

Summary of the Evaluation

1. Outline of the Project	
Country: Mexico	Project Title: Coastal Water monitoring Network Project
Sector: Environment	Cooperation Scheme: Technical Cooperation Project
Division in Charge: Environmental Management Division II, Global Environmental Department	Total Cost (As of July 2009): 272,149 thousand Yen
Period of Cooperation: January 2007 to December 2009	Partner Country's Implementation Organization: National Water Commission (Comisión Nacional del Agua)
	Supporting organization in Japan: CTI Engineering International Co.,Ltd., IDEA Consultants, Inc.
	Related Cooperation Project: Study on the Development of Coastal Water Environment Monitoring System and Project for Capacity Development for Establishing Mexican Norms of Ambient Water Quality Criteria
1.1. Background of the Project	
<p>Mexico is currently facing various water-related issues and the National Water Plan (2007 – 2012) stated the necessity of solving water contaminations as well as assuring water resources. Mexico took the 106th place among the 122 countries in terms of the water index measured by UNDP in 2002. It was also concerned the progress of water contamination such as massive death toll of fish in the Veracruz state. Consequently, it was urgent for the Government of Mexico to solve water quality problem.</p> <p>The National Water Commission (CONAGUA), the agency responsible for water quality monitoring in Mexico, has been carrying out nationwide fresh water quality monitoring by itself and implementing the coastal water quality monitoring since 2003 based on the “Study on the Development of Coastal Water Environment Monitoring system”. However, it can not be said that CONAGUA has been conducting reliable coastal monitoring both in terms of quality and quantity because measurement of monitoring parameters in saline water requires more sophisticated techniques than that for fresh water. Then government of Mexico made a request to the Government of Japan for the technical cooperation project that would improve the reference functions of coastal water quality monitoring. In response to the request, the Japan International Cooperation Agency (JICA) dispatched preliminary study team in August 2005 and August 2006.</p> <p>As a result of a series of studies and discussions, both Mexican and Japanese sides agreed on the implementation of the Coastal Water Quality Monitoring Network Project (the Project), with Record of Discussions signed on November 17, 2006.</p>	
1.2. Project Overview	
<p>Technical transfer for the capacity enhancement of CONAGUA in coastal water quality monitoring by Japanese short-term experts (Project Manager/QA/QC/Training, Sampling/Analysis of Basic</p>	

Parameters, Monitoring Plan/Monitoring Data Interpretation, Analysis of Organic Substances, Analysis of Inorganic Substances) and trainings in Japan.

(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) Outputs

Output 1: The capabilities of coastal water quality monitoring in the Basin Organization of Northern Gulf are strengthened.

Output 2: The capabilities of coastal water quality monitoring in the Manager's Office of Sanitation and Water Quality are strengthened.

Output 3: Training functions of National Reference Laboratory and Northern Gulf Regional Laboratory on coastal water quality monitoring are strengthened.

Output 4: Training functions of National Reference Laboratory and Northern Gulf Regional Laboratory on coastal water quality monitoring are strengthened.

1.3. Inputs

Japanese side: Total cost 272,149 thousand Yen

Short-term Experts: 5 Experts (38.5 M/M)

Equipment: Spectrophotometer, GPC, Glassware, reagents etc. \$26,772. (2,560 thousand Yen)

Training in Japan: 9 Counterparts (including 3 counterparts under planning in 2009)

Local costs: 19 million Yen (From January 2007 to July 2009)

Mexican side

Counterparts: 31 persons

Facilities: Office spaces, groupware account etc.

Local costs: 42.68 million peso (From January 2007 to December 2008)

2. Evaluation Team

Members	Dr. Hiroshi Shirakawa	Leader	Division Director, Environmental Management Division II, Global Environmental Department, JICA
	Mr. Noriyuki Ito	Planning and coordination	Staff, Environmental Management Division II, Global Environmental Department, JICA
	Mr. Terumi Mizuno	Evaluation and analysis	Deputy Director, Corporate Planning Department, Techno Chubu Co.,Ltd.
Period	July 20, 2009 to August 6, 2009		Type of Evaluation: Terminal

3. Results of Evaluation

3.1. Achievement of the Project

Project Purpose, “The reference functions of CONAGUA on the coastal water quality monitoring are strengthened” is considered to be almost achieved.

- The SOPs prepared by the Project have been modified to tailor to the format of NMX, and the drafts of NMX will be reviewed by the inter-institutional committee of CONAGUA in September.
- The SOPs prepared by the Project have been used at the training courses, and they have been utilized in the laboratories after the trainings.

Output 1, “The capabilities of coastal water quality monitoring in the Basin Organization of Northern Gulf are strengthened”, is considered to be achieved.

- A new monitoring guideline was developed by the Project and it was authorized as an official technical document of CONAGUA named “Policy and Working Program 2009”.
- The laboratory of Northern Gulf basin organization formulated the annual coastal monitoring plan based on the new guideline and it is incorporated into the annual water monitoring plan in 2009.
- Three kinds of SOPs were prepared; 1) Saline water and sediment sampling, 2) 11 basic parameters for saline water, 3) 6 basic parameters for sediment.
- Reliability of measurements in the laboratory of Northern Gulf basin organization has been assured by spiked recovery tests.

Output 2, “The capabilities of coastal water quality monitoring in the Manager’s Office of Sanitation and Water Quality are strengthened”, is considered to be achieved.

- Ten basin organizations of eleven basin organizations having a coastal area developed their annual monitoring plans which include coastal water quality monitoring based on the Annual Water Quality Measurement program 2008.
- SOPs for the analysis of seven kinds of heavy metals, 25 kinds of pesticides and VOC in saline water and sediment were prepared.
- Reliability of measurements in the National Reference Laboratory has been assured by spiked recovery tests.

Output 3, “Training functions of National Reference Laboratory and Northern Gulf Regional Laboratory on coastal water quality monitoring are strengthened”, is considered to be almost achieved.

- Proficient tests were implemented twice; the 1st test was carried out in July 2008 for the laboratories of the 11 basin organization with the reference materials of saline water and sediment prepared by the National Reference Laboratory. The result of the first proficient test was included in the annual report of the National Reference Laboratory. The 2nd proficiency test for the laboratories of 20 basing organizations is underway.

- The implementation of the second proficiency test delayed because of the delay in dispatch of the Japanese expert due to the unexpected pandemic of flue.

Output4, “Training functions of National Reference Laboratory and Northern Gulf Regional Laboratory on coastal water quality monitoring are strengthened”, is considered to be achieved.

- Trainings of sampling and measurements of basic parameters, heavy metals and organic toxic substances were performed 9 times since 2007 at the laboratories of Northern Gulf basin organization and the National Reference Laboratory. 134 persons from the 22 laboratories of basin organizations and state delegations participated the trainings and seven C/Ps also participated the trainings as a trainer.

3.2. Implementation Process

The Project proceeds on the whole as planned though early retirement of the laboratory chief of the Northern Gulf basin organization and delay in dispatch of the Japanese experts due to the pandemic of flue.

The first version of PDM was formulated in close collaboration between the Mexican and Japanese sides at the beginning of the Project. This process allowed the Japanese experts and Mexican counterparts not only to share the same understanding of the framework of the Project but to select the objectively verifiable indicators. This series of processes considerably contributed to the smooth implementation of the Project.

A Technical Committee (T/C) was established in addition to the Joint Coordination Committee (JCC) to adjust and to coordinate the details of the activities besides monitoring the Progress of the Project. The T/C was also used to as an occasion to nip a cause of problem in a bud arisen from the daily activities

Though the Japanese experts except the project leader communicate with C/Ps through a qualified interpreter, communication between the Japanese experts and Mexican counterparts has been good.

3.3. Summary of Evaluation Results

(1) Relevancy

The Project is evaluated as having considerably high relevance in terms of Mexican government policy, needs of CONAGUA and Japanese policy of Official Development Assistance to Mexico.

The National Development Plan from 2007 to 2012 states that the country is expected to preserve the water resources in order to assure the sustainable development and environment protection by the balanced use of water recognizing the strategic value of water. Also the National Strategy for the Land and Sea Use Planning of the Territory in Oceans and Coasts mentions that preservation of the coastal environment is one of the priority issues of the country from a view point of abundant biodiversity protection.

Scope of this project complies with one of the JICA's country specific assistant areas, "global environment issues and water supply and sanitations". This project also consists of the capacity development program for water resources management in Mexico.

Water quality monitoring of waters are recognized as a core for water quality management policy in Japan. Japan has an technical advantages, especially analysis of pollutants in saline water, in coastal water quality monitoring.

(2) Effectiveness

The Project is evaluated as having rather high effectiveness.

The outputs of the Project except output 3 have been already produced. Each output completely enhances the necessary reference functions for the National Reference Laboratory and the laboratory of Northern Gulf basin organization. Especially formulating a national standard which is the most important function of reference laboratory was considerably strengthened. Most of the procedures for the measurement of essential parameters for coastal water monitoring were prepared as a draft of NMX by the Project.

(3) Efficiency

The Project is evaluated as having rather high efficiency.

Major inputs were provided by both Mexican and Japanese sides. According to the response to the questionnaires for the C/Ps, 14 C/Ps of 15 C/Ps satisfy the quality, number, duration and timing of the assignment of Japanese short-term experts.

All the Japanese experts were dispatched on a short-term basis except that scheduled in May 2009 delayed about one month by the unexpected pandemic of flu. This resulted in delay of some activities. Though the Japanese experts and counterparts have been making their best efforts to catch up with the plan, the activity 3-5, "to conduct proficiency tests for improving of data", is still behind the schedule.

Mexican side allocated sufficient budget for facilitating the smooth implementation of the Project and assigned 25 staff members who has adequate experience and knowledge of water quality monitoring. CONGUA effectively coped with the retirement of four C/Ps including the laboratory chief of the Northern Gulf basing organization in order to prevent the retirement from influencing the progress of the Project.

All the equipment was installed on schedule and has been utilized for the technical transfer. Among the equipment, the spectrophotometer sometimes caused malfunctions, however, a series of malfunctions have not directly influence the progress of the Project because it was appropriately fixed in Mexico.

Counterpart trainings in Japan were implemented twice by July 2009 and 6 C/Ps in the management office and the Northern Gulf basin organization participated in the trainings to learn the water quality system and techniques. The capacity enhancement training for chemical analysis implemented in 2008 remarkably contributed to the achievement of output 2 which objective is to increase the capacity of heavy metal and pesticide analysis.

JCC was held twice in a year. Results of activities, plan of activities were reported and discussed in the JCC. Difficulties that the Project faced were also discussed and necessary measures were taken by the JCC.

An unexpected change of important assumption occurred. The Ministry of Economy instructed to comply with NMX for environmental monitoring, which was developed based on the EPA procedures, with ISO procedures. C/Ps made an effort to follow the instruction by modifying some SOPs which had been already prepared based on the EPA procedures.

(4) Impacts

The mission of CONAGUA in the environmental management of Mexico will not change and the Project is evaluated as bringing considerably high impact and the overall goal will be achieved if CONAGUA continues the present activities.

Some activities for achieving the overall goal have been started; 1) Coastal water quality monitoring will begin with the integrated procedure in 2010, 2) Government process for authorizing the SOPs as NMX will also begin in 2010. These activities may result in achievement of the overall goal.

Positive impacts brought by the Project were as follows and no negative impact has been recognized so far.

- The Ministry of Navy, which has been engaged in oceanographic survey, participated in the training course organized by the Project to learn the monitoring methods which will be authorized as NMX.
- CONAGUA decided to participate in the project, “integrated assessment and management of the Gulf of Mexico Large Marine Ecosystem”, and to be a trainer of NMX method when the proposed drafts are authorized.
- Technical skills of some basin organizations equipped with an atomic absorption spectrophotometer for analyzing heavy metals by joining the training courses for heavy metal analysis organized by the Project.

(5) Sustainability

The Project is evaluated as having high sustainability.

CONAGUA has been allocated budget necessary for water monitoring. CONAGUA also acquired a very exceptional budget for recruiting 300 persons for permanent posts in 2009 and about 30 persons have been assigned to the monitoring section. The National Monitoring Network of CONAGUA also requested \$35,700,000 for recruiting 252 contract base employees for the year of 2010.

When counterparts retired or were transferred, successor of those counterparts was assigned. Also when the spectrophotometer of the Northern Gulf basin organization malfunctioned, another spectrophotometer was relocated from other laboratory to meet urgent business. This suggests that organizational capacity for coping with those issues is high.

CONAGUA has a specific plan to introduce an atomic absorption spectrometer and a gas chromatograph mass spectrum in the laboratories of six basin organizations with a coastal area within two years. Also the new monitoring guideline advises to participate in the training courses. They assure the technical sustainability of the Project.

3.4. Factors that promoted realization of effects

(1) Factors concerning the planning

The activities of the Project were decided base on the present water quality monitoring system and by identifying the reference functions for coastal water quality monitoring which CONAGUA intended to enhance.

(2) Factors concerning the implementation process

PDM was effectively utilized as a project management tool because lively discussion on the project purpose, verifiable indices and activities based on the PDM between the Japanese experts and Mexican counterparts allowed both sides to share the same understanding of the framework of the Project.

Implementation of the following initiative activities of CONAGUA for achieving the overall goal remarkably contributed to the achievement of each output.

- Prompt authorization of the coastal water quality monitoring guideline prepared by the Project facilitated the standardization of procedures for coastal water quality monitoring.
- Including the start of procedure for authorizing the SOPs prepared by the Project as NMX in the annual work plan of CONAGUA in 2009 facilitated the preparation of the drafts of NMX.

3.5. Conclusion

As the results of the evaluation based on the above 5 aspects, Relevance, Impact and Sustainability have reached satisfactory level, high. Though Effectiveness and Efficiency were not evaluated to be high, the project purpose would have been achieved unless unexpected the influence of the pandemic of flu. It was observed that extension of the Project period was necessary to improve the evaluation results of Effectiveness and Efficiency.

3.6. Recommendations and lessons learned

3.6.1. Recommendations

Taking the above analysis into consideration, the Final Evaluation Teams recommend to CONAGUA as follows in order for CONAGUA to carry out water quality monitoring network related activities efficiently and effectively.

(1) To disseminate the following National Standard Operational Procedures (NMX) as the output of the Project to organizations concerned.

- Sampling
- 16 standard operational procedures for basic parameters in saline water and sediment
- 7 harmful parameters
- 4 toxic organic pollutants in saline water and sediment

(2) To increase the monitoring parameters to meet the social needs based on the experiences and technical skills obtained by the Project. Because the current monitoring parameters selected by the Project are minimum requirement for coastal monitoring.

3.6.2. Lesson learned

- Mutual understanding between the Japanese experts and C/Ps on the PDM at the beginning stage of the Project remarkably contributed efficient implementation of the Project.