

Successful Organizational Learning in the Management of Agricultural Research and Innovation

The Mexican Produce Foundations

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To be an effective poverty alleviation instrument, agricultural policies (including research, extension, and innovation) must be based on an evolutionary approach that emphasizes experimentation, learning, and active interactions among diverse partners. However, most agricultural research and extension policies and institutions in developing countries lack the necessary flexibility to implement such an approach. Instead, they apply uniform recipes and struggle with organizational rigidities and other problems. Notable exceptions to this trend have been the Mexican Produce Foundations (PFs). While most organizations eventually lose their creativity and seldom regain it, the PFs have learned, adapted, and contributed to major and diverse impacts on the Mexican agricultural innovation and research systems.

Such impacts came from activities that were peripheral to the PFs' original purpose of managing funds for a national institute devoted to agricultural research. This research report investigates the success of the PFs, exploring how they have sustained organizational innovation over extended periods and adapted to maximize their impact on the agricultural innovation system.

Using a theoretical framework that draws on the literature on innovation systems, complexity theories, and organizational cultures and governance, this study analyzes the factors that allowed the PFs to develop strong innovative capabilities and how these capabilities were affected by changes in the interactions among regulatory frameworks, the federal and state governments and organizational structures, creative individuals, and the history of the processes. Understanding the factors that enabled such unusual behavior will help to improve the design and implementation of innovation and research programs in developing countries. Studying the PFs also offers new insights into the dynamics of innovative organizations and how they relate to innovative capabilities.

HISTORY OF THE PRODUCE FOUNDATIONS

The Mexican Produce Foundations were created at a time when the Mexican economy was changing fast and existing agricultural research institutions had difficulties adapting to the new environment. Prior to the early 1980s, public agricultural research institutions focused almost exclusively on enhancing agricultural productivity; the leading research institution—

the National Institute for Forestry, Agriculture, and Livestock Research (INIFAP)—concentrated on increasing the output of both cattle ranching and key traditional products such as maize, wheat, beans, and barley. The protection provided to domestic markets reduced the need for innovation and essentially enabled inefficient production structures to survive. The minimal incentives for these institutions to adapt also meant they had little need to interact with farmers or other productive agents.

As domestic markets and international trade were deregulated in the 1990s, competitiveness and sustainability became farmers' chief priorities. These priorities required agricultural innovations based on a systemic perspective of both productive and marketing processes and close cooperation between researchers and other agents in the innovation system. Public-sector research institutions continued with their traditional routines and areas of research, however, and it was in this context that the PFs emerged. The PFs were created in 1996 at the initiative of the then-federal Secretary of Agriculture, Francisco Labastida Ochoa, and, within a year, every state except Mexico had one. The PFs' mission was to manage public funds for research and extension. They included local farmers on their boards of directors along with representatives of government agencies and INIFAP. The intention in bringing farmers onto the boards was to mobilize additional funds for INIFAP. These funds would be contributed by farmers through different mechanisms such as levies and voluntary contributions. Later, however, the farmers pressed to transform research from a supply-driven to a demand-driven system by drawing on the needs and priorities of each state's farmers.

The PFs eventually became far more farmer guided than originally intended. Over time, a few highly motivated farmers on the PF boards of directors made a successful push for independence from government control, removing the government and INIFAP representatives from decisionmaking positions. Further, the PFs formed a new office, the National Coordinator for the Produce Foundations (COFUPRO), to negotiate with the federal government; eventually, COFUPRO became instrumental in promoting learning among the foundations. The PFs explored different methods for evaluating which projects they should fund until they arrived at a common procedure. This procedure was an adaptation of a methodology developed by ISNAR (then an independent research center) to identify the most important agricultural chains and their research needs.

The prioritization process involved a variety of actors, including farmers and other agents in agricultural markets. This process opened an extremely valuable communication channel between farmers and researchers.

As the PFs' new structure and practices took shape, officials at the federal and state levels developed working relationships with COFUPRO and the PFs and began to value their contributions. Teaming with the federal Secretary of Agriculture, COFUPRO worked to standardize PF practices, create a common organizational culture, and curb excessive operational expenditures. In 2000, COFUPRO prepared a plan to strengthen INIFAP, leading to the elevation of COFUPRO's then-Executive Secretary to the position of INIFAP Director. Moreover, because of the involvement of agricultural producers in evaluating research priorities, this growing collaboration between PFs and federal and state authorities in turn created significant communication channels between producers and authorities.

By the early 2000s, the Mexican PFs had taken on new roles, influencing the design and implementation of agricultural research and technology policies and serving as non-partisan representatives of farmers. Today, the PFs are important stakeholders in the agricultural sectors, and the federal Secretary of Agriculture consults frequently with the PFs about their activities and public research and extension policies.

The PFs have influenced the agricultural research system in two significant ways. First, they introduced new concepts for the analysis and design of scientific and technological policies, especially the concepts of innovation and innovation networks. Second, they influenced research activities by opening channels

of communication between producers and researchers and by defining new research priorities.

On the whole, these results did not originate in the activities the PFs were created to carry out—that is, to manage funds for agricultural research and extension; instead the activities the PFs themselves developed as they evolved brought about such results. Despite their focus on commercial farmers, some PFs have implemented a number of innovative projects that targeted poor farmers; moreover, as time progressed, helping small farmers to access profitable markets and developing value chains that include poor households has become increasingly important for the most innovative PFs.

CONCLUSIONS

The history of the Mexican Produce Foundations offers some definite lessons about how to foster agricultural innovation. First, science, extension, and innovation policies should be flexible and evolve as new information and new capabilities are acquired. Second, authorities must be strongly and consistently committed to developing innovative capabilities. Third, research and innovation policies should balance exploration of new instruments with the exploitation of proven ones. Fourth, the presence of capable leaders is as important to an organization's success as its institutional design. Fifth, innovation programs need effective governance structures that allow innovators to influence decisions. Last, public research and extension institutions must recognize that they are not the leaders of innovation processes, but rather key supporting players.

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