Internal Ex-Post Evaluation for Technical Cooperation Project

conducted by Mexico Office/ January, 2014

Country Name	Coastal Water Quality Monitoring Network Project
United Mexican States	

I. Project Outline

Background	Mexico was facing various water-related issues and the National Water Plan (2007 – 2012) stressed the necessity of solving water contaminations as well as assuring water resources. Mexico took the 106th place among 122 countries in terms of the water quality index measured by UNDP in 2002. In addition, the progress of water contamination, for instance, caused massive death toll of fish in the Veracruz state. Consequently, it was urgent for the Government of Mexico to solve water quality problem. However, unlike freshwater, there was no nationally unified method of analysis and sampling for saltwater and National Water Commission (CONAGUA) was not able to compare the data with other organizations.
Objectives of the Project	1. Overall Goal: The capacity of CONAGUA for monitoring and control for the coastal water quality is augmented. 2. Project Purpose: The reference functions of CONAGUA on the coastal water quality monitoring are strengthened. 3. Assumed steps for achieving the project goals: The project develop a new standard guidelines; Standard Operation Procedures: SOPs (draft NMX: Mexican Norms) for sampling and analysis, and Quality Assurance and Quality Control QA/QC system. By using the SOPs, the project strengthens the laboratory reference system for coastal water monitoring. Through the application of the new standard guidelines and improved QA/QC system, the project aims to improve coastal water monitoring and thereby conduct better control of water quality in Mexico (identification of prioritized control areas through monitoring).
Activities of the project	1. Project site: Mexico City and Tamaulipas state, where the Manager's Office of Water Quality, and the Northern Gulf Basin Organization are located, respectively. (Laboratory reference system consists of National Reference Laboratory at its top and regional laboratories including Northern Gulf Basin Laboratory) 2. Main activities: Integrate the existing coastal and regional monitoring guidelines into uniform standard guideline. Develop a coastal monitoring plan in the Northern Gulf as well as a regional monitoring plan based on revised standard guideline. Develop and utilize a new QA/QC system after reviewing the present QA/Q operations Prepare a training master plan for coastal water monitoring Prepare an annual training plan and materials 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 6 persons 2) Trainees received: 9 persons 3) Equipment: Handy GPS Van Dorn, Type Water Sampler, Dispenser, Spectrophotometer, Standard solution, Standard Material, etc. Mexican Side 1. Staff allocated: 32 persons 2. Land and facilities: Office space at the Office of Water Quality and the Northern Gulf Basin Organization for Japanese experts 3. Local cost, 56 million peso
Project Period	January 2007 to January 2010 / Project Cost: 255 million yen
Implementing Agency	CONAGUA: National Water Commission (Comisión Nacional del Agua)
Cooperation Agency in Japan	CTI Engineering International Co.,Ltd. IDEA Consultants, Inc.
Related Projects (if any)	Japan's cooperation: 1.- Coastal Water Quality Monitoring Network Project (Master Plan 1999-2000) 2.- The Project on capacity Enhancement for Establishing Mexican Norms of Water Quality Criteria (Technical Cooperation, 2008-2010) -3.- Improvement Project of Sewerage System in Mexico City – Nagoya City (JICA Partnership Program,2011-2014) 4.- Coastal water monitoring in the Mesoamerican region as parameters of the Climate Change (TCTP, 2012-2014)

	Other donors' cooperation: Water Resources Management Project：PROMMA (World Bank, 1997-2005)

II. Result of the Evaluation

1 Relevance

This project has been highly relevant with Mexico's development policy "the sustainable development and environment protection by the balanced use of water" as set in the National Development Plan (2007 – 2012) and "promotion of the integrated and sustainable water management in the basins and aquifers" as set in Mexican National Water Program (2007-2012), development needs "strengthening of the measurement and evaluation of the water quality", as well as Japan's ODA policy; JICA's Country Assistance Program, "global environment issues and water supply and sanitations" at the time of both ex-ante evaluation and project completion. As CONAGUA is the only agency responsible for water quality monitoring nationwide that is entrusted by Secretariat of Environment and Natural Resources (SEMARNATA). It has been monitoring in the coastal zone of the Gulf of Mexico and Great Caribbean where water quality was deteriorated. Therefore, relevance of this project is high.

2 Effectiveness/Impact

The project focuses on capacity enhancement of CONAGUA's reference function on the coastal water quality monitoring. Indicators which measure the achievement of the project purpose are (i) Preparation of the final version of three (3) kinds of standard operational procedures (SOPs) and (ii) application of the final version of SOPs (draft NMXs) in 11 laboratories which operate coastal water monitoring including national reference laboratory. As to (i), the final version of the 3 kinds of SOPs (①sampling, ②basic analysis (16) and ③toxic parameters (11) of saline water and sediment analysis) have already been prepared and distributed to 16 laboratories of the CONAGUA, for (ii), according to the Regional Laboratory of the North Gulf and the Reference Center Specialized in Saline Waters (CREAS), all the 16 laboratories have already incorporated the SOPs into routine practices at the time of the ex-post evaluation. Therefore, the targets (i) and (ii) were achieved.

As for the overall goal, the indicators to measure the achievement level are (i) application of QA/QC system in 11 laboratories which operate coastal water monitoring including national reference laboratory, (ii) reflection of coastal water monitoring results in the National Water Statistics in Mexico, iii) establishment of NMX (Mexican Norms) for coastal water analysis method and iv) identification and design of prioritized control areas based on the monitoring data. As to (i),QA/QC system has already been introduced in all 11 target laboratories. For (ii), the quality maps based on the monitoring results were published. This statistics are revised and published every year. Regarding (iii), some of NMXs have already been approved and published, however, other drafts are still in the process of official authorization by SEMARNAT. As to (iv), Maps of the Water Quality, which show the prioritized control areas, have already been prepared based on the monitoring data. Besides the targeted 11 laboratories, capacity enhancement of personnel has been promoted at private laboratories based on SOPs prepared by the project and the number of the monitoring sites has been increasing from 1,510 at the completion of the project to 5,150 at the stage of ex-post evaluation.

Therefore, the above four (4) targets have largely been realized. Therefore, the effectiveness/impact of the project is high.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) The reference functions of CONAGUA on the coastal water quality monitoring are strengthened.	Final version of three (3) kinds of standard operational procedures (SOPs) (draft NMX, such as for sampling, basic analysis (16) and toxic parameters (11) of saline water and sediment analysis) which reflect comments from regional laboratories are prepared.	(Project Completion) Already prepared. (Ex-post Evaluation) The final version of the SOPs have already been prepared and distributed to 16 laboratories of the CONAGUA.
	Final version of SOPs (draft NMX) is applied in 11 laboratories where operate coastal water monitoring including national reference laboratory.	(Project completion) Already applied. (Ex-post Evaluation) It was confirmed that all the 16 laboratories have already incorporated the SOPs into routine practices.
(Overall goal) The capacity of CONAGUA for monitoring and control for the coastal water quality is augmented.	QA/QC system is applied in 11 laboratories where operate coastal water monitoring including national reference laboratory.	(Ex-post Evaluation) QA/QC system was already introduced in 11 laboratories.
	Coto astal water monitoring results are released in the National Water Statistics in Mexico.	(Ex-post Evaluation) The Quality maps based on the monitoring results were published. This statistics are revised and published every year.
	NMX (Mexican Norms) for coastal water analysis method is established.	(Ex-post Evaluation) Some of NMXs have already been approved and published, however, other drafts are still in the process of official authorization by SEMARNAT.
	Prioritized control areas are identified and designated based on the monitoring data.	(Ex-post Evaluation) Maps of the Water Quality have already been prepared based on the monitoring data.

Source：CONAGUA

3 Efficiency

While the inputs were mostly appropriate for producing the outputs of the project and the project period was within the plan (ratio against the plan: 100%), the project cost slightly exceeded the plan (ratio against the plan: 106%), because it took more time than expected to collect information on the levels of pollution by hazardous substances in the coastal areas of Mexico and to incorporate the information into a textbook. Therefore, efficiency of the project is fair.

4 Sustainability

In the policy aspect, this project is still given importance in the current development policy as the National Development Plan (2007 – 2012) aims at the sustainable development and environment protection by the balanced use of water and Mexican National Water Program (2007-2012) plans the promotion of the integrated and sustainable water management in the basins and aquifers. Institutionally, CONAGUA has sufficient number of staff members who are able to conduct water quality monitoring. The National Reference Laboratory has established the rules to be followed by every laboratory and the North Gulf Laboratory serves as a Reference Center specialized in saline waters as before. At the stage of the ex-post evaluation, the monitoring network is operated by a consort of laboratories at 5150 sites in operation, which drastically increased from 1510 sites at the stage of completion of the project. As for the technical aspect, many of the C/Ps have been promoted to the superior positions and transfer their skills and knowledge to new specialists in case of the North Gulf Basin Organization. The personnel have continuously been having training, at least one course per year according to the work program and at least one specialist from each one of the 16 laboratories can supports the international training courses for relevant personnel of central America. The North Gulf one and the National Reference Laboratory are playing the leading role in such international training. The equipment have properly been maintained and used for monitoring coastal zones. On the financial aspect, budget allocation for enhancing the capacity for water quality monitoring has been increasing; 13 million pesos in 2011, 108 million pesos in 2012 and 209 million pesos in 2013, which is considered sufficient to conduct the project activities.

From these findings, it is considered that the project has no problem in policy background, institutional, technical and financial aspects of the implementing agency. Therefore, sustainability of the project is high.

5 Summary of the Evaluation

This project has largely achieved the project purpose and overall goal. Regarding capacity enhancement of CONAGUA's reference function on the coastal water quality monitoring, the final version of the SOPs have already been prepared and distributed and applied to 16 laboratories of the CONAGUA. The capacity of CONAGUA for monitoring and control for the coastal water quality is augmented through i) the application of QA/QC system in 11 laboratories, (ii) reflection of coastal water monitoring results in the National Water Statistics in Mexico, iii) establishment of NMX for coastal water analysis method and iv) identification and design of prioritized control areas. As for sustainability, this project is still given importance in the current development policy and also there is no problem in terms of institutional, technical and financial aspects. Efficiency is fair since the project cost slightly exceeded the plan.

In the light of above, this project is evaluated to be highly satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing agency:

None

Lessons learned for JICA

Draft NMXs were prepared before the completion of the project and some of them have already been approved and published. However, other drafts are still in the process of official authorization by SEMARNAT. The authorization usually requires a long and complicated process and it is desirable that the project monitor and supervise the process and also incorporate such monitoring and supervision into the project activity in order to accelerate the application of the NMXs.

Training of the CONAGUA specialists in the Northern Gulf Basin Laboratory

Field activities and training of the personnel of CONAGUA