there could be enough information to assess the extension advisers' performance, however, the findings show the contrary. Through evaluating the 'products' it is possible to discover who accomplished the requirements, but not to know the real quality of their work with the farmers' organizations.

To know the farmers' perception, representatives and members of the farmers' organizations were asked about their satisfaction with extension advisers' jobs. Figure 10 shows that 87 percent of respondents are satisfied. However, taking into account that 70 percent of projects are in "stand by" waiting for funding and that during the interview some farmers said that the last time they saw the advisers, it has been almost two months ago (i.e. December 2001), the majority of respondents tend to show no concerns about advisors.

Figure 11 Satisfaction with the professional adviser's work (N=45)



Question 5. What is the extension advisers' perception about the new strategy?

Advisers were asked to respond to questions about whether the new strategy fit the current farmers' needs and whether this approach can improve the farmers' welfare. In both questions a majority of advisers responded affirmatively, 95 and 90 percent, respectively.

To analyze the extension advisers' response to the first question, it was possible to distinguish two groups of responses from the advisers. The first group of extension advisers' responses about the new strategy included:

- "because it promotes farmers' organization to reach goals that individually they could not meet,"
- "because it is a way to identify rural problems and propose strategies to solve them,"
- "because this new strategy is integral, this means it takes into account aspects such as production, transformation and commercialization, not only the technical aspects as the former extension program did,"
- "because it promotes farmers' participation in the decision-making to decide what is better for them," and so on.

The second group of responses from the advisers implied that the program was only an opportunity to get supports to farmers, a way to get infrastructure and inputs to improve the agriculture production. They see themselves as extension agents and not as "change agents" who can work along

with farmers in income-generation projects to tackle problems beyond agriculture production.

When advisers where asked about "whether this approach can improv the farmers' welfare", the advisers felt that through this approach the farmers' welfare could be improved only if certain conditions were met. For instance:

- "if the income-generation project is a farmers' idea and it is developed with their participation,"
- "if the organizations are created with farmers with similar interests and objectives, this would facilitate the decision-making process to reach the goals established," and
- "if farmers agreed to invest and get the support needed to implement the project.

If all these conditions are met, then the project developed will add value to production, farmers' income will increase; the projects will create sources of employment and will promote rural development.

Lastly, advisers where asked about the limitations or hurdles to reach the program objectives. They offered four limitations, which included:

a) Lack of capital, credits, economic support and so on, to implement the projects,
b) Farmers' lack of organizational culture, the farmers' resistance to work jointly due to bad past experiences, the low farmers' participation
c) Too many requirements and bureaucracy to get the supports
d) The lack of coordination among the three different levels: federal, state and municipal to define priorities, and invest resources with responsibility

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

With the design and implementation of a new strategy, the Federal Government of Mexico sought to improve the agricultural extension services by promoting farmers' organization and developing income-generation projects that are responsive to farmers needs. The new strategy of the Alliance for the Countryside was adopted in April 2001. This study was conducted to assess the implementation of the new strategy in bringing about changes in agricultural services.

This study was conducted in Nayarit State in Mexico. Data were gathered from extension advisers, representatives of farmers' organizations and key informants at the State level. Altogether, 82 income-generation projects proposals were reviewed, 42 surveys of extension advisers were analyzed, 30 representatives and 15 members of farmers' organizations were interviewed.

Findings showed that the new strategy brought about changes in the agricultural extension services. However, there are also deficiencies that limit the program outcomes. This study has identified some actions that might significantly improve the extension program.

Conclusions and recommendations

About the extension advisers' training program

During the 1996-2000 extension model, the training focused only on technical aspects of agriculture. Under the new strategy, extension advisers' training focused on the design and evaluation of income-generation projects. The

overall training quality was improved: 74 percent of advisers rated the quality as 'good'. Advisers also agreed that the subject-matter content was adequate, updated, and it provided them with the tools needed to carry out their jobs with the groups. Likewise, 86 percent rated the quality of trainers as 'good', though there were differences among them about their experience in income-generation projects.

A major deficiency of the training program was the short time allocated to training. Advisers felt that much useful information was included in the training program, but it was delivered in a few days. The training sessions were perceptibly too long (12 hours/day).

The findings also showed that for 38 percent of the farmers, the activity involved in the project represents a new activity for them. In this regard, in order to improve the program, it is recommended training advisers in those activities in which they have not enough experience, in order to improve their capacity to develop any kind of income-generation project.

Likewise, it is recommended training them in financial aspects in order to promote the search of alternative financial sources and not wait only for the Alliance for the Countryside resources to fund and implement the projects.

About the income-generation projects and their beneficiaries

Under the new strategy, extension advisers' activities were clearly defined and established. They were expected to work jointly with the local farmers' organizations. Each of them conducted a needs assessment to identify an income-generation project for the members of farmers' organization.

The way in which these activities were carried out is important because it could make the difference between successful and failed projects.

a. Definition of the problem and target population. In most of the cases Extension advisers organized meetings and workshops in the villages to conduct local needs assessments. Through discussion and the analysis of different scenarios including the organization's weaknesses, strengths, threats and opportunities, farmers identified an income-generation project that would benefit their groups.

b. Clearly focused and attainable objectives. Unfortunately, this process seems to be lacking in many groups. It seems that the project itself or getting the support for the project is the objective to be attained. The truth, however, is that the income-generation project should be the triggered from a set of activities that would result in the accomplishment of several different objectives. If the organization is created only as a way to get support from the government, even though the organization gets the support, the organization will be weak and uncommitted. For this reason, the advisers should try to give less importance to the funding support itself and focus their work on establishing realistic and precise objectives of the organization.

c. Change strategies. Since only a few projects obtained credit or other kinds of financial support to start working, there is little information about how this process was implemented by advisers. However, in those projects that are currently working, it was possible to observe an unclear definition of actions or strategies to be followed by the organization. Taking into account that with the

project, 38 percent of the respondents are involved in a new activity or an activity in which they have little experience, it seems clear that the beneficiaries will need the implementation of learning activities to get the knowledge and skills needed to implement the project successfully.

Likewise, even though the project does not involve a new activity, it should be undertaking learning activities in order to bring about the change in attitude needed in the farmers to work jointly as a group. This is perhaps the most important challenge for the organization members participating in the program.

In regard to the projects proposals, findings of this study showed that the overall quality of the income-generation projects developed by the advisers was good. More than half of the projects (51 percent) were rated as satisfactory by the state institutions that assessed the projects. Only one third of the projects (33 percent) are currently working and 70 percent of them were funded with the Alliance for the Countryside 2001 resources.

The farmers' organizations are new. Two thirds of them were established between 2000 and 2001. This explains the fact that half of them (51 percent) do not offer any service to their members, though 37 percent offer services related to inputs delivery and other 37 percent offer marketing services.

The indicator designed to measure the farmers' level of involvement in the projects showed that farmers' organization representatives have a higher level of involvement compared with the farmers' organizations members, 81 and 67 percent, respectively. However, it was also found that many of the farmers organizations were created just to get the support of the government, and that

farmers prefer to continue working individually. This represents a risk to the program because the farmers' organizations will work together temporarily and once they receive the support, the organization could disappear.

About the new strategy

With the fieldwork and interviews with program administrators, it was clear that there are two aspects that limit the establishment of an efficient mechanism to measure the advisers' performance. One aspect is the mechanism through which the adviser is hired and paid. The second one is related to the organizational structure that supports the operation of the program.

The program design: According to the program, communities or farmers organizations get support from the government to pay an adviser who should work for them. However, since farmers did not ask for the adviser, they did not choose him -the State Executive Extension Committee assigns the adviser to the group-, and as farmers themselves are not paying for the services of the advisers, they have little interest in the extension advisers' job. Most farmers appreciate advisers who can governmental supports for them, but the general perception was that whatever the adviser does for them is better than having nothing done. It was clear that since farmers do not pay the adviser they could not demand from him services of quality.

The program organizational structure: In the organizational structure there are two elements that should be key to assess the performance of the adviser, the coordinator and the State Executive Extension Committee. Findings indicate that the coordinators are not really helping to improve extension

advisers' performance. The primary role of the coordinator is to support adviser in farmers' meetings and advise them in the project development and implementation activities. These roles were not carried out at all. It was found that coordinators have not performed their role as expected.

On the other hand, the State Executive Extension Committee is expected to play an important role in the physical and financial program follow-up, but it did not contribute to the improvement of the services. The problem could be that it does not have enough personnel, both in numbers and in quality. They lack staff with appropriate training and experience to support the advisers as well as to visit and advise farmers groups to talk with farmers about the adviser job. The existing Extension Committee structure is designed to give supports to farmers, not to develop income-generation projects and promote development.

In this regard, in order to increase farmers' participation, not only in the projects, but also in overall activities realized by advisers, it is necessary to make some changes to increase the farmers' responsibility in the program. One means could be through their direct participation in the adviser selection, i.e. the extension advisers might be hired directly by a farmers' organization or community interested in implementing an income-generation project.

Regarding the organizational structure, the Executive and Extension Committee activities should be limited to the physical and financial program follow-up. In the case of coordinators that they are not helping to improve extension advisers' performance, it is recommended eliminating them. Instead of coordinators, it will be necessary to establish another institution totally

independent from federal and state government as well as from the Extension Committee. The main work of this new institution would be selecting the advisers that really meet the requirements to work in the program, supervise and monitor their work, establish the mechanisms to measure their performance, support the Extension Committee with feedback, suggestions and recommendations to help it make decisions about the program, and most important, jointly with farmers, approve or deny the extension advisers' pay.

Indeed, an institution that is totally independent from federal and state government, (i.e. it could be an university or another autonomous institution involved in the rural sector), could provide an objective assessment of the performance of advisers, which would be helpful. The new institution could monitor the work of advisers, supervise their work, and pay them based on the quality of the services.

Likewise, it is important to put emphasis in the computer-based information system. If the information system were implemented this year, it would be very important because it would allow counting with updated information about extension advisers' activities.

The system will have also several advantages: the stakeholders would have access to information to make decisions related to extension advisers' and the possibility to evaluate the extension advisers' and farmers' training. The information suggested to be gathered by the system could include:

a) General information about the adviser
b) Farmers' organization request of services
c) Needs assessment of the groups to be served
d) Adviser's training schedule

e) Training schedule of farmers
f) Proposal of the income-generation project

Final comment

It is worth saying that with the new Federal administration in 2001 the extension service was one of the Alliance for the Countryside programs that underwent more structural changes during 2001. However, as findings of this study indicate, the changes made were not sufficient. One of the most important characteristics of this new strategy is that it is a long-term program as compared to the former extension program, which was an annual program. In the former program, processes such as hiring extension agents and defining farmers' beneficiaries were determined each year. It seemed that the whole program began anew each year. The fact that this new strategy is long-term oriented implies more challenges. This means that all the needed changes to improve it should been undertaken now, in its second year of operation. In other words, if each year the program administrators make changes to tackle the deficiencies found, the program will never mature and it will be difficult to establish long-term goals and to assess its outcomes.

APPENDIX A

QUESTIONNAIRE AND SURVEYS MATERIALS

Questionnaire to extension advisers

The Program of Professional Services for the Rural Development (PESPRO in Spanish) is part of a new strategy designed to promote the development of the rural communities not only technologically but also economically and socially through the delivering of extension services to farmers groups and farmers' organizations with the objective to develop and implement income-generation projects.

The information received from this survey will be used for a thesis research that seeks knowing about the program operation as well as to provide to the stakeholders with valuable information to improve the program.

Your participation in this survey is voluntary. The information that you provide will be kept completely confidential and will be used only in combination with other responses. Please be as candid as possible when responding the questionnaire.

If you have questions about being a human subject of research you may contact:
Ashir Kumar
University Committee on Research Involving Human Subjects (UCRIHS)
Michigan State University
246 Administration Building, East Lansing, MI 48824
Phone: (517) 355-2180
E-mail: ucrihs@msu.edu
If you have questions about this research project you may contact:
Elizabeth Landa Franco, Graduate student
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I. TRAINING

1. How do you rate the quality of the training received?

1) Excellent
2) Good
3) Fair
4) Poor
5) Very poor

Explain _____

_____

_____

_____

2. How do you rate the trainers' quality?

1) Excellent
2) Good
3) Fair
4) Poor
5) Very poor

Explain_____

_____

_____

_____

3. Rate some aspects from the training received according with the following scale:

Aspect	Excellent	Good	Fair	Poor	Very poor
Content adequate for the job to be done					
Relation between the training content and the farmers' real needs					
Updated of content					
Training timeliness					
Time allowed to the training					
Handouts and course materials					
Usefulness of training					

4. Rate the quality with which were covered the following issues in the training program

	Excellent	Good	Fair	Poor	Very poor
Diagnosis and strategic planning	5	4	3	2	1
Commercial aspects	5	4	3	2	1
Organizational aspects	5	4	3	2	1
Technical process	5	4	3	2	1
Administrative structure	5	4	3	2	1
Financial analysis	5	4	3	2	1
Judgment	5	4	3	2	1

II. FARMERS' PARTICIPATION

5. Evaluate the farmers' participation in the following activities related to the economic project identified

	Excellent	Good	Fair	Poor	Very poor
Attendance at meetings or workshops	5	4	3	2	1
Participation in the needs assessment	5	4	3	2	1
Participation in the activities required to implement the project	5	4	3	2	1
Interest to invest/contribute	5	4	3	2	1
Level of involvement in the project	5	4	3	2	1

III. PERCEPTION ABOUT THE PROGRAM

6. Does the new program initiative actually fit the current producers' needs?

1) Yes 2) No

Explain_____

_____

_____

_____

7. Do you think that this approach can improve the farmers' welfare?

1) Yes 2) No

Explain_____

_____

_____

_____

8. What could be the major limitations to accomplish the program objectives?

_____

_____

_____

_____

IV. PROFILE

9. Age _____

10. Gender

1) Male 2) Female

11. Highest degree earned

1) Technician
2) B.S.
3) M.S
4) Ph.D.
5) Other _____

12. Did you get a degree?

1) Yes 2) No

13. Years of professional experience _____

14. Do you live in any of the communities where you are working?

1) Yes 2) No

Organization's name _____

Position _____

Date of interview _____

Questionnaire for farmers' organizations beneficiaries of the PESPRO

The Program of Professional Services for the Rural Development (PESPRO in Spanish) is part of a new strategy designed to promote the development of the rural communities not only technologically but also economically and socially through the delivering of extension services to farmers groups and farmers' organizations with the objective to develop and implement income-generation projects.

The information received from this survey will be used for a thesis research that seeks knowing about the program operation as well as to provide to the stakeholders with valuable information to improve the program.

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I. FARMERS' PARTICIPATION IN THE PROJECT

1. Do you know the project developed by the extension adviser?

1) Yes 2) No

2. Did you attend to any meeting or workshop where the extension adviser implemented activities related to the project?

1) Yes _____ 2) No

(specify how many)

3. What was in percentage the level of participation of farmers at the meetings? _____

4. Did you participate in any meeting where the extension adviser presented the final project?

1) Yes 2) No

5. Do you know the total amount of investment required for the project?

1) Yes _____ 2) No

(specify amount)

6. Do you know what is the organization's investment in the project?

1) Yes _____ 2) No

(specify amount)

7. Are you willing to contribute or invest in the project?

1) Yes 2) No 3) Maybe depend on _____

8. Do you think that the project developed by the extension adviser is the best alternative for your organization or group?

1) Yes 2) No

Why? (please specify)

_____

_____

_____

_____

II. ORGANIZATION PROFILE

9. When was the organization created (year) _____

10. Total number of members _____

11. Number of active members _____

12. What is the members' main agriculture enterprise?

1) Agriculture (grains) production
2) Livestock production
3) Horticulture production
4) Fruit trees production
5) Perennials production
6) Processing of agricultural products
7) Marketing of agricultural products
8) Other (specify) _____

13. What kind of services does the organization offer to its members?

1) Credit and insurance services
2) Inputs (fertilizer, seeds, chemicals, etc) services
3) Marketing services
4) Other (specify) _____
5) None

14. Does your organization own ...

1) Office and buildings
2) Office equipments such as computer, phone, fax, etc.
3) Infrastructure and equipment such as weight machine, freezer, processing equipment, etc.
4) Storage area, sales office, collection facilities
5) Trucks, tractors
6) Other (specify) _____
7) None

III. FARMER PROFILE

15. Age _____

16. Gender _____

17. Do you know to read and write?

a) Yes b) No

18. Highest degree earned

a) Never went to schools
b) Until 3rd grade
c) Primary completed
d) Secondary school completed
e) High school
f) Bachelor Degree
g) Other _____

IV. CONTROL

19. Had the extension adviser agent worked before with your organization or group?

1) Yes 2) No

20. Do you have experience in the agriculture enterprise developed in the project?

1) Yes 2) No

21. Is your organization satisfied with the extension adviser's job?

1) Yes 2) No

Why? (specify)

_____

_____

_____

_____

Semi-structured interview to program administrators

1. What criteria were followed to select the extension advisers?
2. What were the main activities implemented by the extension advisers to identify and develop the income-generation projects?
3. What criteria were used to select the beneficiaries of the program and what was the process followed?
4. What is your opinion about the quality of the training program?, Do you think that there had any improvement compared with the 1996-200 extension model?
5. What do you consider have been the most important problems in the implementation of this new strategy to deliver extension services?
6. What are the major limitations to reach the objectives established?
7. How can the government help the farmers better?

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APPENDIX B

FIELDWORK NOTES

January 15, 2002

Program administrator 1

Question 1. Para la selección de los PSP se tomo en cuenta la entrevista personal y la evaluación realizada por el coordinador si el PSP había participado anteriormente en el PEAT o PCE.

Question 2. En este nuevo programa los PSP tenían la responsabilidad de trabajar con organizaciones de productores para identificar un proyecto productivo, mismo que después evaluarían e implementarían.

Question 3. A diferencia del PEAT donde el técnico tenia que conformar un modulo de 80 productores y levantar un padrón con sus respectivas firmas, en el PESPRO los beneficiarios fueron organizaciones o grupos de productores quienes para poder participar debían llenar una solicitud donde solicitaban los servicios de un técnico, podían solicitar a alguien en especial o pedir que la Vocalia lo asignara. Estas solicitudes fueron entregadas al CADER o al DDR, después pasaron a la CDR quien las analizo y aprobó las que serian apoyadas.

Question 4. Definitivamente la calidad de la capacitación mejoro. Desafortunadamente hubo algunos problemas con los formadores, al principio los técnicos estaban confundidos sobre como realizar los diagnósticos pero los formadores ofrecieron asesoráis y eso ayudo mucho. Algunos técnicos comentaron que fue mucha información pero muy útil.

Question 5. El principal problema ha sido el tiempo, estamos un poco atrasados, no estoy seguro de que los proyectos puedan estar listos para fines de Septiembre, posiblemente vamos a tener que darles mas tiempo.

Question 6. La mayor limitación es la disponibilidad de recursos, si a fines de octubre no hay suficiente dinero para apoyar todos los proyectos algunos productores podrían sentirse decepcionados y ya no creer mas en el programa. Aun así algunos productores se han quejado porque dicen que los técnicos no les están dando asesoráis como en otros años, se les ha explicado que ahora están trabajando en un proyecto pero ellos quisieran ver al técnico todos los días en campo como sucedía anteriormente en el PEAT.

Question 7. Creo que esta es una buena estrategia para apoyar a los productores, desafortunadamente el campo esta muy descapitalizado y va a ser difícil convencer a los productores de trabajar organizados y sobre todo de invertir recursos, estaban muy acostumbrados al paternalismo gubernamental, pero creo que es una buena oportunidad para romper con esos vicios.

January 18, 2002

Program administrator 2.

Question 1. Para la contratación de los PSP fueron considerados varios criterios, los mas importantes fueron una entrevista y la evaluación de desempeño del año anterior. Muchos de los técnicos no pasaron el proceso de selección por lo que fue necesario contratar técnicos de nuevo ingreso. Algunos de ellos entraron después debido a que algunos técnicos fueron dados de baja porque no cumplieron con el diagnostico y el proyecto. Este es un cambio importante con respecto al programa anterior, desafortunadamente todavía hay algunos casos de técnicos "recomendados" que se sienten intocables.

Question 2. Las actividades desarrolladas por los PSP fueron los talleres comunitarios donde se realizo el diagnostico y la identificación del proyecto productivo.

Question 3. En teoría debían ser los grupos de productores quienes solicitaran directamente a los técnicos a través de una solicitud. Sin embargo, en la practica fueron los técnicos mismos quienes se encargaron de llenar la solicitud y hacerla llegar al DDR. Los productores aun no están convencidos de necesitar a un asesor técnico.

Question 4. El contenido de los cursos fue bueno, sin embargo creo que los formadores de aquí del estado no fueron los mas adecuados. Por alguna razón la convocatoria no de difundió y debido a que solo un despacho participo al final fueron ellos los elegidos. Pero definitivamente hay gente en la entidad con mucha mas experiencia en proyectos que ellos.

Question 5. Yo creo que todos los programas son buenos, la diferencia esta en la gente y en la forma en que se implementan pero en el papel todos suenan bien. Este tiene objetivos muy ambiciosos habrá que ver que tanto se cumplen. Las principales problemas para su implementación han sido los mismos de siempre, la llegada tardía de los recursos lo cual afecta los tiempos.

Question 6. Los mayores limitaciones para cumplir los objetivos establecidos estarán por el lado económico, no creo que haya suficientes recursos para apoyar todos los proyectos.

Question 7. El gobierno debe continuar apoyando a los productores pero en forma diferente a como lo ha hecho en los últimos 20 año.

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