INNOVATIVE ACTIVITY PROFILE 5

A Vision for Agriculture in Chile in 2030 and the Implications for Its Innovation System

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SYNOPSIS

In 2009, Chile's Ministry of Agriculture commissioned the World Bank to identify the long-term changes required for its AIS to be more effective. The World Bank collaborated with Chile's Foundation for Agricultural Innovation (FIA) to design a participatory process combining an analysis of major trends with input from opinion leaders, sector representatives, and others. The two major outcomes were (1) a vision statement that expresses Chile's agricultural potential and aspirations and (2) an action plan outlining changes for the innovation system to achieve that vision. The Ministry of Agriculture financed the study through a fee-based service agreement with the World Bank. The service cost US$250,000 (US$150,000 to develop the vision and US$100,000 to prepare the implications for the innovation system). FIA invested US$175,000 in the study and made a staff member available full time for the two years that the study required.

CONTEXT

Chile is a leading player in regional and global agricultural markets and regards itself as a food and forest powerhouse. Despite substantial development in the agricultural sector, agricultural growth has leveled off in Chile over the past decade, signaling that Chile's innovation system was more effective in the past and that changes are needed to forestall future negative growth.

Changes in the innovation system should anticipate the challenges of the future in addition to those that are apparent at present, because innovation is usually a slow process. Many years are likely to intervene between an initial idea or finding and its widespread application. Potential challenges can be related to any number of variables: domestic and international market factors, climatic and production conditions, competition with other sectors, social unrest, access to information and technology, logistics, and trade agreements, to mention just a few. It may be preferable for a country to overestimate such threats and be overly prepared than to underestimate them and be marginalized. Investments in innovation that respond to those challenges are a key ingredient in ensuring the future global competitiveness of Chilean agriculture and in meeting the increasingly sophisticated domestic demand for agricultural products.

This profile describes collaboration between Chile's Fundación para la Innovación Agraria (FIA, Foundation for Agricultural Innovation) and the World Bank to develop a vision for Chilean agriculture in 2030 and a corresponding action plan for the innovation system to realize that vision. For additional information on Chile's agricultural technology consortiums, see module 4, IAP 3; for a discussion of FIA and its activities, see module 1, IAP 3.

PROJECT OBJECTIVES AND DESCRIPTION

The project had two interlinked objectives. The first objective was to identify the main opportunities and challenges that Chile needs to address if it wishes to reinvigorate agricultural growth and propose a vision for Chilean agriculture toward 2030. The second was to identify the adjustments required for AIS to contribute effectively to realizing this vision. These objectives would be achieved through a process combining analysis, multidisciplinary consultation at different phases of the analysis, and synthesis of the results. The process is detailed in the sections that follow.

Developing scenarios and building the vision

Four *driver studies* were commissioned to identify key trends and driving forces of change that could be to be used for defining and building the scenarios. The studies focused on

markets and trade, rural policies and rural development, natural resource management and climate change, and science and technology. The team produced short summaries of the studies and shared them at the first workshop. Information on *seven subsectors (clusters)* (fresh fruit, processed food, wine, native forestry, dairy, red meats, and cereals) contributed to building scenarios and discussing their implications. Further input came from *interviews* with 11 opinion leaders and "remarkable people" (lateral thinkers who could bring alternative perspectives to the dialogue) representing a wide range of views from the public and private sector, as well as academia and civil society. These views helped in drawing implications and identifying important elements of the vision for 2030 (box 7.25).

A subsequent *scenario building workshop,* facilitated by FIA and World Bank staff and external consultants in December 2010, convened 24 experts from the public and private sectors, academia, and civil society. Four scenarios were outlined in a series of plenary sessions and smaller working groups. The core team then *consolidated the scenarios,* developing comprehensive descriptions that were submitted for *validation* to the original workshop participants, the scenario team, other experts in Chile (more than 70 people), and five external peer reviewers. The team incorporated the feedback, emphasizing scenario 2 ("Terra Calida") and consolidating scenarios 1 and 3 in a "Business as Usual" scenario (figure 7.4).

Action planning and dissemination of results

The core team combined the analysis and proposals from the position papers into an *action plan*. Box 7.26 summarizes the main thematic recommendations. In the final step, *consultation and dissemination,* the action plan was widely shared in the country through presentations, press releases, and web publishing. Feedback from these events concluded the process and initiated the *preparation of budget proposals*.

Box 7.25 The Vision for Chilean Agriculture in 2030

In 2030 Chile is a quality producer of a range of food and fiber products. Its international image is marked by the diversity that its geography allows it to produce. The sector has an emphasis on environmental sustainability and wholesomeness, valued by both domestic and international consumers. Through the application of ICT, investments in agricultural technology and the training of its labor force, Chile has been able to develop profitable value chains, well integrated from production to final markets, and able to remunerate its participants at comparable levels to the rest of the Chilean economy.

Source: World Bank 2011b.

INNOVATIVE ELEMENT

The Chile exercise recognized the uncertainties of the future, used this insight to understand the basic long-term competitive advantages of its agricultural sector, and drew the implications for change. Rather than diagnosing the present situation and proposing remedies, the study formulated future ambitions and specified the action required to get there. The proposed changes to the innovation system were (rightly) perceived as the next step forward and not as a recognition of past failure.

BENEFITS TO CHILE'S AIS

The benefits of the approach described here derive from its constructive, creative, and collaborative features and from the comparative strengths of FIA (local and national expertise) and the World Bank (international experience). The involvement of former presidents, cabinet ministers, journalists, scientists, businesspeople, individual farmers, farmer organizations, and many other individuals was highly productive. The discussion was conducted in simple, frank language. Participants shared and developed considerable knowledge and linked it to a specific plan for action. The plan recognized that Chile has sophisticated ambitions in high-value markets and is not satisfied with imitating wealthier countries.

Somewhat by chance, the approach proved politically robust: The work was started by a left-leaning government and finished by right-leaning government. Nor did the second biggest earthquake in the history of the world derail the study.

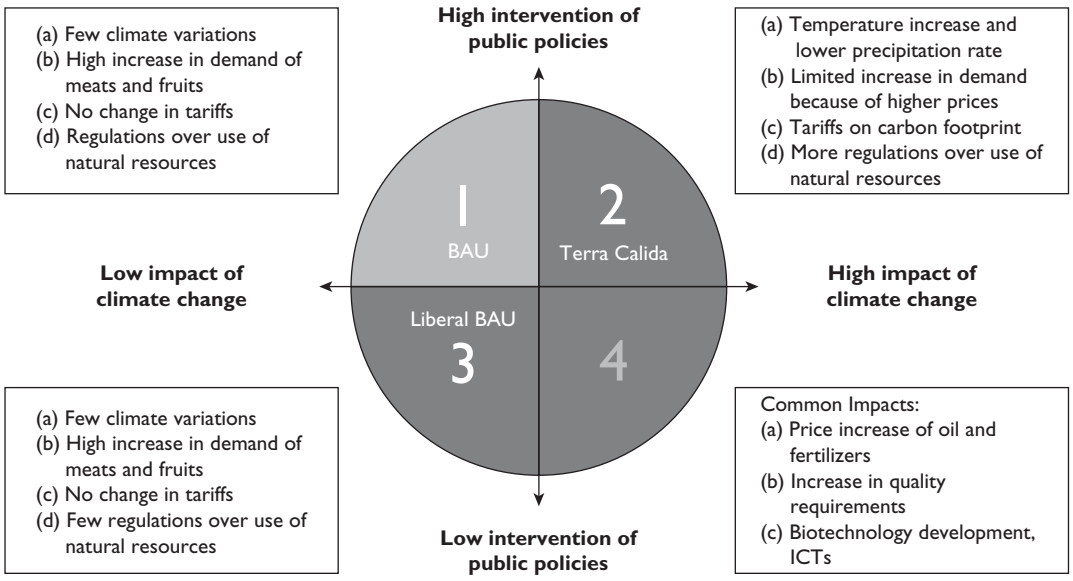
The forward-looking nature of the study motivated strong participation and interest in its results. By looking far into the future, participants ensure that several issues that had been forgotten or considered out of bounds (technology transfer, the role of the ministry, the importance of qualified human resources) regained relevance and received attention.

LESSONS LEARNED AND ISSUES FOR WIDER APPLICATION

Briefly, lessons from this process include the following:

- ***The local partnership was key to success.*** Vision building is a very labor- and communication-intensive process.

Figure 7.4 Scenarios for Chile's Agricultural Innovation System



Source: Authors.
Note: BAU = Business as Usual; ICTs = information and communication technologies; "Terra Calida" is a reference to the effects of global warming.

Box 7.26 Summary of Action Plan Recommendations in Six Thematic Areas

- ***Genetic improvement.*** Multidisciplinary teams; biotechnology tools; intellectual property and patents.
- ***Farm management.*** Management of natural resources and water; information and communication technologies; ecological inputs.
- ***Harvest and postharvest.*** Proposals from competitive funds; shared funding between government and private sector.
- ***Standards and quality.*** Private sector-led expansion of Chile GAP (good agricultural practice standards); benchmarking of standards with importers.
- ***Qualified human resources.*** Collaboration with Becas Chile (a national scholarship program); international exchange networks.
- ***Labor resources.*** Basic and vocational education in rural areas; monitoring system.

Source: World Bank 2011a.

The many consultation and dissemination sessions could have been organized only by the national partner. Identifying resource people (for background studies and work days) requires in-depth understanding of the national setting. The phone must be answered if someone (a journalist, entrepreneur, student) has questions.

- ***The development of a vision that expresses an ambition made the study interesting to the political players in the sector.*** Politicians cannot easily sell the need for more institutional integration or long-term research, but they can piggyback those measures on the ambition for higher farm incomes or less pollution.
- ***The step from analysis to vision was smaller than expected.*** The 10 workdays brought out similar ideas across subsectors and remarkable agreement on how to pursue them. The main difference is that vision cannot be based on evidence alone; it requires some "structured dreaming."
- ***The use of simple language allowed everybody to contribute and to understand the goals that were being pursued.*** This frank approach creates much wider acceptance and better feedback.
- ***Development of the vision created the room for change needed to implement the action plan.*** If this willingness to consider change is sustained during the implementation of the action plan, it will constitute a further achievement of the process described here.