

Plant Genetic Resources Conservation Project

Project Sites Vicuña, La Serena, Santiago, Chillán, Vilcún



1. Background of Project

Chile has a variety of crop production and plant resources owing to the varied climates found within its land that runs 4,300 km north and south along with the Andes Mountains. Agriculture is the main industry accounting for 16% of total employed population and about 40% of exports. Through the Chilean National Agriculture and Livestock Research Institute (INIA), the Government has exchanged information with foreign and international agricultural research organizations, promoted production of wheat, maize and rice, and endeavors toward breed improvement for promoting export crop production.

Chile received loans from the Inter-American Development Bank (IDB) in March 1986 for equipment for plant genetic resource research, and made a request to Japan for a project-type technical cooperation for human resource development.

2. Project Overview

(1) Period of Cooperation

- 1 January 1989 – 31 December 1993
- 1 January 1994 – 21 December 1995 (follow-up)

(2) Type of Cooperation

Project-type Technical Cooperation

(3) Partner Country's Implementing Organization

Chilean National Agriculture and Livestock Research Institute (INIA), Ministry of Agriculture

(4) Narrative Summary

1) Overall Goal

The qualities of products for export and domestic consumption that adapt to the Chilean agricultural environment are improved.

2) Project Purpose

A modern management system that collects, conserves, evaluates and uses plant genetic resources is consolidated.

3) Outputs

- a) Construction of Seed Banks and other facilities (Chile and IDB):
 - 1) Seed Banks are constructed with appropriate functions.
 - 2) A quarantine greenhouse is constructed with appropriate functions.
- b) Genetic resource program:
 - 1) Genetic resource management and research is conducted.
 - 2) A quarantine system for genetic resources is established.
 - 3) Resources including biotechnology are utilized.
- c) Exchange of necessary information and research materials is carried out.

4) Inputs

Japanese Side

Long-term experts	4
Short-term experts	34
Trainees received	33
Equipment	292 million yen
Local cost	29 million yen

Chilean Side

Counterparts	36
Local cost	107 million yen
Establishing Base Banks, Active Banks and labs (incl. loans from the IDB)	

3. Members of Evaluation Team

JICA Chile Office
(Commissioned to local consultants)

4. Period of Evaluation

3 December 2000 – 30 March 2001

5. Results of Evaluation

(1) Relevance

This project was the first attempt for conservation of plant genetic resources in Chile. Coupled with IDB loans, this project of human resource development in this field had high relevance.

(2) Effectiveness

The storage rate in the Base Banks was less than 20% due to funding shortage, but utilization of genetic resources has been rapidly growing in the last five years except for that of biotechnology for breeding programs.

Quarantine facilities have been used for other purposes for the last two years, since the number of plant quarantine requests has been decreasing in the past eight years, down to not more than a few hundred per year. This is because the Chilean Agricultural and Livestock Public Cooperation (SAG) took over the functions of quarantine, and the number of imports of tissue culture plantlets in a method that does not require special isolation increased.

(3) Efficiency

The partnership among four project sites became weak due to decentralization of the INIA and resulting distinctive character of each sites.

Base and Active Banks had too much empty space while requiring high maintenance fees. In addition, uneven-sized containers and hand-written labels were used, and computers needed repair.

On the other hand, good research results were obtained regarding use of genetic resources within limited budget and resources.

(4) Impact

A significant number of researchers were trained for management and research of genetic resources. Third-country group training trained human resources of surrounding countries after this Project.

Grant of expensive equipment, lectures by experts, and counterpart training in Japan have made positive impacts on the successive research activities.



The Seed Bank

(5) Sustainability

The INIA has financed salaries of highly specialized researchers for the past 10 years, but the rest of the budget is just enough for the maintenance fee for the Banks and hence could not finance new equipment. It is difficult for the conservation of plant genetic resources to be self-sustained because private companies and other funding sources do not opt to fund long-term projects.

6. Lessons Learned and Recommendations

(1) Lessons Learned

Installed equipment in the Project seemed excessive. A project with plural donors requires careful coordination between the donors and the recipient country and within the Project. The finance plan after project termination as well as the cooperation period should determine the project size.

The number of project sites should enhance the sustainability of project impacts.

(2) Recommendations

The Government of Chile gives weak support and inadequate budget for genetic resource conservation. The INIA should select research contents that can help to establish effective partnership with private companies as users, so as to obtain funds from these companies.

The INIA should drastically reduce the size of quarantine operation that is not effectively utilized.

7. Follow-up Situation

Third-country group training was held five times between 1995 and 1999.