

Learning Organizations That Support Innovation: Mexico's Produce Foundations

Javier Ekboir, Institutional Learning and Change Initiative (ILAC)

SYNOPSIS

A number of internal and external factors influenced the evolution of Mexico's Produce Foundations (Fundaciones Produce), a federated farmer organization that funds and implements research, extension, and innovation projects. The Produce Foundations developed strong innovation capabilities that enabled them to search for new ways to support agricultural innovation. The main internal factors were the creativity of a few farmers on the boards and of some foundation managers; the development of effective collective learning routines; the creation of an organizational culture that valued exploration, creativity, innovation, and a sense of duty; and flexible governance structures. The external factors were the existence of dynamic markets that created challenges and opportunities for farmers and the presence of key policy makers who were willing to allow the foundations to experiment and change. Autonomy and independence proved important: there is a positive correlation between a foundation's autonomy from the state government and its institutional development, efficiency in achieving its mission, and innovativeness. Decentralized experimentation and centralized learning were important to success, along with willingness on the part of federal and state governments to let the foundations explore new instruments to fulfill their mandate.

CONTEXT

In the mid-1980s, Mexico began to deregulate domestic markets and trade and establish a multiparty democracy. The central government devolved power to the states and opened channels for civil society participation. These changes created new opportunities and increased competition for agricultural producers, who reacted by looking for advanced technologies. When the public research institu-

tions could not provide them, producers and other actors in the AIS imported or developed them. The federal government also saw technical change as an important instrument to boost competitiveness, but it recognized that the public research and extension system was not responding to farmers' needs. Following the prevalent model of agricultural research, the government argued that the main problem was that the research system was supply driven and had to be replaced by one that was demand driven. At the same time, the federal government restricted its support for research. Public extension organizations were closed and replaced by a program to develop markets for technical advice.

OBJECTIVES AND DESCRIPTION

Mexico's Produce Foundations (Fundaciones Produce) are an example of a federated farmer organization that funds and implements research, extension, and innovation projects. They are also examples of learning organizations. Mexico has 32 foundations, one in each state. A national coordinating body (COFUPRO, Coordinadora Nacional de las Fundaciones Produce) facilitates organizational learning and interacts with the federal government. Each Produce Foundation is governed by a board, which is dominated by progressive farmers and also includes representatives from the federal and state governments. Operations are directed by a professional manager. COFUPRO, in turn, has a board integrated by the presidents of some of the foundations, a representative from the federal government, and another from the national agricultural research organization. Day-to-day operations are delegated to a professional management team.

The Produce Foundations' main program operates an annual budget of about US\$45 million, 85 percent of which is contributed by the federal government and 15 percent by

the states. The foundations also receive additional funds from public and private sources for special projects. Individual farmers cannot join the Produce Foundations; instead, a few farmers are invited to participate on the boards, and each foundation sets the selection criteria.¹ Individual farmers participate in projects financed by the foundations, both as collaborators and as contributors of resources. Initially, the Produce Foundations financed projects that mainly helped commercial farmers; over the years, they have increasingly sought to meet the needs of small-scale farmers while continuing to support commercial agriculture.

The objective that motivated the creation of the Produce Foundations was to mobilize additional funds for the national agricultural research organization and transform supply-driven research and extension systems into demand-driven systems. After several iterations, the current objective of the federal government and the Produce Foundations is to explore new instruments to foster innovation, transform traditional research organizations and universities so that they can better integrate into innovation processes, explore new methods to diffuse innovations, and influence the design and implementation of research, extension, and innovation policies by participating in policy dialogues and educating policy makers on the nature of innovation.

The changes in the Produce Foundations' objectives reflect lessons learned by the government and the foundations. When the federal government created the foundations in 1995 as part of its efforts to democratize and establish a new model for agricultural research, it negotiated with each state governor to establish a foundation that would administer public and private funds for finance research and extension projects. Each governor handpicked progressive farmers to join the state foundation's board. Soon after joining the boards, a few farmers recognized that they lacked an understanding of managing public funds for research and extension, and they started to exchange information on how they operated their foundations. This process enabled innovative foundations to differentiate themselves from the others. The foundations were also influenced by the political climate in their respective states, the presence of innovative farmers on their boards, and the backgrounds of the foundation managers (especially with respect to their managerial experience in large organizations).

In the beginning, when the federal and state governments controlled the Produce Foundations' boards, farmers from about six foundations demanded independence. At first the federal and state governments opposed

their independence, but soon they recognized the benefits of civil society participation and supported the independent Produce Foundations. Eventually most foundations followed suit and requested independent status as well. The innovative farmers also realized that the individual foundations were too isolated and that a national coordinating office was needed; before long, COFUPRO was created.

Over the years, COFUPRO and the foundations have developed a better understanding of innovation processes and consolidated their structure, operational routines, and institutional culture. The process entailed a progressive transfer of authority from individual foundations to COFUPRO. The main benefits of a strong COFUPRO were (1) the consolidation of a system of decentralized experimentation with centralized learning, (2) stronger lobbying capabilities, (3) more transparent use of resources, and (4) more effective operational rules. The learning process was particularly effective. The foundations moved from financing traditional research and extension projects to supporting innovation activities and stable interactions among researchers, technical advisers, firms, and farmers. Each foundation tried new ways to support innovation and to manage its funds. Once effective operating routines were developed, they were adopted by all of the foundations.

The foundations implement a number of activities, but the most relevant for this module are their priority-setting methods, allocation of funds, and exploration of new methods to foster innovation:

- *Priority setting.* Over the years, the foundations tried several methods to set priorities. The most important was a two-year national consultation implemented in 2002, which was the basis of all agricultural policies for the following five years. The process was considered too costly and never repeated. In the following years, each foundation developed its own priority-setting method, but they are converging on a permanent dialogue among the foundation, researchers, and important stakeholders from the different agricultural clusters. In other words, they have moved from a demand-driven, linear process to a continuous dialogue that results in participatory research and innovation (there are several modes of participation, however).
- *Allocation of funds.* For many years, the foundations used a competitive fund to select the projects to be funded. In 2006, they realized that this method did not induce researchers to abandon their linear vision of science, and

they started to contract research and innovation projects directly with research institutes and other service providers. Additionally, the foundations started to prioritize projects presented by groups of actors (usually farmers and researchers) that had developed stable relationships.

- *New methods.* In recent years, some foundations have played a catalytic role in the emergence of innovation networks that explore new research and diffusion methods. These activities have not been evaluated yet.

INNOVATIVE ELEMENT

The Produce Foundations' relevance resulted from their continued exploration of new mechanisms to foster agricultural innovation and to develop organizational capabilities. This exploration was made possible by the presence of a few innovative individuals operating in a socioeconomic and institutional environment that allowed the foundations to change. It was further supported by the development of an organizational culture that allowed new alternatives to be explored.

BENEFITS, IMPACT, AND EXPERIENCE

The Produce Foundations had several impacts on the Mexican AIS:

- They funded research projects that opened new export markets, boosted the profitability of agriculture, solved serious production constraints (for example, with improved pest control), and improved the sustainable use of natural resources.
- They induced the emergence of networks that explored new approaches to foster innovation.
- They implemented development projects that benefited small-scale farmers.
- They influenced the operations of public research institutes and universities.
- They opened opportunities for researchers to interact directly with farmers, helping them to replace the linear vision of science with an innovation-based model of science.
- They influenced the design and implementation of agricultural policies, especially for research and innovation programs.

- They helped other actors in the AIS, especially farmer organizations and policy makers, to understand the nature of agricultural innovation.

LESSONS LEARNED AND ISSUES FOR WIDER APPLICATION

A number of internal and external factors influenced the evolution of the foundations. The main internal factors were the creativity of a few farmers on the boards and of some foundation managers; the development of effective collective learning routines; the creation of an organizational culture that valued exploration, creativity, innovation, and a sense of duty; and flexible governance structures. The external factors were the existence of dynamic markets that created challenges and opportunities for farmers and the presence of a few policy makers in key positions who were willing to allow the foundations to experiment and change.

Autonomy and independence proved important. There is a positive correlation between a foundation's autonomy from the state government and its institutional development, efficiency in achieving its mission, and innovativeness. These features result from the presence of more innovative individuals, the greater commitment shown by the board members, and more professional management staff.

Decentralized experimentation and centralized learning were important. The foundations succeeded because they could explore more effective operating routines and new instruments to foster innovation. The emergence of COFUPRO and the foundations' ability to change resulted from the creation of variation (32 foundations, instead of one centralized organization) and an effective process of self-organization, greatly influenced by a few innovative individuals. The combination of independent foundations with strong interactions also became a mechanism to explore alternative organizational routines and diffuse the most effective ones (box 1.24).

Finally, it was crucial that the federal and state governments allowed the foundations to explore new instruments to fulfill their mandate (box 1.25). The effectiveness of the mechanism was hampered, however, by the informality of the information flows, the lack of methods to guide the exploration, weak incentives for unwilling foundations to adopt best practices, and the loosely structured activities, which made the performance of individual foundations dependent on the personalities of the people in command.

Box 1.24 Organizational Learning in Mexico's Produce Foundations: Evolution of Priority-Setting Procedures

At the beginning, the Produce Foundations had no pre-defined criteria to allocate funds. Farmers on the board would select projects to finance from among the proposals freely submitted by researchers. The foundations soon realized that the projects did not respond to farmers' needs, and they started to search for priority-setting methods. They learned of a methodology developed by the national science and technology council, which was based on the construction of restriction trees and an ex ante cost-benefit analysis of potential projects. This methodology was used for a couple of years.

In 1997, COFUPRO authorities met the research director of the International Service for National Agricultural Research (ISNAR), who provided guidelines for a methodology based on accepted practices for project design. The method involved organizing forums where the various actors in agricultural chains could diagnose their most important problems. Over the next two years, the foundations adapted this methodology to the Mexican environment. They recognized that ISNAR's methodology was better than the council's approach because it was based on wider criteria than the expected costs and benefits, and it enabled different actors to help define priorities. The foundations implemented the methodology in 2002 and 2003 to prioritize agrifood chains and identify

research demands, first in each state and then at the national level—an exercise that was not repeated because it was deemed too expensive.

After a few years, the foundations realized that a demand-driven system and clearly defined priorities did not guarantee that researchers would provide solutions that farmers could use, because it still allowed researchers great latitude in defining the approaches to solve the problems. The next step was to modify the call for proposals. The calls were very narrowly defined (almost down to the title of the project desired), but after a few years, the foundations realized that this new method still did not solve their problem because it was based on a linear vision of science. More recently, the foundations experimented with different approaches to define priorities and transform how researchers defined their methodologies. Researchers have been induced to interact more closely with farmers and move from their traditional research domains to participate in innovation networks.

The foundations continuously analyzed the limitations of the prioritization procedures in use and actively sought alternatives. As they collected information, they absorbed it to develop their own methods, which in turn induced changes in resource allocations and the monitoring of projects.

Source: Ekboir et al. 2009.

Note: ISNAR was a CGIAR center that closed in 2004. IFPRI absorbed some of its work.

Box 1.25 Mexico's Produce Foundations Explore New Approaches to Foster Innovation

The Produce Foundations initially financed traditional research and extension projects, but realized after a few years that the projects had little impact on agriculture. In 2003, an external evaluation introduced the foundations to the notion of innovation systems. A second evaluation in 2004 explained how to set up innovation projects. Since then, several foundations have implemented innovation projects, while continuing to support traditional research and extension activities. The innovation projects include the following:

- Development of an organization of small-scale farmers and their families that markets dried and processed hibiscus flowers and uses the by-products to feed chickens for egg production.
- Development of a farmer-to-farmer system to exchange technical and commercial information; the system is based on Social Network Analysis techniques to identify the most effective communicators.
- Creation of a company of small-scale farmers to sell processed sheep meat to domestic and foreign markets.
- Establishment of a consortium of researchers who interact closely with farmers to validate and disseminate innovations for livestock production.
- A joint venture with large-scale farmers to finance a stable research program (which included paying a researcher's doctoral studies) to develop innovations for pecan production.
- With financing from foreign foundations, importing a small sewage treatment plant for two remote, impoverished villages and using the treated water to irrigate greenhouses to produce fresh vegetables.
- Teaming up with Wal-Mart to develop a supply chain for fresh vegetables produced by small-scale farmers.

Source: Author.