Peru: Drinking water supply/Sanitation Trujillo

Ex-post evaluation

OECD area of promotion	14020 / Water supply and sanitation– large systems	
Project number	1993 65 834 Drinking water supply / Sanitation Trujillo	
Project-executing agency	Servicio de Agua Potable y Alcantarillado de la Libertad – SEDALIB S.A.	
Consultant	GKW / Saniplan	
Year of evaluation	**2004**	
	Project appraisal (planned)	**Ex-post evaluation (actual)**
Start of implementation	01/1994	06/1995
Period of implementation	42 months	42 months
Investment costs	EUR 20.18 million	EUR 24.62 million
Counterpart contribution	EUR 2.72 million	EUR 7.16 million
Financing, of which Financial Cooperation (FC) funds	EUR 17.46 million	EUR 17.46 million
Other institutions/donors involved	GTZ	GTZ
Performance rating	3	
• Significance / relevance	2	
• Effectiveness	3	
• Efficiency	4	

Brief Description, Overall Objective and Project Purposes with Indicators

The project aimed to improve sanitation in the city of Trujillo, thus contributing to the reduction of risks to the urban population's health (cholera) and of the people living in the nearby coastal area. Furthermore, it aimed at improving the efficiency and equity of distribution of the drinking water. In order to achieve this objective, rehabilitation and expansion measures in the sanitation system (pond treatment plants, collectors, pump stations, laboratory) were to be carried out and large and house water metres were to be installed. The measures were implemented as a cooperative project between Financial and Technical Cooperacion (FC/TC); nature and intensity of cooperation, however, varied over time. The project-executing agency is the municipally-owned water utility “Servicio de Agua Potable y Alcantarillado de la Libertad” (SEDALIB).

Overall objective: To contribute to the reduction of health risks for the residents of Trujillo.

Project purposes:

1. Reduction of wastewater-induced, negative impacts on irrigation cultures
2. Reduction of the wastewater-induced, negative impacts on the marine fauna and flora and on the beaches

3. Improvement of the efficiency and equity of the distribution of the drinking water.

Indicators for the achievement of the overall objective and the project purposes:

The overall objective and the project purposes shall be considered to be fulfilled if two years after completion of the measures:

(a) all of the collected wastewater from five city districts is being channelled to the newly built treatment plants;

(b) the discharge values of 60 mg/l BSB_5 in the 24-hour composite sample are exceeded only in exceptional cases;

(c) all the production and collection facilities can be controlled in terms of quantity;

(d) 90% of the consumption is recorded by water meters;

(e) the technical and administrative drinking water losses are reduced to 35%;

(f) the financial situation of SEDALIB has improved to such an extent that the company is able to cover not only the ongoing operating costs but also investments in spare parts necessary for operation out of its own revenues.

Conception of the Project / Principal Deviations from the original Project Planning and their main Causes

When the project was launched in 1995, only three of the four areas secured by SEDALIP during the project appraisal for the construction of pond treatment plants were available. But in order to fulfil the agreed project goals, the conception for the wastewater treating technique was modified by interposing artificially ventilated basins as well as by modifying the connection of the areas where wastewater disposal systems were to be created. The rise of 22% in total costs is attributable, essentially, to the modifications in the technical conception and was financed by an increase of SEDALIB´s own contribution. Due to legal and financial problems, the treatment plant in Encalada could not be built, so that in the end, only the treatment plants in Cortijo and Covicorti were constructed. Nevertheless, part of the wastewater disposal area of Encalada was added to the area of Covicorti, so that the achievement of the project purposes is not in danger.

Contrary to the stipulations made during the project appraisal, currently the farmers are no longer using the treated sewage of the two treatment plants for irrigation purposes. Therefore, from today´s perspective, the treatment of most of the wastewater of the city of Trujillo is no longer mandatory for small agricultural areas with high operating costs. During the operation, however, problem situations are now arising, as the treatment plants have only a limited number of own effluent sewers and the effluents of the treatment plants may be mixed with the qualitatively better irrigation water. Currently, SEDALIB is considering channelling the wastewater of some urban districts to other treatment plant sites in order to avoid ventilation expenses when treating the wastewater. However, the installed capacities are not sufficient to cope with the additional quantities of sewage. In view of the changes to the framework conditions, it would have been possible to consider alternative locations for the treatment plants.

Key Results of the Impact Analysis and Performance Rating

- The targeted project purposes in terms of wastewater disposal have been reached, the newly created capacities, however, are only used to a satisfactory degree in the case of the Covicorti treatment plant. This plant however, accounts for 77% of the newly built treatment capacities. In the field of drinking water supply, the most important project purposes could not be reached, but this component accounts only for approximately 20% of total costs. Due to its organisation, management and staff, SEDALIB is in a position to accomplish its tasks efficiently. Despite a relatively high full cost coverage ratio (83%), the financial situation of the project-executing agency is quite tense, due to its high financing costs. Thus, there are certain sustainability risks. Up to now, the project-executing agency has preferred performing minimum maintenance work over satisfying its debt service obligations. Thus, the project's effectiveness is overall sufficient (partial evaluation: rating 3).
- The project clearly improved the quality of life, especially for poorer parts of the population, the hygienic conditions in residential areas of the city of Trujilllo as well as the environmental situation

(coast and sea). Therefore it made an essential contribution to reducing health risks for the population. Even if there are no recent data available on the development of water-induced diseases in Trujillo, it can be reasonably assumed that the project contributes significantly to the reduction of health risks (overall objective). Regarding the high number of connections, the project can be considered as having a sufficiently broad effect on the population. Thus, we classify the project's developmental relevance and significance as satisfactory (partial evaluation: rating 2).

- Measured in terms of the specific investment costs, the funds were used appropriately in order to achieve the objectives. The project's production efficiency is thus established. On the contrary, the criterion of allocation efficiency was not met. The tariffs cover the dynamic production costs only partially. Moreover, the project-executing agency´s liquidity position is very tense due to high debt service strains. Overall, we rate the project's efficiency as slightly insufficient (partial evaluation: rating 4).

After weighing the above mentioned factors and the continuing risks, we rate the project's developmental effectiveness as altogether sufficient (rating 3).

One decisive factor for this positive rating is the fact that the project-executing agency made considerable efforts to improve its financial situation (successful negotiations on debt rescheduling with the commercial banks, cost-saving measures, tariff increases, improvement of collection efficiency, study on tariffs, loss reduction programme), so that a gradual consolidation of the enterprise and a reduction of the current risks to sustainability can be expected in the future. Furthermore, due to its technical conception, the project serves as a model within the sectoral setting of Peru and has had some considerable capacity-building effects on the local and national level (initiatives for the introduction of special tariffs for heavy polluters). In addition, SEDALIB is heavily involved in the umbrella organisation for water utilities ANEPSSA, and thus has decisive influence on the improvement of the sectoral conditions.

General Conclusions applicable to other Projects

During the political dialogue, the German Federal Ministry for Economic Cooperation and Development (BMZ) should urge the Peruvian counterpart to create the legal bases for an effective system of sanctions to be imposed on heavy polluters. This would require introducing special tariffs for heavy polluters and establishing effective sanctions against those enterprises which try to evade them.

Legend

Developmentally successful: Ratings 1 to 3	
Rating 1	Very high or high degree of developmental effectiveness
Rating 2	Satisfactory degree of developmental effectiveness
Rating 3	Overall sufficient degree of developmental effectiveness
Developmental failures: Ratings 4 to 6	
Rating 4	Overall slightly insufficient degree of developmental effectiveness
Rating 5	Clearly insufficient degree of developmental effectiveness
Rating 6	The project is a total failure

Criteria for the Evaluation of Project Success

The evaluation of a project's "developmental effectiveness" and its classification during the ex-post evaluation into one of the various levels of success described in more detail below concentrate on the following fundamental questions:

- Are the **project purposes** reached to a sufficient degree (aspect of project **effectiveness**)?
- Does the project generate sufficient **significant developmental effects** (project **relevance** and **significance** measured by the achievement of the overall development-policy objective defined

beforehand and its effects in political, institutional, socio-economic and socio-cultural as well as ecological terms)?

- Are the **funds/expenses** that were and are being employed/incurred to reach the objectives **appropriate** and how can the project's microeconomic and macroeconomic impact be measured (aspect of **efficiency** of the project conception)?
- To the extent that undesired **(side) effects** occur, are these tolerable?

We do not treat **sustainability**, a key aspect to consider for project evaluation, as a separate category of evaluation but instead as a cross-cutting element of all four fundamental questions on project success. A project is sustainable if the project-executing agency and/or the target group are able to continue to use the project facilities that have been built for a period of time that is, overall, adequate in economic terms or to carry on with the project activities on their own and generate positive results after the financial, organisational and/or technical support has come to an end.