

## Agricultural R&D Investments and Capacities in South America and Mexico

### TC ABSTRACT

#### I. Basic project data

- Country/Region: Mexico and South America
- TC Name: Agricultural R&D Investments and Capacities in South America and Mexico
- TC Number: RG-T2270
- Team Leader/Members: Cesar Falconi (INE/RND) , Luis Macagno (CUR/RND), Pedro Martel (INE/RND), Guillermo Eschoyez (LEG/SGZO) and Lisa Restrepo (INE/RND)
- Indicate if: Knowledge generation & dissemination.
- If Operational Support, TC give number and name of Operation Supported by the TC: n/a
- Reference to Request: n/a
- Date of TC Abstract: May 17, 2013
- Beneficiary (countries or entities which are the recipient of the technical assistance): Countries of South America and Mexico and National Agricultural Research Institutes.
- Executing Agency and contact name: International Food Policy Research Institute (IFPRI)
- IDB Funding Requested: US\$ 385,000
- Local counterpart funding, if any:
- Disbursement period (which includes execution period): July 1, 2013 to January 31, 2016.
- Required start date: July 1, 2013
- Types of consultants (firm or individual consultants): firm
- Prepared by Unit: INE/RND
- Unit of Disbursement Responsibility : INE/RND
- Included in Country Strategy (y/n); TC included in CPD (y/n): n/a
- GCI-9 Sector Priority: i) support to small and vulnerable countries, ii) poverty reduction and equity enhancement iii) support for regional cooperation and integration, and iv) environmental protection, climate change response and increased food security.

#### II. Objective and Justification

In order to measure, monitor, and benchmark the inputs, outputs, and performance of agricultural research at the national and regional level, quantitative data are essential. Science and technology (S&T) indicators and subsequent analysis are indispensable when it comes to assessing the contribution of agricultural research to agricultural (and economic) growth. However, no such indicators are available for Bolivia, Ecuador, Peru and Venezuela and the most recent year for which detailed indicators are available for Argentina, Brazil, Chile, Colombia, Mexico, Paraguay, and Uruguay is 2006. The lack of up-to-date and internationally comparable information on the size and scope of agricultural research and development (R&D) capacity and investments, the functioning of agricultural research agencies as well as underlying S&T policies in these countries are a major constraint to priority setting, strategic planning, and monitoring and evaluation.

The objective of this project is to analyze the investment, technical and institutional capacities of organizations involved in agricultural R&D in the region, thus to contribute to improve the agricultural productivity of the sector. Specific objectives are: (i) update and expand information on agricultural R&D investments, (ii) conduct analysis on the issues underlying agricultural R&D developments as well as institutional developments, and (iii) make the information available online

and in various publications, building on datasets that were developed by the Agricultural Science and Technology Indicators (ASTI) program during IDB-funded data collection round in the mid-2000s (ATN/KK-10155-RS). This project will be linked to a similar project for Central America and the Caribbean, for which funding has already been secured<sup>1</sup>. Earlier studies by ASTI have been used for the preparations of various loans at the Bank and the studies prepared for this project will assist the preparation of future loans in agricultural research and development.

The direct beneficiaries of the project are agricultural R&D agencies and policymakers at the national, and regional levels. The outputs of the project will assist these stakeholders (as well as international donors) in identifying gaps and neglected areas, setting priorities, and making better-informed policy decisions. Over time, ASTI indicators and publications have influenced many R&D decision-making processes around the globe. A large number of country-level stakeholders have used ASTI outputs for the purposes of planning, policymaking, budget negotiations, monitoring and evaluation, and benchmarking. ASTI data and analyses are also said to have brought awareness among policymakers at country and regional levels as well as donors of problems like declining budgets, low investment levels, aging research staff, and other challenges, and have therefore served as an important advocacy tool.

### III. **Description of activities**

The proposed TC will be executed through two components: i) Update, expansion, and analysis of ASTI datasets; and ii) In-depth analysis on key issues surrounding agricultural R&D. Activities will be coordinated by the ASTI program of the International Food Policy Research Institute (IFPRI), in close collaboration with the national agricultural research institutes (INIAs) in each of the countries as well as the International Center for Tropical Agriculture (CIAT), and the Inter-American Institute for Cooperation on Agriculture (IICA).

Component 1. *Update, expansion, and analysis of ASTI datasets* will include the establishment of an institutionalized data collection system through a network of national and regional focal points. ASTI's decentralized data collection and analysis approach enhances local ownership of the data and stimulates fuller use of the datasets for country-level advocacy and analysis purposes. An implementation workshop will be organized at the beginning of the project. The INIAs will play a key role in the collection of data and carrying out analysis. A series of 11 country briefs, a regional report, and datasets will be produced during the course of the project.

Component 2. *In-depth analysis on key issues surrounding agricultural R&D* will include the following studies, using the information of country briefs:

- Recent total factor productivity (TFP) growth and performance of the South American and Mexican agricultural sectors and the role of agricultural research in enabling, or constraining, this growth.
- The role of the private sector in agricultural R&D in countries where private-sector involvement is deemed to be important, with emphasizes in the Southern Cone countries.
- Assessment of the shifting scientific orientation of agricultural research in the more advanced countries of the region.

A final workshop will be organized at the end of the project to present and discuss the main conclusions of the studies developed under both components.

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<sup>1</sup> Given the distinctive nature of agricultural R&D in this sub-region, which requires a different approach in information gathering and analysis, ASTI and CIAT developed a separate project proposal for Central America and the Caribbean, which will be funded through a grant by the Canadian International Development Agency (CIDA).

Expected outputs for the TC are the final versions of the proposed studies and data collection activities

### Indicative Results Matrix

<b>TC Objective</b>	The objectives of the TC are to conduct necessary activities to analyze the investment, technical and institutional capacities of organizations involved in agricultural R&D in the region, ensuring that the TC will contribute to FOD objectives.		
<b>Expost Impact Indicators</b>	<b>Baseline</b>	<b>Goal (2018)</b>	<b>Observations</b>
The designs of various loans will incorporate analytical results of TC	0	Agricultural Productivity	Specific indicators and their values will be estimated as part of this TC
<b>Outcome Indicators</b>	<b>Baseline</b>	<b>End of Program</b>	<b>Observations</b>
Component 1. Update, expansion, and analysis of ASTI datasets	0	Indicators of improvement of technology transfer, increased productivity	Indicators in Policy and Results Matrices of loans
Component 2. In-depth analysis on key issues surrounding agricultural R&D	0	Indicators of improvement of total factor productivity, increased technology transfer	Indicators in Policy and Results Matrices of loans and studies

	<b>Indicator</b>	<b>Baseline (2013)</b>	<b>Goal (2015)</b>
Output TC: Support in the design operations of future loans	Number of project reports	0	2
<b>Component 1. Update, expansion, and analysis of ASTI datasets</b>			
Products: Country and regional reports; databases completed	Number of studies	0	12
	Number of databases	0	11
<b>Component 2. In-depth analysis on key issues surrounding agricultural R&amp;D</b>			
Products: Analytical studies completed	Number of studies	0	3

#### IV. Budget

The indicative budget for the proposed TC is US\$ 385,000 as detailed in the following table:

#### Indicative Budget

<b>Activity/Component</b>	<b>Description</b>	<b>IDB/Fund Funding</b>	<b>Counterpart Funding</b>	<b>Total Funding</b>
Component 1. Update, expansion, and analysis of ASTI datasets	Consultancies, logistics	US \$204,735		US \$204,735
Component 2. In-depth analysis on key issues surrounding agricultural R&D	Consultancies	US\$ 109,735		US\$ 109,735
Workshops	Logistics	US\$ 70,530		US\$ 70,530

- V. **Executing agency and execution structure** The Agricultural Science and Technology Indicators (ASTI) program of the International Food Policy Institute (IFPRI) is the only international entity dedicated specifically to the collection, analysis and synthesis of information on agricultural R&D investment, capacity, and policy in developing countries. ASTI staff has long experience in compiling primary data

on R&D spending, scientific capacity, research resource allocation, and institutional developments in national agricultural research systems, as well as in assessing the implications for S&T policy. ASTI is the primary source of such information for the global agricultural development community. The program provides both data trends—the progress of human and financial capacity in agricultural research over time—and data comparisons—the performance of a country or a region relative to another. ASTI also aggregates national data into regional and global aggregates for measuring trends in agricultural R&D investments and capacity. ASTI makes the information publically available through its website and database. Over the years, ASTI has established a data portfolio and collection procedures that follow internationally accepted definitions and statistical procedures for compiling R&D statistics.

To execute this project, a project coordinator will be hired who will be based at CIAT in Cali, Colombia, supervised by the ASTI program head and program coordinator (based in Rome, Italy). The project coordinator will also work closely with other IFPRI and CIAT senior researchers to execute the project's activities. Additional experts will be hired to assist with the planned analytical activities.

ASTI received two earlier grants from IDB, which enabled updates of its LAC database to 1996 and 2006, respectively. Furthermore, ASTI also received funding for a complementary project for Central America and the Caribbean, which will be conducted during 2013-14. Importantly, the project collects similar information in other developing regions, enabling a more complete assessment of global trends in agricultural R&D investments and capacity.

#### **VI. Project Risks and issues**

Some risks associated with the operation are:

- Data collection can only be successful with continuous commitment from national partners to coordinate the survey rounds.
- Changes in management at the partnering institutions, political unrest, or other institutional and other changes beyond the control of ASTI can disrupt data collection and dissemination efforts.

Over the years, ASTI has built a very strong network of national, (sub)regional, and international partners. ASTI will continue to maintain and strengthen these partnerships. It will also set up more formalized collaboration with national-level partner institutions, which is likely to enhance ownership during the data collection, dissemination, and analysis stages, and consequently, reduce some of the risks mentioned above. As the frequency of national survey rounds is increased, respondents will have fewer problems providing time series data and hence, the overall response rate and timeliness of response are likely to be improved.

#### **VII. Environmental and Social Classification**

In compliance with the Bank's safeguard policy, the proposed TC has been classified as category "C". No environmental assessments studies or consultations are required.