

終了時評価調査結果要約表（英文）

I. Outline of the Project	
Country : Republic of Guatemala	Project title : Capacity Development of Water Environment Conservation in the Metropolitan Area of Guatemala
Issue/Sector : Environment	Cooperation scheme : Technical Cooperation
Division in charge : Water Resources Management Division II, Water Resources and Disaster Management Group, Global Environment Department	Total cost : JPY 309million.
Period of Cooperation (R/D): 2006.3~2009.9 (Extension) : 2009.9~2009.12 (F/U) : —	Partner Country's Implementing Organization : Ministry of Environment and Natural Resources (MARN), Ministry of Public Health (MSPAS)
	Supporting Organization in Japan: Department of the Environment, Aichi Prefectural Government
	Related Cooperation : Nil
<p>1 Background of the Project</p> <p>The Government of Guatemala recognized the presence of serious water pollution problems, and the Government perceived the purification of Amatitlán Lake and the conservation and improvement of water environment at the national level as the high-priority challenges. The Ministry of Environment and Natural Resources (hereinafter referred to as "MARN") was founded in 2000 and owns the authority/function to formulate and enforce relevant policies on water environment management.</p> <p>In order to prevent and to mitigate the water pollution in the metropolitan area, it is required an administrative entity with integral functions that can conserve and improve water environment for appropriate measures against pollution sources such as domestic wastewater, industrial wastewater and agriculture wastewater. Besides, the capacity and institutional development of MARN that is supposed to play a central role of water environment management in the country has been required. Coping with such a circumstance, MARN officially requested a technical assistance project on capacity and institutional development of MARN to the Government of Japan. Through ex-ante study, Record of Discussion for the Project was concluded in December 2005.</p> <p>In May 2006, "Governmental Agreement 236-2006: Regulation for the Wastewater Discharge and Reuse and Sludge Disposition" was executed, aiming at mitigating water pollution level, and MARN started to implement wastewater discharge control actions during the project</p>	

implementation period. Under such a circumstance, the mid-term evaluation was carried out in March 2008. Upon the termination of the Project, terminal evaluation was carried out to confirm the probability of the achievement of project purpose and necessity of additional extension of the duration other than 3 months extension to compensate the delay caused by H1N1 outbreak.

2 Project Overview

(1) Overall Goal

Public policy and regulation on water environment conservation in the metropolitan area is strengthened.

(2) Project Purpose

MARN's implementation capacity of public policy and regulations for water environment conservation in the Metropolitan Area is reinforced.

(3) Outputs

<Output 0>

The framework for project implementation is established.

<Output 1>

Strategy formulation capacity for effective enforcement of the wastewater regulation is reinforced.

<Output 2>

The bases to facilitate the implementation of wastewater regulation are reinforced.

<Output 3>

Sustainable system of compilation and administration for water environmental information is established.

<Output 4>

Environmental education and dissemination related to the wastewater regulation is strengthened by MARN, in collaboration with related organizations.

(4) Inputs

Japanese side : Experts 7 Experts (70.83M/M), Equipment JPY 10,025,700.

Trainees Received 18 Trainees, Local Cost JPY 52,056,000.

Guatemalan Side : Counterparts (CPs) 17 CPs, Provision of office space,

Local Cost GTQ 3,146,780.

II. Evaluation Team

Members of Evaluation Team	<ul style="list-style-type: none"> ● Team Leader: Hiroko KAMATA (Senior Advisor, JICA) ● Water Discharge Control: Kei OMURA (Deputy Director, Department of the Environment Recycling and Waste Management Division, Aichi Prefectural Government)
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	<ul style="list-style-type: none"> ● Cooperation Planning: Naoko YAGO (Senior Program Officer, Environmental Management Division II, Global Environment Department, JICA) ● Evaluation and Analysis: Akira OGASAWARA (Consultant Group, VSOC Co., Ltd.) ● Interpreter: Hiroko ISHII (Japan International Cooperation Center (JICE)) 	
Period of Evaluation	20/7/ 2009~ 9/ 8/ 2009	Type of Evaluation : Terminal Evaluation
III. Results of Evaluation		
1 Summary of Evaluation Results		
(1) Relevance		
<p>The relevance of the Project is generally high.</p>		
<p>The Colom Administration, established in January 2008, has advocated environmental issues (in particular water resources), poverty issues, and indigenous people as priority areas. Water resources are recognized as the one of the priority areas and the Government established Water Cabinet, a high-level institution under the direct control of Vice-president Office. The Project maintains the consistency with Guatemalan development policy/strategy. According to JICA's plan for country-specific program implementation of Guatemala, environmental management is referred to as target theme for sustainable development, one of the priority areas for development assistance. Thus the Project also maintains the consistency with Japanese development assistance policy/strategy.</p>		
(2) Effectiveness		
<p>The project purpose will be achieved at the time of the Project termination; effectiveness of the Project is high.</p>		
<p>Planned activities are implemented nearly as scheduled, and the Project sees smooth progress. The Project purpose is judged to be achieved according to evaluation by indicators.</p>		
<p>Each output produced contributes to the achievement of the Project purpose, interacting mutually one another. It is evaluated that the capacity development of MARN with regards to execution of wastewater discharge control is almost accomplished.</p>		
(3) Efficiency		
<p>The efficiency of the Project is significantly high based on the description below.</p>		
<p>Inputs from the Japanese side were implemented nearly as scheduled. In the latter half of the implementation of the Project, CPs began to apply transferred technologies for practical works and they are certainly disseminated and adopted. Equipment provided by the Project is confirmed to be in good operation and utilized by CPs effectively, which contributes to the</p>		

progress of project activities.

As with inputs from the Guatemalan side, the ministerial budget is increased and all of the remaining project activities are promised to be completed. In addition to those, holding monthly inter-group meetings improves the operation and management system for the Project.

(4) Impact

There is perspective that the overall goal of the Project will be achieved if the Government of Guatemala maintains conservation and improvement of water environment-oriented policy for social and environmental development of Guatemala and applies penalty/penal regulation with regards to wastewater regulation.

The textbook used for environment education activities developed by the Project is highly reputed by relevant stakeholders. Since the mid-term evaluation, at the target nine municipalities, the Project has held dissemination workshops and trainers' training sessions for junior high schools teachers, which contributes to the improvement in awareness for wastewater discharge control and environmental issues. AMSA, which concluded a technical agreement with MARN on information sharing, is developing an original database system, taking account of the database system created by the Project.

An NGO is creating short radio programs for environmental education, taking account of the publicity methods adopted by the Project.

There is no negative economic impact at the time of final evaluation.

The current wastewater regulations set goals in a gradual way, but if companies will not comply with it, negative environmental, health or financial impact would be found.

(5) Sustainability

As for sustainability, sustainability in terms of policy is remarkably high, institutional and technical sustainability is being improved and financial sustainability is not still sufficient. It is evaluated that further institutional development is necessary for the Guatemalan side.

Financially, ministerial budget secured for 2009 is 2.4 times (41.4 million GTQ to 98.2 million GTQ) as much as that for 2008. The increase in budget is still not sufficient. From now on, it is necessary for the Project to observe the execution of budget so that the Ministry may give priority to securing its budget for wastewater discharge control activities. Also, so as to secure technical sustainability, MARN suggested hiring one personnel in charge of data input and reinforce audit system for evaluation and wastewater monitoring. Technical sustainability is expected to be secured according to the MARN's suggestion and increase in budget.

2 Factors that promoted realization of effects

Holding monthly inter-group meetings improves the operation and management system for the

Project implementation.

3 Factors that Impeded realization of effects

Due to frequent transfer of staffs, a lack of financial resources for execution of follow-up of water quality analysis and management, and political external factors, the Project did not sometimes execute effective wastewater monitoring activities. However, the Project has smoothly executed wastewater monitoring activities since 2008.

4 Conclusion

According to the evaluation results based on the Five Evaluation Criteria, relevance, effectiveness, efficiency and impact have made significant progress and it is expected that the Project purpose will be achieved properly after 3 months extension of project duration to compensate the delay caused by H1N1 outbreak. However, as for sustainability of the Project, the Government of Guatemala still needs to maintain securing budget for wastewater discharge control. In addition to that, it is necessary to strengthen the audit system for the implementation process with regards to wastewater discharge control.

5 Recommendations

- ✓ To carry out the unfinished activities described in the latest PO.
- ✓ To maintain the close relationships with the relevant institutions including municipalities and the industrial sector.
- ✓ To follow the revision process of the wastewater regulation assisted by the Japanese experts.
- ✓ To establish the supervision system that allows to capture and to supervise the whole technical work process to execute wastewater regulation properly.
- ✓ To restore and to improve the database system.
- ✓ To assign necessary number of CPs to execute the activities, in line with MARN's current efforts to shift the employment contracts of its staffs from an annual base to a full-time permanent contract.

6 Lessons Learned

(1) Integration of stakeholders from the initial stage

Execution of wastewater discharge control is one of the key elements of the Project. It is necessary to involve the industrial sector from the initial stage of the Project formation.

(2) Efforts to motivate CPs

It is effective to provide MARN staffs with opportunities to get involved with practical work including policy formulation and planning, facility designing, which may interest them and may raise their motivation

(3) Imposition of legal penalties

On the industry side, enterprises tend to be against the application of the wastewater regulation. It is effective to make use of provision of incentives and imposition of penalties so as to execute wastewater discharge control. Awarding excellent enterprises is recognized as an effective incentive; on the other hand, it is worthwhile considering imposing concrete legal penalties against pernicious enterprises. Also, it is indispensable to establish a trustworthy relationship with the industrial sector.