

Terminal Evaluation

Latin America and the Caribbean

1. Outline of the Project

Country:

Bolivia

Project title:

Project for Groundwater Development in Rural Areas (Phase 2)

Issue/Sector:

Waterworks

Cooperation scheme:

Grant Aid

Division in charge:

Grant Aid Management Department,
Project Monitoring and Coordination Division

Total cost:

1,873 Million Yen (E/N amount)

Period of Cooperation

Fiscal Year 1998-1999

Partner Country's Implementing Organization:

Direccion General de Saneamiento Basico
(DIGESBA)

Supporting Organization in Japan:**Related Cooperation:**

Development Survey "Project for Groundwater Development in Rural Areas"
Grant Aid "Project for Groundwater Development in Rural Areas (Phase 1)"

1-1 Background of the Project

The water supply rate to rural areas in Bolivia was only 24 Percent, seriously below the rate of supply to city areas (84%) and to areas in Central South America in general (45%). Eighty percent of the people living in rural areas lived in communities of less than 250 people and under the condition of no facilities for waterworks. This led to the spread of epidemic diseases caused by contaminated water and a high infant mortality rate since villagers used river water and water from shallow wells the quality of which was not guaranteed. The Bolivian Government formulated the "National Project for Water Supply and Sewerage"(1991) and "Basic Policy for Combating Poverty"(1992) under the policy of "Water for All the People", and began work to improve water supply conditions. But due to a deteriorating economy brought on by inflation, the decrepit equipment of DIGESBA and the lack of an implementation structure, the Project came to a standstill.

Under these circumstances, the Japanese Government was requested by the Bolivian Government to carry out the Development Survey "Project for Groundwater Development in Rural Areas". Based on the results of the survey, Japan also implemented Grant Aid, the "Project for Groundwater Development in Rural Areas (Phase 1)". The "Project for Groundwater Development in Rural Areas (Phase 2)" was implemented in the Project sites of Tarija and Oruro provinces.

1-2 Project Overview

In order to enable Bolivia to construct deep wells and to stabilize the supply of hygienic water to the people of Tarija and Oruro provinces, the Project provides equipment necessary to drill the wells and transfers techniques of on deep-well excavation in the model regions.

(1) Overall Goal

The lives of people in the rural communities of Tarija and Oruro provinces are improved by the stable supply of hygienic water.

(2) Project Purpose

Bolivia can excavate deep wells on its own in the two provinces and achieve a stable supply of hygienic water in the target rural communities.

(3) Outputs

- 1) Improvement of well drilling equipment (equipment for well drilling, exploration, and pumping test).
- 2) Improvement of well and water supply facilities (including well excavation technology).
- 3) Establishment of a water management committee and instruction for management, guidance on facility investment and monitoring.

(4) Inputs

Japanese side:

1,873 Million Yen (Maximum for E/N donation)

Bolivian side:

Land and Facilities

2. Evaluation Team

Members of Evaluation Team

Team Leader/General: Akiko KAMEDA, Grant Aid Division, Ministry of Foreign Affairs
Management Survey: Takahiro MORITA, Planning Division, Grant Aid Management Department, JICA
Supply Management Survey: Saburo UEMURA, Japan International Cooperation System
Interpreter: Sachiyo SAKURAI, Japan International Cooperation Center

Period of Evaluation

27 January 2002 - 9 February 2002

Type of Evaluation:

Terminal Evaluation

3. Results of Evaluation

3-1 Summary of Evaluation Results

(1) Relevance

Improvement of the water-supply conditions in rural areas ranked the highest among issues to be addressed by the government of Bolivia. The targeted provinces were also prioritized in the "National Public Health Program Outline"(1998-2005). The rural communities targeted in this Project were defined as prioritized areas in the Presidential Order, "Basic Policy for Combating Poverty" as well. Thus, the Project was relevant to the national policy as it was aimed at improving the water supply conditions in the Project sites.

(2) Effectiveness

Facility constructions by the Japanese side and construction by the Bolivian side using the improved equipment were carried out as planned. The expansion of areas for water supply was also achieved. No rural communities were identified to be below the water quality standard set by WHO, when water qualities were analyzed in seven rural communities in Oruro Province and six rural communities in Tarija Province.

(3) Efficiency

The efficiency is considered to be assured because the engineering work was carried out as planned in 17 rural communities with the cooperation of the Japanese side and in 24 rural communities by the Bolivian side in 2001. It was considered that the quality of the facilities constructed with the cooperation of the Japanese side was high.

(4) Impact

Through the Project activities, water quality was improved, the number of diseases caused by water was decreased, the water supplied to every household became more hygienic and the workload related to drawing water was reduced. As a result, the quality of life of those living in the rural communities in the two provinces was improved. An interview survey was conducted in the rural communities, and it became clear that the number of diseases, such as the number of reported cases of diarrhea, decreased in six villages out of nine in Tarija Province and six villages out of eight in Oruro Province.

It has not been a year since the termination of the Project, so water supply improvement has not yet been expanded to the communities around the Project site. However, DIGESBA and the water management committee are now developing a plan for this.

(5) Sustainability

Department of Public Health, the division in charge of the implementation of the Project at the provincial level, has maintained a sufficient budget and staff for the two provinces, carried out the Project as planned and maintained the equipment appropriately. As a result of technical transfer to the Well Drilling Section and the Geophysical Exploration Section in the Project, the Bolivian side is now capable of constructing a well and utilizing the provided equipment. The people in the Social Section have fulfilled their obligations by determining the socioeconomic conditions of the rural communities in the Project and by operating and maintaining the facilities. All personnel of the Social Section who received the technical transfer have stayed in their respective positions and carried out their responsibility. The water management committee members of the targeted rural communities have also fulfilled their obligations by collecting a water fee, conducting daily inspection and repairing equipment. As it is judged that problems related to operation and maintenance are unlikely to occur in the future, there are no particular problems in terms of the sustainability of the Project.

3-2 Factors that promoted realization of effects

(1) Factors concerning Planning

As the technical levels of the staff and the budget for well-drilling in Bolivia had been secured to a certain level, the Project adopted the approach of providing instruction to the management committee in addition to the technical transfer on well-drilling and construction of water supply facilities. The construction of water supply facilities and their operation and maintenance were carried out appropriately, so the Project is considered to be efficient.

(2) Factors concerning the Implementation Process

The construction, operation and maintenance of water supply facilities were carried out appropriately as the technical levels of the staff and the budget for well-digging in Bolivia had been secured to a certain level.

3-3 Factors that impeded realization of effects

(1) Factors concerning Planning

N/A

(2) Factors concerning the Implementation Process

There were some cases where the conditions of each targeted community should have been considered more at the implementing stage.

3-4 Conclusion

The construction on the Bolivian side was carried out as planned using the equipment provided by Japan. The project contributed greatly to improving the quality of life of those living in the two provinces through improvement of the quality of water supply, expansion of the water supply area and the supply of water to each household. Moreover, judging from the budget, human resources and technical level in the two provinces, the Project Purpose will be achieved.

3-5 Recommendation

It is desirable to consider the technical guidance on groundwater logging and pumping tests by the Short-term Experts in order to carry out the activities by Bolivia as planned.

3-6 Lessons Learned

In this Project, one engineer specialized in the development of rural communities was assigned to conduct technical guidance on the information side, the "software component" and the facility and equipment side, the "hardware component". However, it is difficult for one engineer to be responsible for both components. It is suggested that more than one expert be assigned so that each one can be responsible for one field.

3-7 Follow-up Situation

There is no need for a follow-up on operation and maintenance of equipment since the installed equipment is well-maintained and the facilities are being managed appropriately.