MEXICO

Monterey Water Supply and Sewerage Project

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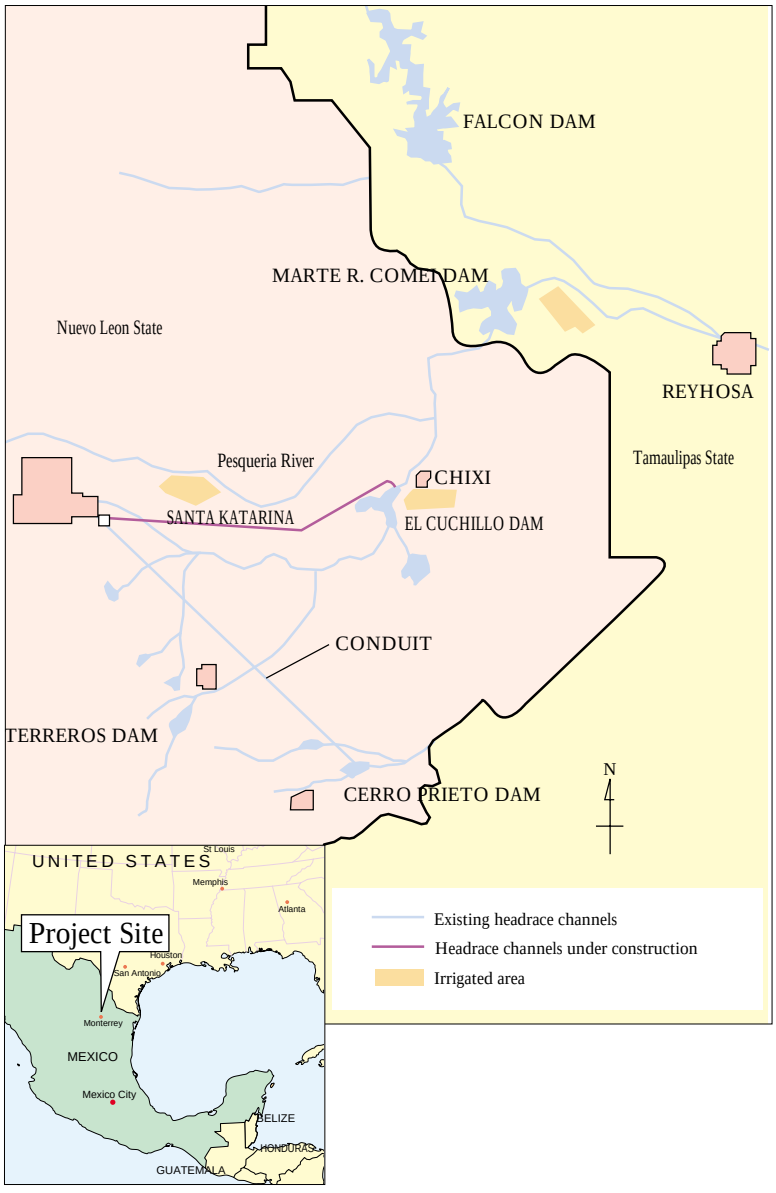
1. Introduction

Between 18th and 29th April 1999, a third-party evaluation was conducted on Mexico "Monterey Water Supply and Sewerage Project", ODA project of Japan Bank for International Cooperation (JBIC).

The project which was evaluated consisted mainly of the construction of three sewage treatment plants with average treatment capacities of 5.0m³/s, 2.5m³/s and 0.5m³/s with the aim of improving river water quality in the Monterey area, which is Mexico's third largest metropolitan area.

We will first explain the criteria for this evaluation and then proceed with a summary of the evaluation and findings based on these criteria.



2. Evaluation Method

Based on international trends and the characteristics of third-party evaluations, the evaluation criteria were based on the DAC's five evaluation criteria, but with the evaluation procedure rearranged. The five criteria are effectiveness, efficiency, sustainability, impact and relevance. These points were evaluated from project-related documents as well as interviews and observations in the field.

3. Attainment Degree of Project Target

The target year for the project was 1997. Its quantitative target was that "all sewage treatment plants should achieve 100% work rates" and its qualitative target was "that the quality of the treatment water shall be BOD 30mg/l, TSS 30mg/l, N-NH3 2.0mg/l, coliform bacteria not exceeding 1,000/100ml".

The quantitative target was not achieved as the average work rate of the three treatment plants was less than 70% in 1997. That was largely due to an external factor, that the volume of water supply reduced with water shortages in recent years. The work rate figure appears to be within a reasonable range for effective usage. However, the Noreste Sewage Treatment Plant, with a capacity of 0.5m^3/s, is in a state of overflow for around 17 hours a day. The volume of overflow averaged around 0.112m^3/s in 1997, which is small compared to the overall volume, but it is discharged to the river after only debris removal, sedimentation and chlorination, which risks degradation of water quality.

The only water quality target was not met in 1997 was the N-NH3 value at the Norte Sewage Treatment Plant. All other targets were met.

Thus the target attainment degree of project in general was high and it can be deemed to have met its initial targets.

4. Operations and Maintenance and Efficiency of the Water Treatment Plants

At the time of feasibility study and the Japan's ODA loan appraisal, it was decided that it would be most cost effective for all three plants to use the same treatment method (the long-term aeration method). After that, the bidding method was altered and different treatment methods were adopted for each of the three plants. Each plant was constructed with its own water quality testing office. However, after the contract period the maintenance plan was changed to centralized maintenance by the Servicios de Agua y Drenaje de Monterey (SADM), and there is now space in each plant that is not being put to effective use. As the treatment methods of the plants differ, it is very likely that maintenance problems will emerge in future. Nevertheless, the actual maintenance costs are below the level forecasted in the plan and there does not appear to be any major problem with efficiency.

5. Maintenance Scheme for the Sewage Treatment Plant and its Sustainability

The executing agency, SADM, is said to have a charge collection rate of over 90%. It is the sole organization with jurisdiction over the whole of Nuevo Leon State and is a powerful water and sewerage company that is unusual in developing countries. The number of SADM's sewerage service contractees grew steadily from the time the project was planned until 1998 to cover 97.21% of the target users. Charge collection is going well and the SADM is taking business initiatives to sell treated water to factories as coolant. It also imposes extra charges for treatment of industrial waste water that exceeds standards. These are signs of a high level of managerial ability in the executing agency, which indicates a very high level of sustainability for this project.

6. Project Effects and Impacts

This project has clearly been beneficial, as it has brought an enormous improvement in water quality in the rivers within the city and in the downstream areas of the Pesqueria River near the discharge pipe. However, the discharge of water to the Pesqueria River has sparked intense water disputes between farmers along the river who draw water without having water usage rights and others downstream in Tamaulipas State who hold water usage rights. This disturbance of the established order of water usage in the river area was observed as a negative effect of the project.

7. Project Relevance

Considering the level of Mexico's development, this sewage treatment plants construction project to protect the environment is very suitable for the country. The role of the executing agency as the counterpart of this loan is a decisive factor in the efficient and effective implementation of this project. It is good that the presence of SADM as a water supply and sewerage company with a level of managerial ability outstanding in Mexico raised the priority of the Monterey metropolitan area.

Borrwer	Mexican Government
Executing Agency	Servicios de Agua y Drenage de Monterey
Loan Amount	¥13,482 million
Loan Disbursed Amount	¥13,482 million
Date of Exchange of Notes	June 1992
Date of Loan Agreement	October 1992
Loan Conditions	
Interest Rate	3.0%
Repayment Period(Grace Period)	25years(7years)
Procurement	General United
Final Disbursement Date	December 1997

8. Conclusion

This project earns high marks on three points: effectiveness, efficiency and sustainability. As for the relevance of the project, it can be described as an appropriate environmental project for Mexico. However, the effects of the project were mixed.

Secondary Sediment Facility of Noreste Water Treatment Plant

Sludge Fertilizen Plant in SADM,next to the Dulces Nombres Swage Treatment Plant

Sewage being discharged before the project in the Monterrey area