TOWARD PRIVATIZATION OF AGRICULTURAL EXTENSION: A CASE STUDY OF THE VERACRUZ SELF-MANAGEMENT SYSTEM OF PRODUCTION, MEXICO

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Abstract

Strategies for agricultural extension have been changing in the last decade in Mexico. The Veracruz Self-Management System of Production (SIVAP) was created in 1994 under an extension privatization strategy. An evaluative study of a portion of this program showed that the strategy was not applied completely or effectively. Although farmers wanted to participate in the program, most of the traditional drawbacks, including performance of extension workers, scarce resources and lack of support to carry out extension activities, and weaknesses in leader-follower relationships, inhibited farmer participation and accomplishment of the program's goals.

Introduction

Structural and strategic changes in agricultural extension and rural development have been occurring since the late 1980s in Mexico. These changes stem from the country's general modernization policies, including a free market orientation and liberalization of the economy. In this environment, the shift from a government-managed public extension service to a system that is beginning to privatize has been a significant change. Of specific interest to the author was the experience of the new "Sistema Veracruzano de Autogestión Productiva," (SIVAP), a new system of self-managed extension created in 1994 to modernize agriculture and improve the productivity and welfare of rural people in the region.

The Mexican Government planned structural changes in the agricultural sector as a part of national policy. A new role was envisaged for state government in its relationships with farmers and the market by which the functions of producing and delivering goods and services would be transferred to private enterprises and organizations (Secretaria de Agricultura y Recursos Hidraulicos, 1990). As a result, state government budgets and credit for social and extension programs were reduced. At present, this process of change is in transition from the state government serving in its old role of protector and patron to the new role of promoter, coordinator, facilitator, and regulator. The mandate is for government to stimulate farmers' initiative and participation so that they become enterprise producers, who would use the advantages of free market mechanisms.

SIVAP is not a completely privatized system in the true sense of privatization where goods and services are paid for exclusively by customers. It is as yet a government-funded and organized program of agricultural development, which has a component of privatization of technical assistance, training, and other extension services. Salaries of extension personnel providing these services are paid by the state or federal government, while the cost of extension services has to be assumed by farmers (Secretaria de Desarrollo Agropecuario, Forestal y Pesquero del Estado de Veracruz, 1994).

Two other characteristics distinguish SIVAP from the government-managed public extension
service. One is the notion of the extension worker as a private manager (gestor privado in Spanish). Private managers are located in private offices. Their main task is to encourage farmers to adopt new ideas and practices for improving agriculture. They are frontline workers similar to village extension workers in a conventional agricultural extension system. Also in the SIVAP setup are extension agents who coordinate the work of and assist private managers in their tasks. These agents parallel agricultural extension officers.

The second distinguishing characteristic of SIVAP is that more successful farmers are used to transfer their technological knowledge, experience, and skill to less successful farmers in the community. This approach assumes that appropriate technology, and efficient and successful farmers exist in a given region and can be shared. Three types of farmers are identified: (a) enterprise farmers who use high technology, (b) medium farmers who use their own improved technology, and (c) subsistence farmers who use traditional technology. In implementing the SIVAP strategy, the state government of Veracruz designed a mechanism in which state and federal agencies, and private and business organizations participated in the program by facilitating services and inputs. The expectation was that the program would improve productivity and farmers' income.

SIVAP's mission of improving farm productivity, and its operating strategy of using successful farmers to spread technology to other farmers are similar to the Training and Visit Extension System's (T&V) objective of increasing the efficiency and effectiveness of technology transfer among small farmers, and its strategy of using contact farmers to influence non-contact farmers to adopt improved technology, developed by Benor and promoted by the World Bank in Asia, Africa and Latin America (Benor, Harrison & Baxter, 1984).

The SIVAP program started in April 1994. According to Secretaria de Desarrollo Agropecuario, Forestal y Pesquero del Estado de Veracruz (1995), 425 leaders and 3,168 followers from 348 rural communities were in the program. To support extension activities, 60 extension workers from 13 private offices were involved. In addition, 96 agribusiness enterprises were affiliated with the program. The area of the state is 72,815.7 square kilometers, with a population of approximately six million, 44% of whom are rural. Although the program had been in operation for three years, it had not been evaluated. Obviously, program directors and officers, politicians, and state and federal organizations wanted to know how the program was progressing, and what impact it had had on the region. Questions to be answered were: How has the strategy worked in terms of extension agents' performance and farmers' participation? What are the results in using recommended technologies, improving farmers' skills, and increasing agricultural production and productivity?

The Program of Rural Development Studies of the Colegio de Postgraduados (a graduate college) in Montecillo, Mexico, was asked to evaluate a portion of the program. A report of the evaluation is given in this article.

**Purpose and Objectives**

The overall purpose of the study was to determine the impact of SIVAP's self-managed extension program on farmers and extension agents. The specific objectives of the study were:

1. To determine the characteristics of extension agents and their perceptions about the program.
2. To determine the characteristics of farmers.
3. To determine the participation of leaders and followers in SIVAP activities.
4. To determine tasks performed by leaders in the program, and their perceptions of the program.
5. To determine participation of farmers in the program, and their perceptions of the program.
Methodology

This was a descriptive study using a survey design to gather data. In addition to personal interviews with designated study respondents, direct observation, and review of official documents was done.

The population of farmers in the two development districts (004 and 009) of the state selected for the study was 440: 26 leaders and 218 followers in SIVAP, and 196 non-participants. These districts are pilot areas in which SIVAP activities are concentrated, and which the program director wanted to include in the evaluation.

Samples from followers and non-participant farmers were drawn using stratified random sampling. Sample size for the two groups was determined using Cochran’s formula for determining sample size with maximum variance, and 95% of level of confidence. A total of 37 followers and 30 non-participant farmers were included in the sample. All 26 leaders were planned to be interviewed, but only 20 could be included. Questionnaires were designed for each of the three respondent groups, but most of the questions were the same. Questionnaires were constructed by the evaluation team based on experience with the program, and pertinent literature. Two graduate students, a research assistant, and a professor in the Colegio de Postgraduados were on the evaluation team. The questionnaires for followers and non-participants were pre-tested for face validity with a small number of each group. Data were collected by the two graduate students on the evaluation team after receiving training on how to conduct personal interviews.

To get additional information, a review of official documents and records, informal face-to-face interviews with seven extension agents, two program supervisors and the SIVAP coordinator, and direct observation of farmer participation in SIVAP activities in the field, were done. Interview data were entered into a computer using dBase, and descriptive statistics determined using the Statistical Analysis System.

Results

Characteristics and Perceptions of Extension Agents

In SIVAP, the extension worker is called a private manager who performs the function of supporting and assisting farmers, especially leaders, in acquiring technological knowledge and farm management skills. In the two development districts included in the study, four private extension workers, one municipal extension manager, and two supervisors were charged to organize and carry out extension activities. Two agents were women; average age was 32 years; most agents were agronomists; none of them had more than 5 years of experience as an extension worker. Most agents did not attend any training courses in the three-year program period of SIVAP.

Private managers were from the region of the study. Despite low salaries, they were motivated to work in the program. A major proportion of salaries came from the state government. According to SIVAP, farmers will be able to pay for technical services in another three years.

The principal problem perceived by extension workers was inadequate facilities to carry out extension activities. For example, three agents did not have a vehicle for transport or the resources to carry out training courses and field demonstrations.

Infrequent and inadequate communication was also cited as a problem because there was no single line of command, and linkages with research, input, and service institutions were practically nonexistent. Much could be done to improve farmers’ capacity for production and self-management, but lack of facilities was a major hindrance.

From the above, it can be inferred that extension workers have serious limitations in performing
their tasks effectively. This contradicts the principle that to teach farmers suitable technical practices and convince them to try the technology, extension workers must receive intensive support and guidance. Also, their work must be recognized personally, and in the form of opportunities for professional growth and technical upgrading.

Characteristics of Farmers

The characteristics of farmers designated as leaders, followers, and non-participants in SIVAP who were included in the study are shown in Table 1.

All farmers were male. The average age of farmers in the three groups was about the same, and close to the average age of 48 years from other regions of Mexico (Quispe & Jimenez, 1996). Average number of years of schooling for the three groups was also about the same and slightly higher than the 3.5 years for other rural regions of Mexico (Quispe & Jimenez, 1996). Percent illiteracy was twice as high for non-participating farmers as the other two groups, and also higher than the 7% rate for rural Mexico (Quispe & Jimenez, 1996). Average family size was considerably higher for leaders as compared with the other two groups. Leaders in both development districts of the study owned nearly twice as much land in their farms as followers. Non-participants had the smallest holdings. Larger land holdings in District 004 could be because of the lower population density, 111.8 inhabitants compared to 124.7 inhabitants per square kilometer in District 009 (Instituto Nacional de Estadistica, Geografia e Informatica, 1994).

Leaders’ and Followers’ Participation in SIVAP Activities

According to the SIVAP report, Massification of SIVAP (1995), many training and field demonstration activities were organized by extension agents. Between 2 and 4 such activities were conducted each year, depending on the situation.

Table 1

Characteristics of Farmers Designated as SIVAP Leaders, Followers, and Non-participants in Selected Development Districts of Veracruz.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>SIVAP Leaders (n=20)</th>
<th>SIVAP Followers (n=37)</th>
<th>SIVAP Non-participants (n=30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Female</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Average age (years)</td>
<td>46.0</td>
<td>41.0</td>
<td>41.0</td>
</tr>
<tr>
<td>Average schooling (years)</td>
<td>4.0</td>
<td>5.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Percent illiterate (%)</td>
<td>5.0</td>
<td>5.4</td>
<td>10.0</td>
</tr>
<tr>
<td>Average family size (n)</td>
<td>8.0</td>
<td>6.0</td>
<td>6.0</td>
</tr>
<tr>
<td>Average farm size (hectares)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>District 004</td>
<td>33.0</td>
<td>19.0</td>
<td>10.0</td>
</tr>
<tr>
<td>District 009</td>
<td>9.0</td>
<td>5.0</td>
<td>3.2</td>
</tr>
</tbody>
</table>
Table 2

Participation of Farmers in SIVAP Training Activities Organized by Extension Agents in 1996.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Leaders (n = 20)</th>
<th></th>
<th>Followers (n = 37)</th>
<th></th>
<th>Total (n-57)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Training</td>
<td>14</td>
<td>70.0</td>
<td>23</td>
<td>62.2</td>
<td>37</td>
<td>64.9</td>
</tr>
<tr>
<td>Field demonstrations</td>
<td>8</td>
<td>40.0</td>
<td>23</td>
<td>62.2</td>
<td>31</td>
<td>54.4</td>
</tr>
<tr>
<td>Technical assistance</td>
<td>16</td>
<td>80.0</td>
<td>17</td>
<td>45.9</td>
<td>33</td>
<td>57.9</td>
</tr>
<tr>
<td>Orientation on how to get credit</td>
<td>4</td>
<td>20.0</td>
<td>5</td>
<td>13.5</td>
<td>9</td>
<td>15.8</td>
</tr>
<tr>
<td>Explanation on how to get input facilities</td>
<td>11</td>
<td>55.0</td>
<td>0</td>
<td>0.0</td>
<td>11</td>
<td>19.3</td>
</tr>
<tr>
<td>Explanation on how to fill out and use the productivity cards</td>
<td>15</td>
<td>75.0</td>
<td>0</td>
<td>0.0</td>
<td>15</td>
<td>26.3</td>
</tr>
</tbody>
</table>

The data in Table 2 show that nearly two-thirds of the farmers participated in training activities concerning corn production practices such as fertilization, new varieties, and soil management, and over one-half took part in field demonstrations or received technical assistance from extension workers. Twice as many leaders as followers got technical help from extension agents, but more followers took part in field demonstrations. The participation of farmers in training on how to get credit and inputs, and fill out and use productivity cards was poor or nonexistent. Very few farmers received credit information because of high interest rates and/or annoying procedures to get credit. A majority of the leaders but none of the followers received explanations from extension agents on how to get input facilities (55.0%) and use productivity cards (75%). These tasks are expected to be performed as a service to followers by the leaders. It would appear, therefore, that leaders did not fulfill this obligation.

Leader Task Performance and Perceptions of SIVAP

According to SIVAP strategy, the primary role of leaders is to transfer technology and assist followers in adoption. Several open-ended questions were asked to see how leaders perceived and performed their role.

To the question "Why are you participating in the program?", a majority of the leaders (53.8%) said they participated because they needed technical assistance (29.3%), government support (19.5%), or credit (4.9%). Less than half the leaders said the reason for their participating was wanting to help other farmers (46.3%).

When asked what tasks were performed, 45.0% of the leaders said they helped followers, 45.0% transmitted their knowledge and experience, and extension recommendations to followers, while 10.0% did not know what tasks they were expected to perform.

In SIVAP, each leader selects and assists 8-10 followers. It was found that 90.0% of the leaders selected relatives, 5.0% chose friends, and 5.0% relied on the extension agent to select the followers.

On the kinds of activities organized to encourage followers to adopt recommended technology, 90.0% of the leaders used formal and informal meetings and demonstrations, 75.0% visited followers' farm plots, 55.0% collaborated with the agent in organizing meetings and related activities, and 7.4% taught farmers how to use cards.

Leaders indicated that only 58.3% of their planned activities could be carried out due to lack of support from extension agents, and
scarcity of inputs. They corroborated the lack of support by SIVAP reported by extension agents.

Followers' Participation in and Perceptions of SIVAP

The SIVAP strategy assumed that followers would learn from, and apply recommendations given by leaders. Over three-fourths of leaders said they decided to participate in SIVAP to receive technical assistance (54.0%) or learn new technologies (21.6%); the remaining one-fourth needed government support (16.2%), or credit (5.4%). Over one-half of the followers (56.8%) received explanation about the nature, objectives and strategies of SIVAP from leaders or extension agents. The rest got some information from friends and neighbors (35.1%), or no explanation at all (8.1%). This suggests that a number of farmers did not know enough about SIVAP. They also expected, from past experience, to receive support and help from the state or federal government, and not be actively pursuing opportunities for their own progress.

On a question regarding services and learning received from leaders, 48.6% received services, assistance or help. Of the farmers who received help from leaders, 27.0% got this help through group meetings, practices and field demonstrations; 29.7% obtained technical assistance; 29.7% learned how to fill out and use productivity cards; 13.5% learned how to get credits and other inputs; and 13.5% learned how to better commercialize their products. This group was also asked what agricultural practices they had learned from leaders. Most of them (66.6%) learned how to fertilize and seed for corn production, 22.2% learned insect and rodent control, 11.1% how to prepare and use manure as fertilizer, and 11.1% how to get credit and other inputs. A few farmers indicated learning more than one practice. This may suggest that farmers can learn from one another if there is appropriate communication among them, and favorable internal and external conditions.

Followers were also asked their opinion about the performance and attitude of their leaders. Opinions were divided on this question: 50.0% indicated that their leaders did a good job, 30.0% were not totally convinced, and 20.0% did not have a good opinion.

Both followers and leaders emphasized that the main problem was not the need for technical assistance or new technologies, but the expense of farm inputs such as fertilizers, pesticides, tools, and equipment, and the low price they received for agricultural produce, especially corn. This was due to a general crisis in the economy, and pricing policies. In fact, the cost of corn production (US $336/hectare) was greater than the value of the yield (US $265/hectare).

Non-participants' Opinions about SIVAP

Non-participant farmers were also asked about SIVAP. Nearly two-thirds of them had heard about SIVAP from friends, relatives or neighbors, but no one knew details of the program. This group was asked why they did not participate in the program. Nearly 80.0% were not informed or notified to participate, 10.0% had other responsibilities, and 10.0% were not interested. Asked if they would like to participate in SIVAP, 80.0% responded positively. This may suggest that SIVAP is still unknown but has potential in the region.

Opinion of farmers on their socioeconomic situation. Leaders, followers, and non-participants were asked to indicate on a 7-point Likert-type scale their socio-economic situation three years before the program started, at present, and in the next three years, using 1 to signify the poorest situation, and 7 the richest. The data in Table 3 show that all three groups felt their current situation was better than before the start, and that the future situation after three years would further improve. Leaders and followers were about equally optimistic, more so than non-participants. However, most farmers did not attribute this to the program, but to their own efforts and sources.
### Table 3

**Farmers’ Opinions About Their Socioeconomic Situation.**

<table>
<thead>
<tr>
<th>Farmer Group</th>
<th>Three years before start of program mean rating</th>
<th>At present mean rating</th>
<th>Next three years mean rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders</td>
<td>2.40</td>
<td>3.80</td>
<td>5.35</td>
</tr>
<tr>
<td>Followers</td>
<td>2.05</td>
<td>3.49</td>
<td>5.51</td>
</tr>
<tr>
<td>Non-participants</td>
<td>1.80</td>
<td>2.87</td>
<td>3.97</td>
</tr>
</tbody>
</table>

*a* Rating: 1=”poorest”; 7=”richest”

### Conclusions

The study showed that SIVAP has had limited success as a self-managed extension system as it moves toward the goal of privatizing extension services to farmers. Although farmer leaders and followers feel that their socio-economic situation has improved since the start of the program, this may not be as a result of the program. Other reasons not studied could be responsible.

Many weaknesses and difficulties are evident in the program's implementation. Leaders participated in extension-organized activities more than followers; in some cases, there was no follower participation. Apparently, leaders did not fully understand that their role was primarily to receive training from agents and transfer this knowledge as well as their experience to help followers apply new technology. One-half of the leaders admitted that they participated in SIVAP to get technical assistance and government help for themselves. On a positive note, those leaders who assisted followers used various meetings, demonstrations, and plot visits on their own initiative, or in collaboration with extension agents. For their part, farmers were about equally divided on their opinion about the quality of service and learning received from leaders, and the performance and attitude of leaders.

Lack of resources and inadequate infrastructure and communication continue to hamper extension agents from performing their job. Farmers and extension agents had similar opinions in this regard. Farmers also were disadvantaged by the high cost of farm inputs, low market prices for agricultural produce, and unfavorable price policies.

### Implications

In a time of change and scarce resources for improving agriculture, and the life condition of farmers, it is important not just to have a good plan but to effectively implement it. SIVAP has the potential to be a good program, but for this potential to be realized, weaknesses in the job performance and organization of extension agents need to be corrected, and facilities and support to effectively carry out extension activities should be provided. Undesirable farming conditions have to be corrected, and farmers' efforts need support of active, high-performing extension agents.
References


