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173 =

MINUTES OF MEETINGS
BETWEEN
THE JAPANESE TERMINAL EVALUATION TEAM
AND
THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF THE UNITED MEXICAN
STATES
ON
JAPANESE TECHNICAL COOPERATION
FOR
THE PROJECT ON THE COASTAL WETLAND CONSERVATION IN YUCATAN PENINSULA,
THE UNITED MEXICAN STATES


The Japanese Terminal Evaluation Team (hereinafter referred to as "the Japanese Team"), organized by Japan International Cooperation Agency (hereinafter referred to as "JICA"), headed by Mr. Takayuki ANDO, visited the United Mexican States from 1st to 23rd, November, 2007 for the purpose of conducting a terminal evaluation of the Project on the Coastal Wetland Conservation in Yucatan Peninsula (hereinafter referred to as "the Project") and having consultations with the project personnel and other relevant parties on the implementation of the Japanese Technical Cooperation for the Project.

As a result of a series of surveys and discussions, the both sides agreed to forward to respective authorities the report of the Joint Terminal Evaluation, which is attached hereto.

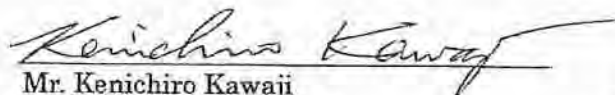
Mexico City, 22 November, 2007



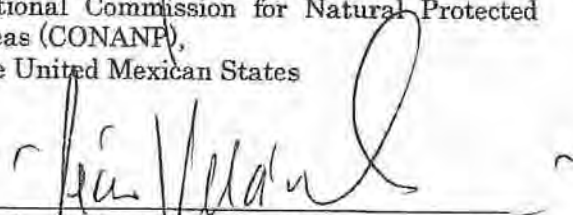
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Attached Document

REPORT OF THE TERMINAL EVALUATION
ON JAPANESE TECHNICAL COOPERATION ON THE PROJECT
ON THE COASTAL WETLAND CONSERVATION IN YUCATAN PENINSULA,
THE UNITED MEXICAN STATES

The Japanese Terminal Evaluation Team (hereinafter referred to as "the Japanese Team"), organized by Japan International Cooperation Agency (hereinafter referred to as "JICA"), headed by Mr. Takayuki ANDO, visited the United Mexican States from 1st to 23rd, November, 2007 for the purpose of conducting a terminal evaluation of the Project on the Coastal Wetland Conservation in Yucatan Peninsula (hereinafter referred to as "the Project")

For this purpose, the Japanese Team and the Mexican authorities concerned formed the Joint Evaluation Team (hereinafter referred to as "the Team"). The Team evaluated performance and achievement of the Project through field visits, interviews and had a series of discussions to make recommendations for activities in the remaining period of and after the completion of the Project.

The Team agreed on the contents of the Evaluation Report, which was accepted by the Joint Coordinating Committee.

Celestun, Yucatan, 21 November, 2007



Mr. Takayuki Ando
Leader
Japanese Terminal Evaluation Team
Japan International Cooperation Agency



Mr. Edgar Negrete
Leader
Mexican Terminal Evaluation Team
The United Mexican States

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1. INTRODUCTION

The cooperation project on coastal conservation in Yucatan Peninsula (hereinafter referred to as "the Project") started in March 2003, and Japan International Cooperation Agency (hereinafter referred to as "JICA") is cooperating with National Commission for Natural Protected Areas (hereinafter referred to as "CONANP") until February 2008. This time, in the final period of the Project, the Joint Evaluation Team (hereinafter referred to as "the Team") was formed for this terminal evaluation.

1-1. Objectives of the Terminal Evaluation

The evaluation activities were performed with the following objectives:

- (1) to conduct a comprehensive evaluation of the achievement of the Project in accordance with the project plan such as Project Design Matrix (hereinafter referred to as "PDM") and Plan of Operation (hereinafter referred to as "PO"), and the project activities implemented (achievement, implementation process and project management etc.),
- (2) to evaluate the Project in terms of the five evaluation criteria (Relevance, Effectiveness, Efficiency, Impact and Sustainability),
- (3) to examine plan of the activities for the remaining project period, necessity of follow-up cooperation, as well as to make recommendations for the attainment of better utilization of the project outcomes after the termination of the Project, and draw the lessons learned from the Project.

1-2. Members of the Team

1-2-1. Japanese members

Mr. Takayuki ANDO	Team Leader	Team Director, Forestry and Nature Conservation Team II, Group I, Global Environment Department, JICA
Ms. Kanako ADACHI	Evaluation Planning	Senior Program Officer, Forestry and Nature Conservation Team II, Group I, Global Environment Department, JICA
Mr. Isao DOJUN	Evaluation Analysis	International Project Department, Chuo Kaihatsu Corporation

1-2-2. Mexican members

Mr. Edgar Negrete	Team Leader	In charge of projects of PRODERS and PET, Regional Office of Yucatan Peninsula and Caribbean Mexico, CONANP
Mr. Mauricio Quijano	Member	Vice Director, Niños y Crías A. C.

1-3. Schedule of the terminal evaluation

The Team was conducted the terminal evaluation from 2 November to 22 November 2007. The detailed schedule of the terminal evaluation is attached as Annex 1.

2. OUTLINE OF THE PROJECT AND METHODOLOGY OF EVALUATION

2-1 Outline of the Project

The Project has been implemented since 1 March 2003, based on the Record of Discussions (hereinafter referred to as "the R/D"), signed on 11 December 2002 between the Government of Japan and the Government of the United Mexican States. Target area of the Project is Ria Celestun Biosphere Reserve (Hereinafter referred to as "the RBRC"). Original PDM attached to the R/D was revised four times. (Original and revised PDMs are attached as Annex 2.

As indicated in the current PDM (PDM version 5), followings are summary of the Project.

(1) Overall Goal:

Conservation of wetland ecosystem of RBRC is improved.

(2) Project Purpose:

Environmental management activities are carried out properly in RBRC by leadership of the RBRC office.

(3) Output:

- 1) Mangrove ecosystem restoration in RBRC is promoted.
- 2) Sustainable use of natural resources is practiced by community-based organizations (CBOs).
- 3) Solid waste management is improved.
- 4) Mechanism of information sharing about wetland conservation in the RBRC among related organizations and residents is established.
- 5) Knowledge and capacity of residents about importance of RBRC are improved through environmental education.

2-2 Methodology of Evaluation

2-2-1 General

The terminal evaluation was carried out by the Team consisting of both from Japanese and Mexican sides whose members can be found in 2-1. In the first step of the evaluation, the Team

reviewed the progress and achievements of the Project referring to the PDM version 5. In the next step, the Team analyzed and evaluated the Project from the viewpoints of 5 evaluation criteria, namely Relevance, Effectiveness, Efficiency, Impact, and Sustainability. Main evaluation points are indicated in the Evaluation Grid attached as Annex 3. Finally, the Team made recommendations for the attainment of better utilization of the project outcomes after the termination of the Project, and drew the lessons learned.

2-2-2 Data Collection method

The team carried out a field survey at the project site, collection and analysis of relevant documents, collection of information through questionnaire survey to the persons concerned with the Project, and interview with the persons concerned with the Project such as the Mexican counterparts of the RBRC office, Japanese experts, staff of other organization concerned, residents of the municipality of Celestun, etc.

2-2-3 Definitions of 5 evaluation criteria.

(1) Relevance:

The extent to which the objectives of a project are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donors' policies.

(2) Effectiveness:

The extent to which the project's objectives were achieved, or are expected to be achieved, taking into account their relative importance.

(3) Efficiency:

A measure of how economically resources/inputs (funds, expertise, time, etc.) are converted to results/outputs.

(4) Impact:

Positive and negative, primary and secondary long-term effects produced by a project, directly or indirectly, intended or unintended.

(5) Sustainability:

The continuation of benefits from a project after major development assistance has been completed. The probability of continued long-term benefits. The resilience to risk of the net benefit flows over time.



3. ACHIEVEMENT OF THE PROJECT

3-1 Inputs

3-1-1 Inputs by Japanese side

(1) Dispatch of Japanese Experts

1) Long-term Experts

In total, 4 long-term experts have been dispatched for the fields of chief advisor/wetland management and project coordinator/environmental education. Details see annex 4-1.

2) Short-term experts

In total, 19 short-term experts have been dispatched for the fields of mangrove restoration, solid waste management system, ecotourism development, etc. Details see annex 4-1.

(2) Provision of Equipment

The Japanese side has provided vehicles, computers, field survey tools, electronic balance, etc. Total cost of procured equipment is 1,280 thousand pesos. Details see Annex 4-2 and 4-3.

(3) Training of Mexican Counterpart Personnel in Japan

In total, 15 Mexican counterparts and persons concerned to the Project were trained in Japan and 2 more persons are going to be trained in Japan from the end of November, 2007. Details see Annex 4-4.

(4) Local Operation Expenses borne by Japanese Side

The local operational expenses from the years 2003 to 2007 borne by the Japanese side is 4,222,276 pesos. Details see Annex 4-5.

3-1-2 Inputs by Mexican side

(1) Assignment of counterpart personnel

Currently a Project Director and 7 counterparts are assigned (as of November 2007). Details see Annex 4-6.

(2) Provision of office space for the Project

Office space for Japanese experts and staff of the RBRC for the Project were provided.

(3) Budget allocated by the Mexican side

Total budget allocated for the activities of the RBRC office is 19.9 million pesos from the years 2003 to 2007. Details see Annex 4-7.



3-2. Achievement of the Outputs

3-2-1 Output 1: Mangrove ecosystem restoration in RBRC is promoted.

Useful knowledge about reasons of death of mangrove and methods for the mangrove ecosystem restoration is accumulated. Foundation about study, analysis and planning of measures for mangrove ecosystem restoration was made. This is the first case of successful mangrove restoration in RBRC. In addition, manuals for restoration were made. These manuals can not be applied immediately in other areas as a standard. Therefore, it may be said that the achievement degree of this indicator is high but there is room for improvement for establishment of techniques.

Indicator 1-1: Experimental restoration in the area of 7 ha is carried out*.
(*The area of 7 ha does not correspond to the actual planting area since planting is done only in appropriate place in the 7 ha.)

The experimental reforestation for mangrove restoration has been carrying out in 4.8ha in Celestun zone and 3.5ha in Isla Arena zone, 8.3ha in total.

A verification experiment has been carried out using 1.6 ha in a part of the above mentioned zone for searching effective and efficient methods for land preparation to be restored and methods for reforestation. This verification experiment was started this year. Therefore the continuation of the monitoring activity, the analysis of monitoring data are necessary for finding further useful techniques on mangrove restoration.

Very effective methods for the mangrove ecosystem restoration in RBRC have been identified through the experimental restoration. Therefore, it may be said that foundation for mangrove ecosystem restoration in RBRC area was built. It is expected that the methods of mangrove restoration identified under the Project will be utilized in the RBRC area, with deep observation on situation of restoration targeted fields and corresponding with characteristics of the fields. Still it is important to continue observation and monitoring of the growth of the planted mangroves in the experimental fields, because experimental reforestation started only 2 years ago. It is necessary to feed back the results of observation and monitoring into the produced manuals.

Indicator 1-2: The Manual of restoration for mangrove is made based on the experimental results.

2 kinds of manuals, "Practical Guide for Mangrove Ecosystem Restoration in Yucatan,

Mexico” and “Silviculture Manual for Mangrove Restoration in Celestun and Isla Arena” have been produced based on the experimental results under the Project. Spanish version of these manuals will be produced soon.

High evaluation is given on these manuals by CONANP headquarters and CONAFOR.

3-2-2 Output 2: Sustainable use of natural resources is practiced by community-based organizations (CBOs).

This indicator will be achieved by the end of the Project. The counterpart in charge has obtained good experience by conducting the training program for eco-tourism and supporting eco-tourism groups.

Indicator 2-1: At least three resident groups participate in productive activities without environmental destruction.

Three (3) ecotourism groups were formed by the residents of municipality of Celestun. 2 groups out of above 3 groups have participated in the training course for ecotourism (guiding techniques, basic English conversation, monitoring methods, and cooperative management), and infrastructures for the ecotourism were constructed most part. The remaining 1 group will participate in the ecotourism training course later (this training course will be carried out in December 2007).

Therefore, this indicator will be achieved by the end of the Project.

Name of ecotourism groups and number of members etc are as following table.

	Group name	Member (persons)	Contents of ecotourism	Main means of livelihood
1	Laguna Dzinitun	11	Sightseeing tour by canoe in mangrove forest	Worker of fishery sector
2	Silbaca'ax	13	Sightseeing by walk in mangrove forest (using wooden path)	Worker of fishery sector
3	Grupo de Alamos	10	Sightseeing in mangrove forest with Peten (water spring)	Worker of fishery sector and hunting

In addition, advices for producing value added product have been provided to the cooperative of salt production (16 members) and the cooperative of honey production (10 members), and products with value added will be commercialized by the end of the year 2007. (Up to now produced salt was sold as industrial salt and its price was cheap. Advice on commercialization as edible salt (as souvenir) was given to the salt cooperative. In regard to

the honey production, kinds of flowers are different by seasons and taste of honey is also different. The honey producers mix honey of various flowers and sell honey as ordinary honey. Advice on commercialization as mangrove honey and as souvenir (in a glass container) was given to the honey cooperative.

3-2-3 Output 3: Solid waste management is improved.

Solid waste management system is improving significantly. However, the decentralized public organization (OPD: Organo Público Decentralizado) is not established yet, and it is not sure that it works well. Continuous effort to fix the solid waste management system is needed.

Indicator 3-1: The solid waste management plan in the municipality of Celestun is made and implemented.

A master plan on the solid waste management in the municipality of Celestun was produced through cooperation and collaboration with the organizations concerned with the leadership of the RBRC office. After then, along with this master plan, an intermediate treatment plant for solid waste was constructed in Celestun with the cooperation and finance by the Secretary of Ecology of the State Government of Yucatan (SECOL). And then, separated collection of wastes is started in a part of the Celestun municipality as a pilot project (around 100 houses). In future, area for separated collection of wastes will be expanded all town area of Celestun (around 1,550 houses), reflecting the results of the pilot project.

In addition, the seminars for housewives on garbage have been carried out under the Project and housewives from the 1,240 houses have been participated in these seminars. Main subjects of the seminar are 1) influence of garbage on health, 2) present situation of garbage problem, 3) compost, and 4) practice of the separated collection of wastes.

For the Project helps the municipal office of Celestun to establish OPD which conduct waste collection treatment and recycling works, it is expected to increase sustainability of the solid waste management system. The municipal ordinance on establishment of OPD will be approved in early time of the year 2008. The municipal office of Celestun will handover the solid waste management works to new organization.

As mentioned above, the solid waste management master plan in the municipality of Celestun was made and based on the master plan, the solid waste management is improving well and steadily. The indicator of the PDM will be achieved. However, OPD has not been established yet so, it is not sure that it works well. Continuous effort to fix the solid waste

management system is needed.

3-2-4 Output 4: Mechanism of information sharing about wetland conservation in the RBRC among related organizations and residents is established.

The degree of achievement of this Output is considered to be at satisfactory level.

Indicator 4-1: The list of publications and data on wetland conservation on RBRC is made and updated.

Study and investigation reports, publications, and data related with the wetland conservation of RBRC, which were published or holed by universities, research institutes, governmental organizations and NGOs, were collected and a list of such publications was made. This list of publications is updated periodically at the RBRC office. The collected documents and the list of publications are kept and provided for public reading at the RBRC office.

A space for public reading for using the collected documents and the list of publications will be established in the Cultural Conservation Center which is under construction in the municipality of Celestun in order to be utilized by the residents (including students and teachers concerned) in Celestun and visitors.

Indicator 4-2: Information is disseminated through newsletters and other media.

A newsletter "Revista RIA CELESTUN" was published in April 2007 by the RBRC office for the purpose of disseminating information about wetland conservation activities in RBRC area to the organizations concerned and residents of Celestun widely (500 copies were published). The list of the publications related to wetland conservation of RBRC is included in this newsletter, too. The second newsletter will be published in February 2008. After then, newsletter will be published every 6 months.

3-2-5 Output 5: Knowledge and capacity of residents about importance of RBRC are improved through environmental education.

The degree of achievement of this Output is considered to be at good level in general.

Indicator 5-1: Understanding by residents about importance of RBRC is improved.

It seems that the understanding by residents in Celestun about importance of environmental conservation and the RBRC area is improving certainly as the results of implementation of following activities of the Project.

- 1) Implementation of various events on environmental education in the week of environment which is held in November every year.
- 2) Implementation of the seminars on garbage separation to the housewives in Celestun (main purpose: understanding of necessity of garbage separation, influence of garbage on health and environment, etc.)
- 3) Distribution of posters, pamphlets, stickers and set up of bulletin board about the separated collection of waste (mainly residents in the pilot project area)

Such improvement of understanding was able to confirm through interviews with residents of Celestun, staff of the municipal office of Celestun, staff of NGOs concerned. For example, garbage thrown away illegally was decreased and persons who burn garbage at home were decreased in Celestun town.

There are indications that the local residents are recognizing importance of conservation of the RBRC area. For example, local residents are proud of the RBRC and interested in the RBRC area, and they are less dumping garbage.

Indicator 5-2: Number of residents participating in environmental education activities is increased.

Since 2003, around 20 kinds of events, such as the contest of drawings on environment, mass on environment, cleaning of seaside, etc. have been carried out as a part of environmental education and awareness raising in the week of conservation in November. Total number of the participants to the events of the week of conservation is as follows.

Year	Duration (days)	Number of participants (persons)	Number of organizations participated
2003	5	1,252	12
2004	6	1,424	19
2005	8	3,979	25
2006	6	1,235	19
2007	7	(end of November)	-

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Considering total population of Celestun, around 6,300 persons in 2005, significant ratio of the residents of Celestun had participated in the events, accordingly, it seems that the events made improvement of environmental awareness of the residents. Therefore, it is judged that the degree of achievement of this indicator is good.

3-3 Achievement of the Project Purpose

The Project Purpose: Environmental management activities are carried out properly in RBRC by leadership of the RBRC office.

Although there are some indicators that are not achieved enough, taking into consideration the facts that the environmental conservation activities carrying out in RBRC area is adequate with leadership of the RBRC office, the degree of achievement of the Project Purpose is considered to be at a satisfactory level.

For achieving the Overall Goal, it is expected that the RBRC office acquires higher institutional capacity, such as further strengthening and establishment of operational capacity of task forces and capacity of producing detailed plan of activity based on the long-term vision on the wetland conservation of RBRC.

Indicator 1: Task forces related to wetland conservation are continuously held and conservation activities are properly implemented.
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4 kinds of task forces were formed under the Project, such as 1) task force for mangrove restoration, 2) task force for ecotourism, 3) task force for solid waste management, and 4) task force for environmental education. Governmental organizations concerned, NGO concerned, and cooperatives concerned etc. are the members of the above mentioned task forces. Although the frequency of meetings held varies by task forces, task force meetings have been held almost continuously, and information sharing about activities and discussion have been performed smoothly by the task force members. And the project activities have been progressed smoothly, too.

The office of RBRC is carrying out preparatory activity in order to establish a Tourism Association of Celestun. The task force for ecotourism is going to become this association in future. Moreover, an OPD for the solid waste management system in the municipality of Celestun is going to be established, and after its establishment, the role of the task force for solid waste management will be handed over to new OPD. The RBRC office has acquired basic capacity on the operation of 4 kinds of task forces, and coordination and collaboration with related organizations. Still it is necessary to clearly define the role of the task forces at the



RBRC office, and also to strengthen and establish capacity on creation and operation of necessary task forces when it is necessary and also in accordance with necessity. Therefore, this indicator is achieved mostly.

Indicator 2: Concrete annual plan is prepared by the RBRC office.

Detailed annual plan of the activities of the JICA cooperated project were prepared from the year 2005 to 2007 with JICA experts' supports. The capacity of making detailed plan of activity by Mexican counterparts alone is growing.

(Additional indicator)
Indicator 3. The office of the RBRC has necessary capacity for implementing wetland ecosystem conservation activities in terms of coordination, leadership, technical knowledge, and working attitude.

As mentioned above, 4 kinds of task forces were formed with participation of governmental organizations concerned, NGO concerned, cooperatives concerned, etc. The planning of the activities by the task forces and its implementation has been carried out smoothly with the good cooperation and coordination among the organizations concerned and also with leadership of the RBRC office. Several organizations concerned have allocated their budget for the planned activities. For example, the project activities have been implementing effectively under good coordination with the programs and finances of the National Commission of Forestry (CONAFOR), SECOL, the National Commission of Water (CONAGUA), and NGOs concerned. Considering the fact that the RBRC office has taken leadership for this coordination and collaboration with organization mentioned above, it is able to say that the RBRC office has certain good ability on coordination. Furthermore, considering opinions of Japanese experts and Mexican persons concerned to the project, and also results of the self-evaluation of the staff of the RBRC office, it is safe to say that their technical capacity on environmental conservation activities is basically good and they are motivated in implementing environmental conservation activities.

Therefore, it is considered that the RBRC office has ability to take appropriate leadership and coordination for implementing environmental conservation activities and also good technical capacity and positive working attitude.

However, there is still room for improvement of capacity development of the RBRC office in light of duties as the staff of the nature reserve and by sharing acquired knowledge with organizations concerned.



4. EVALUATION

The results of the evaluation using the Five Evaluation Criteria are as follows.

4-1. Relevance

Relevance of the Project is high.

CONANP, the implementation organization of the Project, was established as an organization managing the nature protected areas in Mexico in 2002. The protected area has been increased, and the needs on the techniques of conservation for protected areas and knowledge on management of protected areas are increasing more. Because a lot of people live in the reserve and its natural environment was deteriorated such as death of mangrove forest, the RBRC was one of the priority areas where the measures for restoration and conservation of wetland ecosystem should be carried out in a participatory way. Therefore, proper implementation of the environmental management activities by the RBRC office will bring conservation of wetland ecosystem of the RBRC area, and it is in conformity with the needs.

In Mexico which holds significant biodiversity at global level, the conservation of natural environment is one of the continued priority issues in the governmental policy. The National Development Plan of the current Federal Government shows that the protection and the sustainable use of natural resources and environmental education are the important issues. The State Government of Yucatan considers that the basic priority is to establish the conditions for achieving sustainable development in assuring environmental conservation and sustainable use of natural resources. Therefore, the aims of the Project are relevant to the policies of the government of Mexico.

One of the priority areas of Japanese economic cooperation (ODA: Official Development Assistance) with Mexico is "Cooperation on Global Environmental Issues and sanitation and distribution of water (environmental measures and protection of natural environment). Within this area, the strengthening of capacity on management of ecosystem is one of the important issues. Therefore, the Project is in conformity with ODA policy of Japan.

Main components of the Project are such as restoration of mangrove, ecotourism, solid waste management, environmental education, and others. Restoration of mangrove forest and improvement of solid waste management were important environmental issues in the area of RBRC, and awareness raising of local residents on environmental conservation was indispensable. Therefore, it may be said that the selection of strategically important components for the conservation of wetland ecosystem of RBRC was appropriate.

In the three technical areas of the Project such as mangrove restoration, promotion of ecotourism and solid waste management, Japan has appropriate technologies with experienced persons, which makes justifiable the technical cooperation for those areas.

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4-2. Effectiveness

Effectiveness of the Project is considered to be at a satisfactory level in general.

As mentioned already, the degrees of achievement of the indicators of the Outputs are at a satisfactory level, and also the RBRC office has basic capacity for carrying out environmental management activities with proper leadership and the degree of achievement of the Project Purpose is at a satisfactory level.

Major facilitating factors in achieving the Project Purpose are the functional task forces of the Project, and good cooperation and collaboration of the members of the task forces and the organizations concerned. It is expected that these good points of the RBRC office will be maintained and strengthened further.

4-3. Efficiency

Efficiency of the Project is considered to be at moderate level.

Around 2 years from the start of the Project were spent for obtaining a consensus on the contents of the Project between Mexican side and Japanese side. During this period, project activities were not carried out smoothly. After obtaining a consensus, the progress of the project activities became smooth. The degrees of the achievement of the Outputs, which are indicated in the revised PDM, are in a satisfactory level in general.

(1) Appropriateness of Japanese inputs

Dispatch of the long-term and the short-term experts was appropriate in general. Good cooperation among the long-term and the short-term experts has made good outcomes. Provision of equipment was appropriate in general. Most of participants satisfied very well with the contents of the training in Japan and they are utilizing the matters learned in Japan for their works.

(2) Appropriateness of Mexican inputs

Number of the counterparts at the RBRC office is 7 at present, of which 2 counterparts are permanent staff and 5 counterparts are contract based staff*¹. A lot of works were carried out by limited number of counterpart personnel. Because the field in charge of each counterpart was decided and an appropriate structure for the project implementation was made,

* ¹ (Remarks: 1 year contract)

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the progress of the activities became smooth more. The size and convenience of the office space is appropriate. A Cultural Conservation Center, which has functions as the RBRC field office in Celestun and space for training and exhibition, is under construction and will be completed by the early time of the year 2008. The budget allocation by Mexican side was appropriate.

(3) Factors promoted or hampered to efficiency

<Factor promoted>

Creation of task force for each field of the project activities, participation of persons from the concerned government organizations, local residents groups, and NGOs as member of task forces, and good cooperation and collaboration between those organizations/ groups and the RBRC office are very important for smooth implementation of the project activities obtaining appropriate academic support and financial support from the organization concerned, and also getting higher outcomes.

<Factor hampered>

At the time of change of the federal government, state government and municipal mayor, significant delays of budget disbursement occurred and made negative effects on implementation of the project activities.

4-4. Impact

4-4-1 Prospect of achievement of the Overall Goal

The Overall Goals of the Project is "Conservation of wetland ecosystem of RBRC is improved".

As explained below, it is expected that restoration of mangrove will be continued and appropriate management of solid waste will be strengthened by strengthening further the capacity of the RBRC office in term of institution, coordination and technical skills. Therefore, there is good prospect in achieving the Overall Goal of the Project.

Indicator: Artificially and naturally restored areas are increased.

(1) Prospect of increase of area restored with mangrove

The total area of RBRC is 81,482ha, and the area, that mangrove forest restoration is necessary, is 3,582ha in total (135ha in Celestun zone and 3,447ha in Isla Arena zone).

The experimental reforestation for mangrove restoration has been implementing in 4.8ha in Celestun zone and 3.5ha in Isla Arena zone, 8.3ha in total. As the results of this experiment,

useful knowledge and techniques have been obtained for mangrove restoration, and those knowledge and techniques were compiled as manual. Manuals in Spanish version will be produced soon. However, the manuals should be revised based on experimental reforestation and it is possible to implement restoration of mangrove forest in RBRC area by utilizing those manuals.

There is a plan for mangrove restoration in Celestun in about 12 ha with finance of CONAFOR in 2007 and 2008. It is expected to continue such mangrove restoration project by using budget of the Government of Mexico.

As mentioned above, the area, where mangrove forest restoration is necessary in the RBRC area, is very large and extremely huge fund will be necessary for such restoration. The concrete plan for mangrove restoration is not available yet, so it is needed to make a mid-term and long-term scenario through cooperation and discussion among the members of the mangrove restoration task force. Geographical classification of the target area and implementation of mangrove restoration in phase will be necessary, because of its large area.

(2) Prospect of decrease of quantity of solid waste (decrease of illegal waste disposal and recycle of waste, etc.)

With implementation of the Project, the solid waste management system is improving in the municipality of Celestun, and the separated collection of wastes is started in a part of the municipality of Celestun as a pilot project. It is expected that the system of separated collection of wastes will be expanded in whole area of the municipality of Celestun near future. Therefore, it is anticipated that illegally disposed wastes will be reduced, recyclable waste will be turned to the recycling and the recycling rate will be improved largely.

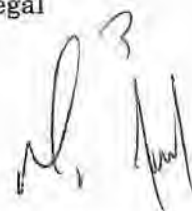
As impact of the Project, environmental conservation awareness of the residents of the municipality of Celestun has been improved, and amount of illegally thrown garbage was reduced significantly according to the interview with the residents.

About the problem of the garbage which had given negative effect on natural environment in RBRC area, improvement is seen, and further steady improvement will be expected in future in accordance with the expansion of area for the separated collection of wastes and improvement of residents' awareness on the garbage if OPD works well.

4-4-2 Other impacts

The following impacts were observed.

(1) Local residents, who participated in the activities for mangrove experiment reforestation, have begun to recognize the importance of mangrove restoration. As effects of implementation of the seminars on garbage and the pilot project of the separated garbage collection, illegal



garbage disposal and burning of garbage at home have been reduced. Decrease of number of fly is also reported.

(2) Explanation about the experiment reforestation field in Celestun and site visit were carried out at the following courses of Advanced Investigation and Study Center (CINVESTAV) and Ducks Unlimited in Mexico (DUMAC).

- 1) The CINVESTAV organized a lecture for students of post-graduate. This is a 15 day course and 1 week is spent in Celestun. Majority of students is Mexican. 16 students participated in this lecture in 2007.
- 2) The training course named "Reserve" has been carried out by DUMAC. This is a 2 month course. In this course, there is "wetland" module and explanation about the experiment reforestation field in Celestun was done. Participants to this course were staff in charge of environment conservation in the countries from Central and South America, and the Caribbean. 16 persons participated to the course in 2007.

(3) As obtaining visible good outcomes of mangrove restoration, topographic survey and mangrove reforestation are going to be started at just southern part (around 12 ha) of the experiment reforestation site of the Project in Celestun using the fund of the Mexican government (CONAFOR).

(4) CONAFOR usually provided their fund mainly for nursery production and tree planting. By understanding necessity of topographic survey and construction of canals and wells for mangrove restoration, CONAFOR started to provide fund for such purposes. Therefore, there is good possibility that other organizations also provide necessary support.

(5) 11 municipal offices in the northern coastal area of the Yucatan peninsula have interest to the solid waste management system incorporating in the municipality of Celestun. There is possibility that this system will be referred by such municipal offices in future.

4-5. Sustainability

It is considered that the sustainability of the Project will be ensured at a satisfactory level politically and financially. However, there is room for ensuring the institutional and technical sustainability.

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(1) Political aspect

As mentioned already, the sustainable environment, protection and sustainable use of natural resources and environmental education are the important issues in the National Development Plan of the current Federal Government. Also the State Government of Yucatan considers that the basic priority is to establish the conditions for achieving sustainable development in assuring environmental conservation and sustainable use of natural resources. Therefore, political importance of the wetland ecology conservation will be continued.

(2) Organizational aspect

It is well recognized that the project activities should be continued as regular activities of the RBRC office. The counterparts have improved knowledge and experiences related the project activities, and also they have good capacity to manage the task forces and to coordinate the organizations concerned. However, for tackling the new issues for achieving the Overall Goal, their capacity is not so well sufficient yet.

This is a matter that already mentioned. It is necessary to take appropriate measures for assuring continuity of the counterparts, who received technical transfer under the Project and are employed as contract based staff, in order to establishing their knowledge and experiences. Therefore, there is room for improvement in assuring the organization sustainability.

(3) Financial aspect

The project activities were carried out by using program funds of Sustainable Regional Development Programme (PRODERS) and Temporal Employment Programme (PET), and also having funds of CONAFOR. The State Government of Yucatan provided budget for the construction of the garbage treatment center in Celestun. It is expected that the activities will be carried out by using such budgets. Therefore, it is expected to be assured financial sustainability.

(4) Technical aspect

After the mid-term of the Project, the project activities of each field have been carried out by deciding the roles of each counterpart. Therefore, the counterpart training in Japan and the technical transfer by the Japanese short-term experts have been done effectively. The counterparts are positively trying to acquire related knowledge and techniques. Their capacity has been clearly strengthened. However, there is still room for improvement in order to establish the outcomes of the Project and develop to attain the Overall Goal.

It is important to define objective clearly for obtaining good results with an efficient and effective way under the conditions that limited budget and limited personnel are available. For

that, it is necessary to have a mid and long-term vision on conservation of the whole RBRC area with a plan of the activities of the RBRC office. To attain the Overall Goal, alignment of such mid and long-term vision with a concrete action plan by the RBRC office is highly recommended.

5. CONCLUSION

Indicators of each output are fulfilled in general and project purpose can be achieved mostly. Counterparts' capacity and sense of responsibility have been strengthened considerably and the RBRC office got trust from local residents and related organizations. Environmental awareness of local residents has been raised through the project. Project's outcomes can be spread to other areas because organizations concerned and neighborhood municipalities show their interests especially in the field of mangrove restoration and solid waste management. In the field of ecotourism, capacity of ecotourism groups has been strengthened through several trainings provided by the Project.

It is the close collaboration between Japanese experts and Mexican counterparts and their enthusiastic activities that brought such considerable results. In addition, effective coordination among organizations concerned through task forces had a good impact.

Although there were great effects mentioned above, sustainability of some outputs were not secured yet for attaining the Overall Goal, because project activities actually began after middle of the project and some activities have not finished yet. For example, mangrove restoration is in the experimental stage and there are some examinations which results have not been gotten. The RBRC office is expected to monitor the mangrove continuously and feedback its results to the manuals. Then those manuals can be applied to other areas.

In the field of solid waste management, separated collection in a pilot area has started and OPD will be established near future. However, separated collection in Celestun as a whole has not done yet and the management of OPD must be a challenging issue because it is the first case in the Yucatan State.

In terms of information sharing, to launch a homepage of the RBRC office can be useful for effective information accumulation and sharing.

Environmental education has been implemented in some events and in case of separated collection of garbage. However, it was not implemented in school education or toward tourists. It is expected to promote environmental education by using the Cultural Conservation Center which is under construction.

The RBRC office needs mid-term and long-term conservation vision. Based on the vision, the RBRC office should place necessary staff and strengthen its institution in order to promote conservation activities strategically.

6. RECOMMENDATIONS AND LESSONS LEARNED

6-1. Recommendations

In order to fix and extend the results of the Project, it is desirable to extend the Project around 2 years and to strengthen the capacity of the RBRC office.

6-1-1 Measures to be taken until the original project period (February 2008)

- (1) The Project should continue experimental reforestation of mangrove.
- (2) The Project should support the establishment and management of OPD.
- (3) The Project should prepare a utilization plan of the Cultural Conservation Center which includes environmental education.

6-1-2 Measures to be taken when the project is extended

- (1) CONANP is recommended to employ counterpart staff permanently in order to fix and expand the project results.
- (2) The RBRC office will revise the management program of RBRC next year. In the course of its revision, the RBRC office should align a mid-term and long-term conservation vision of RBRC including multiyear operation plan in accordance with the management program and the institutional strategy of CONANP. Japanese experts should give necessary advice.
- (3) The RBRC office, together with related organizations, should monitor and evaluate experimental reforestation of mangrove* and feedback its result to the manuals so that the manuals can be applied in other areas. Japanese experts should analyze the situation and give them necessary advices.

*In order to monitor mangrove reforestation efficiently, the target area of the monitoring should be concentrated on the existing experimental reforestation areas in Celestun.

- (4) In the field of solid waste management, the RBRC office, together with related organizations such as the municipality of Celestun, should support OPD to manage itself smoothly. Especially, support to separated collection in whole area of Celestun and financial management method will be needed. Japanese experts should analyze the situation and give them necessary advices.
- (5) The RBRC office, together with related organizations, should prepare and implement environmental education plan for school education and produce necessary materials for this. Japanese experts should analyze the situation and give them necessary advices.
- (6) The RBRC office should use the Cultural Conservation Center as a base of various conservation activities including environmental education for local residents and tourists.

Japanese experts should analyze the situation and give them necessary advices.

- (7) The Project should launch the RBRC office's homepage and give information about nature environment and conservation activities of RBRC through the homepage.
- (8) The RBRC office should share lessons learned and results of the Project with CONANP and the regional office of Yucatan Peninsula. CONANP should use them in other areas in Mexico and in South-South cooperation such as a Third Country Training Programme.

6-2. Lessons Learned

- (1) At the beginning of the Project, it took time to build consensus between Japanese side and Mexican side. After continuous consultation between Japanese long-term experts and Mexican counterparts, the consensus was built, and the project activities have been implemented successfully. It shows that the base of activities is mutual trust.
- (2) In this project, technical transfer by Japanese short-term expert was very effective. But it must have been impossible if there was no mutual trust between Japanese long-term experts and Mexican counterparts. In addition, continuous follow-up by Japanese long-term experts realized of Japanese short-term experts' technical advices.
- (3) In order to develop capacity and raise sense of responsibility of staff, clear roll allocation and devolution are effective.
- (4) Cooperation of various actors including local residents is indispensable for wetland conservation. It is necessary and effective to organize necessary task forces for conservation under the cooperation of related actors. A conservation office should take an initiative in task forces and coordinate stakeholders in order to promote conservation activities.



Annex 1 Detailed Schedule of the Terminal Evaluation

	Date		Mexican Evaluation Members	Japanese Evaluation Members	
			Mr. Edgar Negrete & Mr. Mauricio Quijano	Mr. Ando & Ms. Adachi	Mr. Dojun
1	Nov. 1	Thurs			Arriva at Mexico City
2	Nov. 2	Fri			Move from Mexico City to Merida Meeting with Japanese experts
3	Nov. 3	Sat			Visit to mangrove reforestation site in Isla Arena
4	Nov. 4	Sun			Visit to mangrove reforestation site in Celestun
5	Nov. 5	Mon			Interview with C/Ps and NyC
6	Nov. 6	Tue			Interview with the municipal mayor of Celestun and site visit to solid waste management facility
7	Nov. 7	Wed			Interview with the representatives of 3 ecotourism groups
8	Nov. 8	Thurs			Interview with main members of the environmental education task force
9	Nov. 9	Fri			Interview with DUMAC, SEMARNAT, and SECOL
10	Nov. 10	Sat			Data analysis
11	Nov. 11	Sun			Data analysis
12	Nov. 12	Mon		Arriva at Mexico City	Interview with CINVESTAV and CONAFOR
13	Nov. 13	Tue		Meeting at JICA Mexico office Courtesy call to the Japanese Embassy Meeting at CONANP	Preparation of draft evaluation report
14	Nov. 14	Wed		Move from Mexico City to Merida	Preparation of draft evaluation report
15	Nov. 15	Thurs	Meeting with C/Ps and Japanese experts Explanation of the evaluation methods Move from Merida to Celestun Site visit: (1) Mangrove restoration site and (2) an ecotourism site "Isla Pajaro"		
16	Nov. 16	Fri	Site visit: (1) Construction site of the field station, (2) Pilot area of garbage collection, (3) Solid waste collection center, and (4) an ecotourism site "Manglares de Dzinitun" Move from Celestun to Merida		
17	Nov. 17	Sat		Preparation of the draft evaluation report by Japanese evaluation team	
18	Nov. 18	Sun	Discussion on the draft evaluation report and the minutes		
19	Nov. 19	Mon	Discussion on the draft evaluation report and the minutes		
20	Nov. 20	Tue	Discussion on the draft evaluation report and the minutes Move from Merida to Celestun		
21	Nov. 21	Wed	Meeting of the Joint Coordination Committee (presentation of the results of the terminal evaluation) Move from Celestun to Merida, and to Mexico city		
22	Nov. 22	Thurs		Signing to the Minutes at CONANP Report to the Japanese Embassy	
23	Nov. 23	Fri		Leave from Mexico	