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**MINUTES OF MEETINGS
BETWEEN THE JOINT TERMINAL EVALUATION TEAM
AND THE AUTHORITY CONCERNED OF
THE GOVERNMENT OF THE REPUBLIC OF INDONESIA
ON THE PROJECT
SUB SECTORAL PROGRAM ON MANGROVE
IN THE REPUBLIC OF INDONESIA**

The Joint Terminal Evaluation Team (hereinafter referred to as "the Team"), organized by the Japan International Cooperation Agency (JICA) and headed by Mr. Hiroto Mitsugi, including the Indonesian Terminal Evaluation Team headed by Ir. Hadi Alikodra, Prof. Dr. (Mr.), conducted the terminal evaluation of Sub Sectoral Program On Mangrove, from 18 October to 29 October, 2009, and explained the evaluation result to the authorities concerned in the Ministry of Forestry.

As a result of a series of surveys and discussions, both sides, the Ministry of Forestry and the Team agreed on the contents of the Joint Terminal Evaluation Report, which is attached hereto.



Jakarta, 30 October, 2009

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**JOINT TERMINAL EVALUATION REPORT
ON
SUB SECTORAL PROGRAM ON MANGROVE
IN
THE REPUBLIC OF INDONESIA**

Jakarta, Indonesia

October 30, 2009

Joint Evaluation Team

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ANNEX

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ABBREVIATIONS

CFET	Center for Education and Training
COP	Conference of Parties
C/P	Counterpart
EPA	Economic Partnership Agreement
GIS	Geographic Information System
IPB	Bogor Agriculture University
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
LIPI	Indonesian Institute of Science (Lembaga Ilmu Pengetahuan Indonesia)
MIC	Mangrove Information Center
MMC	Mangrove Management Centre (BPHM)
MMC I	Mangrove Management Centre Region I
MMC II	Mangrove Management Centre Region II
MM	Man-Month
MoF	Ministry of Forestry
PCM	Project Cycle Management
PDM	Project Design Matrix
PO	Plan of Operation
R/D	Record of Discussion
SMS	Short Message Service
TAHURA	Grand Forest Park (Taman Hutan Raya)
UNFCCC	United Nations Framework Convention on Climate Change
VIP	Very Important Person

1. Introduction

“Sub Sectoral Program on Mangrove” project (hereinafter referred to as the “the project”) started in January 2007 and will come to the end of the three-year cooperation in January 2010. According to the JICA guideline, JICA conducts the joint evaluation by a team of Japanese and Indonesian members.

1.1 Objective of the Evaluation

The following is the main objectives of the evaluation;

- (1) To verify the accomplishments of the project compared to those planned;
- (2) To identify obstacles and/or facilitating factors that have affected the implementation process;
- (3) To analyze the project in terms of the five evaluation criteria (i.e. Relevance, Effectiveness, Efficiency, Impact, and Sustainability); and
- (4) To make recommendations on the project regarding the measures to be taken for the remaining period and the post-project period.

1.2 Members of the Joint Evaluation Team

1.2.1 Japanese Side

- (1) Hiroto MITSUGI, Mr. (Leader): Deputy Director General, Forestry and Nature Conservation Group, Global Environment Department, JICA
- (2) Shigeru TAKAHARA, Mr. (Mangrove Conservation Expert): Technical Official for Forestry, Forestry Agency of Japan, Ministry of Agriculture Forestry and Fisheries
- (3) Asako YAMAMOTO, Ms. (Evaluation Planning): Associate Expert, Forestry and Nature Conservation Division I, Forestry and Nature Conservation Group, Global Environment Department, JICA
- (4) Hideyuki KUBO, Mr. (Evaluation Analysis): Natural Resources and Environment Specialist, Social Development Department, Global Link Management Inc.

1.2.2 Indonesian Side

- (1) Ir. Hadi Alikodra, Prof. Dr. Dr. (Mr.) (Leader): Wildlife Ecology and Management Conservation Areas, Bogor Agriculture University (IPB)
- (2) Prof. Dr. Sukristijono Sukardjo, D.Sc. APU (Mr) (Mangrove Expert): Indonesian Institute of Science, Jakarta (LIPI)
- (3) Ir. Adi Triswanto, MSi (Mr) (Mangrove Expert): Lecturer, Bogor Forestry Training and Education Centre, PUSDKLAT KEHUTANAN, MoF (CFET)

1.3 Schedule of the Evaluation

The evaluation study was conducted from October 18 to October 30, 2009. The Joint Evaluation Team (hereinafter referred to as the “Team”) collected the information through

questionnaires and a series of interviews with Japanese experts and Indonesian counterpart personnel of Mangrove Management Center (MMC) and the relevant stakeholders. The Team also conducted some field observation in MMC I and the East Java province. Based on these results, the Team prepared a draft report and finalized it through a series of discussions on October 30, 2009. The detailed schedule is attached (Annex I).

2. Outline of the Project

2.1 Background of the Project

The area of remaining mangrove forests is estimated to be around 18 million ha in the world. Indonesia is the country which owns approximately quarter of this area, the largest in the world. While the history of addressing sustainable mangrove management and conservation is not long compared with the experience of managing other tropical rainforests, mangrove forest is widely recognized as significant natural resources from both environmental and socioeconomic viewpoints.

The Indonesian government has been compiling and modifying “The National Strategy for Mangrove Management” with the support from JICA and other donor agencies. The strategy aims to conserve mangrove forests in collaboration with local governments and other local stakeholders.

JICA conducted “Mangrove Information Center (MIC) Project”, a technical cooperation project from 2001 to 2006. Through the project, MIC achieved to strengthen its organizational structure and develop a strategy for local extension as the only institution that addresses mangrove conservation and extension in the country.

Following the previous experiences with JICA, the Indonesian government requested for a new technical cooperation project to Japan in order to continue mangrove extension by utilizing the knowledge of MIC in accordance with the national strategy. The project is scheduled to be implemented for 3 years and be completed on 16 January, 2009.

2.2 Summary of the Project

- (1) Project Purpose: The supporting process for on-site mangrove management is established in MMCS.
- (2) Over goal: MMCS, as one of its functions, promotes on-site mangrove management activities according as the verified supporting process
- (3) Outputs

- (a) Output 1: “Guideline for supporting the on-site sustainable mangrove management” is established through experimental implementations at demonstration sites (including a participative management sites).
- (b) Output 2: A monitoring system for mangrove resource is established, which is necessary in implementation of supporting process.
- (c) Output 3: Staffs with necessary abilities for the execution of MMC functions are developed in MMC Region I through implementation of various **MIC** activities.

3. Methodology of Evaluation

The terminal evaluation was carried out by the Joint Evaluation Team consisting of members from both the Japanese and Indonesian sides as described in 1.2. In the first step of the evaluation, the Team reviewed the progress and achievements of the project referring to the PDM and Plan of Operation (PO) attached in Annex III and IV. In the next step, the Team analyzed and evaluated the project from the viewpoints of ‘Relevance’, ‘Effectiveness’, ‘Efficiency’, ‘Impact’ and ‘Sustainability’. Finally, the Team made recommendations for activities in the remaining period of and after the completion of the project.

3.1 Evaluation Questions

Evaluation criteria, items of investigation and evaluation questions are indicated in the Evaluation Grid, which is the grand design of detailed study (the assessment result of the Evaluation Grid is attached in Annex VII and VIII).

3.2 Data Collection Method and Analysis

3.2.1 Data Collection Method

The Team collected necessary data/information in the following manners: (1) collection of relevant documents from Ministry of Forestry (MoF), MMC and the project, (2) questionnaire survey for project staff (both Japanese experts and local staff), counterparts (C/Ps) and facilitators at demonstration sites, (3) key informant interview for the project staff, MMC directors and C/Ps and MoF officials and (4) a small field survey at one of the demonstration sites.

3.2.2 Criteria of Evaluation for Analysis

The evaluation was conducted based on the following five criteria which are the principal framework for the analysis and assessment of any JICA-supported technical cooperation projects. In addition, value judgment for each criterion was made with the following five rating: high; relatively high; moderate; slightly low; and low.

(1) Relevance:

Relevance of the project is assessed as the validity of the project purpose and overall goal in connection with the development policy of the Government of Indonesia (hereinafter referred to as GOI) and needs of beneficiaries and also by the logical consistency of the project plan. Simultaneously, the correlation with JICA policies is also reviewed.

(2) Effectiveness:

Effectiveness is assessed by analyzing the extent to which the project achieved outputs by the time of the terminal evaluation as well as the probability to accomplish the project purpose by the end of the project term. Furthermore, the validity of the project design is also evaluated.

(3) Efficiency:

Efficiency of the project implementation is analyzed by reviewing the correlation between inputs and outputs. Timing, quality and quantity of inputs during the project implementation are reviewed in relation to the achievement of the outputs.

(4) Impact:

Impact of project activities is identified by examining both positive and negative effects that are caused or likely to be caused by the project. They included the effects that were not originally expected in the project plan. In addition, the probability of achieving the overall goal and the contribution from the project is also analyzed.

(5) Sustainability:

Sustainability of the project is assessed by analyzing the extent to which the achievement of the project will be sustained or expanded after the project ends. The analysis is made from organizational, financial, technical, social and environmental viewpoints.

4. Accomplishment of the Project

Accomplishment of the project is measured in terms of inputs, outputs, project purpose and overall goal, all of which are in accordance with the R/D, PDM and PO.

4.1 Inputs

(1) Japanese Side

(a) Experts

The Japanese side dispatched 2 long-term experts and 3 short-term experts in various fields over the cooperation period. The total engagement by the end of the project will be 67.8

MM for the long-term experts and 4.0 MM for the short-term experts. Their names and expertise are listed in Annex VI.

(b) Training of Counterpart Personnel in Japan

A total of 12 C/Ps were trained in Japan. Their names and expertise are listed in Annex VI.

(c) Provision of Equipment

Minibus for transporting training participants and GIS equipment were provided by JICA for the effective and smooth implementation of the project with the total cost of Rp.102,850,000 (approximately equivalent to US\$11,425) for the minibus and US\$22,500 for the GIS equipment. The provided equipment is listed in Annex VI.

(d) Operational Cost

The total operational cost supported by the Japanese side as of September 2009 is Rp.1,027,126,150 (approximately equivalent to US\$114,127) as listed in Annex VI.

(2) Indonesian Side

(a) Assignment of Counterpart Personnel

A total of 15 C/Ps have been assigned for the project: 8 from MoF, 3 from MMC I and 4 from MMC II. Their names and titles are listed in Annex VI.

(b) Budgetary allocation by the Indonesian side

The Indonesian side provided a part of the operational expenses from the budget allocated to MMC I and MMC II. The total operational cost supported by the Indonesian side as of September 2009 is Rp. Rp.805,308,175 (approximately equivalent to US\$89,479) as listed in Annex VI.

(c) Provision of land, office spaces and facilities

The Indonesian side has provided an office for the project secretariat in Denpasar.

4.2 Outputs

Findings regarding the achievement of the expected outputs as of the time of the Terminal Evaluation are as follows:

Output 1: “Guideline for supporting the on-site sustainable mangrove management” is established through experimental implementations at demonstration sites (including a participative management sites).

The guideline is under the development as of mid-October, 2009 and to be finalized by the end of the project as stipulated by the Plan of Operation.

At the first stage of implementing activities under the Output 1, the project selected 22 site candidates in total and collected information on these sites through ex-trainees of the previous MIC project and other relevant sources. The 22 candidates were assessed by three major criteria; (a) status of resource ownership, planning and management; (b) presence of local institution; and (c) presence of income generating activities.

Based on the assessment, the project selected five demonstration sites for the experimental implementation of on-site mangrove management. The project C/Ps from MMC I and II have taken a role of facilitating the process of the development and execution of management activities such as the identification of management objectives, the drafting of management plans and a series of training for the capacity development of local actors (details are described in Annex IX). Each of the five sites involves local people in management activities although the degree of their participation varies from site to site. A meeting was held on August 1, 2008 in order to review, share and reflect the status of the experimental implementations among the key project actors from MoF, MMC I and II, the project and JICA Indonesia.

The actual process of drafting the guideline commenced in around April 2009 (the exact timing was not confirmed but it may have started around April 2009 when the chief advisor suggested project staff and C/Ps to launch the process). The drafting group, consisting of the Japanese expert for local people's participating and the C/Ps of MMC I, identified a drafting process and tentative index.

A questionnaire was made in accordance with the index so as to solicit experiences and lessons learned of supporting the on-site mangrove management from C/Ps of MMC I and II and other concerned actors who have been involved in the experimental implementations. It was distributed to all the concerned parties and as of mid-October 2009, on the process of collecting answers.

The Team confirmed that the members of the drafting group duly share the purpose of the guideline and the time-frame for its completion.

Output 2: A monitoring system for mangrove resource is established, which is necessary in implementation of supporting process.

The project arranged the dispatch of two short-term experts on mangrove resource monitoring in January-March 2008 and February-March 2009 in order to identify the current status of mangrove monitoring system and come up with practical suggestions for its improvement. The experts found that although MoF issued a guideline on mangrove resources survey in 2005, actual implementation has been made at the provincial level and its outputs were

insufficient to produce reliable data for consistent monitoring at the national level. The suggestion was then made to MoF on April 3, 2009 that it was better for the government of Indonesia to develop a systematic mangrove monitoring system at the national level through the application of satellite imagery.

Following this suggestion, the project decided to change its scope of work from drafting a provincial level guideline for mangrove resource monitoring to supporting the development process of the national level monitoring system. Furthermore, it was found out that reliable data on national mangrove resources would only become available at the forth year after the system development process was launched, according to the suggestion, so that it was not feasible to obtain such data and load to MIC website during the project period.

Output 3: Staffs with necessary abilities for the execution of MMC functions are developed in MMC Region I through implementation of various MIC activities.

At the MMC I, main functions include the execution of training courses, environmental education activities, mangrove survey and information distribution activities and the maintenance of office facilities and equipment.

During the project implementation, staff of the MMC I have demonstrated their ability of executing such MMC functions through the arrangement and conduct of 23 training courses with the total number of more than 393 participants. The number of participants, as a whole, cleared the objective indicator, i.e. around 100 extension agents to attend training courses per year, although the training activity was relatively low in 2008. The project monitored the activities of ex-trainees and through the monitoring, it was found that a significant area of mangrove forest has been rehabilitated through activities of the ex-trainees. The exact number of the rehabilitated area is currently under the process of tallying up and will be made available by the end of the project.

On environmental education, 280 events with the total number of 28,299 participants have been conducted and these numbers far exceed the objective indicator, i.e. around 5,000 people per year.

Regarding scientific data collection, a series of surveys on flora and fauna that are found in mangrove ecosystem, such as coastal plants, spiders and insects, are conducted. Some of the findings were compiled into quality English papers.

The MMC I also provided information on mangrove ecosystem to 1,857 visitors of 88 groups, produced 4 leaflets, 2 booklets and 2 posters for wider distribution, issued newsletters and maintained website (see Annex X for the list of activities under Output 3).

4.3 Project Purpose

Findings regarding the achievement of the project purpose as of the time of the Terminal Evaluation are as follows:

Project Purpose: The supporting process¹ for on-site mangrove management is established in MMCs.

Since the initial stage of the supporting process for on-site mangrove management at the five sites started in October 2007 (see Annex IX), the C/Ps of the MMC I have been engaged in the coordination and facilitation of concerned local stakeholders involved in on-site mangrove management. As for the C/Ps of the MMC II, their engagement started in mid-2008. As indicated in Annex IX, the supporting process involved activities such as initial contact with local stakeholders, survey on mangrove and local community, development of management or action plans, group formation for particular activities, training on various topics, participatory mapping, income generation and environmental education.

The Team has confirmed that all the C/Ps from MMC I and II largely enhanced their skills and knowledge on the coordination of local stakeholders for sustainable management of mangrove resources. Their confidence in the process coordination in the above mentioned activities was obviously high, which indicates that staff already hold abilities at the certain level for supporting on-site sustainable mangrove management.

Thanks to the enhanced abilities of the C/Ps together with the guideline that is to be developed for supporting work of MMC staff in the field, the project purpose is expected to be achieved within the remaining period of the project implementation.

4.4 Overall Goal

Findings regarding the projection for the achievement of the overall goal as of the time of the Terminal Evaluation are as follows:

Overall Goal MMCs, as one of its functions, promotes on-site mangrove management activities according as the verified supporting process

The heads of both MMC I and II confirmed that they continue to support activities at the existing demonstration sites (3 sites for MMC I and 2 sites for MMC II) and set up new sites (3 sites for MMC I and 2 sites for MMC II) during the fiscal year of 2010. Proposed budget that was already submitted to MoF includes necessary budget lines for supporting on-site sustainable

¹ Project staff and C/Ps generally perceive the term of “process” as a series of phases and steps for the development and elaboration of institutions for sustainable mangrove resource management at respective demonstration sites.

mangrove management at all the sites mentioned above although the proposed budget is still under the review of MoF as of mid-October, 2009.

Since the C/Ps directly experienced a series of activities in the supporting process, as described in 4.3 above, and are developing a guideline by incorporating these experiences as verified functions of the process, it is highly likely that MMCs will adopt this method in the next fiscal year. As such, the overall goal is expected to be achieved within the next fiscal year with the condition that MoF endorses the proposed budget submitted by MMC I and II.

5. Implementation Process

5.1 Progress of Activities

The project spent substantial time for the selection of demonstration sites. This is partly due to unexpected factors that had emerged after the PO was drafted and partly due to the method applied for the site selection. The former includes the late engagement of one of the Japanese experts (dispatched for the project in May 2007), the PDM revision resulting from the incorporation of the EPA requirement and preparation for UNFCCC COP 13 meeting (held in December 2007) as MIC was assigned as an official excursion site of the meeting. The project staff were required to allocate their time for these work instead of making progress in the site selection. As for the site selection method, the project followed the following steps; (1) any possible candidates for demonstration sites were sought for from all over Indonesia through the network of MIC ex-trainees and other contacts; (2) selection criteria were identified; (3) detail information of candidate sites were collected and their appropriateness was assessed in view of the identified criteria. Going through this process required a certain amount of time to reach the final decision.

5.2 Incorporation of the EPA Requirement

The incorporation of the EPA requirement was already expected prior to the commencement of the project but the decision was made only in July 2007. The requirement was to accommodate an additional demonstration site that involved a participatory component and facilitating activities at each demonstration sites. Since the project already held these conditions (i.e. participatory component and facilitating activities), there was no difficulties that arose from the PDM revision upon the incorporation of the EPA requirement. The participation of local people has been actually realized through facilitating activities led by project's local staff and C/Ps of MMC I and MMC II in each demonstration site. Also, as another EPA requirement, the long-term (3 months) C/P training was conducted and 4 trainees have finished training in Japan during the project. As such, the EPA requirement was duly incorporated into the project and implemented accordingly.

5.3 Management

Communication among the project concerned staff, including Japanese experts, local staff and C/Ps of MMC I has been taken as the project office is located in the MMC I building. However, the Team found the communication was not optimal because of some misunderstanding that existed between Japanese experts and MMC I staff. One of the reasons for misunderstanding could be MMC being established after the project started.

There is also difficulty in communication between Japanese experts and C/Ps of MMC II due to the fact that the MMC II office is located in Medan, Northern Sumatra, and their gathering opportunities are limited, which has caused the difficulty for the C/Ps of MMC II to convey their ideas, needs and issues to the Japanese experts.

Although a structured monitoring system was not established, the project's local staff have consistently collected information and data regarding project activities and progress and compiled them into reports. Thanks to the trust that has been built among the project staff, C/Ps and key facilitators at the demonstration sites, progress and status at the sites are shared on the informal basis through SMS, email and telephone communication.

5.4 Ownership

As described in 4.4, the Heads of the MMC I and II already confirmed their continuous support to on-site mangrove management with its own budget after the termination of the project. Also, four C/Ps of MMC I and II explicitly mentioned their confidence in facilitating the process for on-site mangrove management. This indicates the capacity of the C/Ps have been improved to a level which they can handle the process by themselves without the assistance from the project staff.

Most of the budget for the supporting process of on-site mangrove management has so far been provided by the Japanese side, while the Indonesian side already confirmed their budget allocation for the post implementation of the project. MMC I also confirmed the budget provision for the maintenance of the facilities and equipment including aquarium and garbage collection along the mangrove trail in the coming fiscal year. However the budget allocation for the maintenance of mangrove trail itself is not clear yet due to the expensive amount it requires..

6. Evaluation Results

The summary of five criteria evaluation of the project is described below. The details of the evaluation are shown in Annex VIII (Evaluation Grid).

6.1 Relevance

Relevance of the project is considered as high from the following reasons. First, project purpose and outputs are fully consistent with the forest policy of the Indonesian government.

According to the Clause 3 of Ministerial Decree P.4/Menhut-II/2007 "Organisasi dan Tata Kerja Balai Pengelolaan Hutan Mangrove", which is in accordance with the Forestry Law No.41/1999, core mandates of MMCs include the development of models and human resources for mangrove management, the preparation of mangrove resources inventory and information dissemination on mangrove. As described in 4.2 and 4.3 above, the project purpose and outputs duly meet these mandates.

Second, the "Aid Policy for Indonesia" that was drafted by the Japanese government in November 2004 identifies the improvement and strengthening of the capacity of central and local government for natural resources management as one of priority areas of assistance. Furthermore, JICA also endorses the need to assist biodiversity conservation in Indonesia. The project is duly in line with these aid policies.

Third, the strategy and approach adopted in the project is highly appropriate to achieve the overall goal. The direct involvement of C/Ps in the supporting process of on-site mangrove management enabled them to enhance their capacity in coordination and facilitation of demonstration sites activities and collaboration with local governments and other concerned agencies. It also encouraged the Heads of MMC I and II to incorporate the supporting process of on-site mangrove management as a part of their own mandate. With these factors, the overall goal is highly likely to be achieved soon after the termination of the project.

6.2 Effectiveness

Effectiveness of the project is considered as moderate from the following reasons. First, the project purpose is most likely to be achieved by the end of the project primarily thanks to the achievement of Output 1. Output 3 is highly effective in terms of the identification of potential sites for sustainable mangrove management as the MMC can obtain useful information about mangrove distribution and status through the network of ex-trainees.

Second, the achievement of Output 2 or its cancellation does not really affect the achievement of the project purpose in a sense that supporting process for on-site mangrove management can be developed without monitoring data of mangrove resources at the regional and national level although the Output 2 by itself is essentially important for sustainable mangrove management at the national level.

6.3 Efficiency

Efficiency of the project is considered as relatively high from the following reasons. First, most of inputs and activities have pertinently functioned to realize Output 1 and Output 3 at the sufficient level as explained in 4.2.

Second, there has been a small gap in the implementation of activities between the C/Ps of MMC I and the C/Ps of MMC II. For example, the C/Ps of MMC I has been fully involved in the development process of the guideline, which is the key indicator for the achievement of the project purpose, so that it is highly likely that their capacity on the process support will be further

enhanced through drafting experience. However, the C/Ps of MMC II are not in the same position due to the existence of the physical distance for the involvement in the drafting work.

Third, the result produced by one of two short-term experts for mangrove resource survey did not satisfy project's demand because pertinent suggestion regarding the basic policy on mangrove resource monitoring was not provided although findings on the current status of national-level mangrove resource monitoring were useful for the project.

Forth, the transfer of technology was not realized for C/Ps regarding professional skills of communication and facilitation that were required in supporting on-site mangrove management processes although inputs were made through the provision of PCM and facilitation training courses. This has caused C/Ps to face difficulties in coordinating and facilitating on-site management at respective demonstration sites.

Fifth, while facilities and equipment have been maintained during the project period, the contribution from the Indonesian side has often been insufficient to the efficient maintenance of mangrove trail.

6.4 Impact

Impact of the project is considered as relatively high from the following reasons. First, positive effects have already been observed as follows: (1) there are a number of training courses participants who organized mangrove planting activities at their own areas after the participation in the courses; (2) the presence of mangrove information center is well-known, as demonstrated by the visits of VIPs including one of the former Indonesian Presidents or the visit of a group of 240 people during the UNFCCC COP 13 meeting in Bali, which indicates that the project, together with MIC projects in the past, has ripple effects in terms of awareness building on mangrove rehabilitation and conservation to the society in general; and (3) two large cities (Surabaya and Tarakan) have reflected the inputs from MMC in the spatial planning of respective cities. Second, no negative effects have so far been observed or reported.

It is likely that the project brought about certain impacts at respective demonstration sites, however, due to time-constraint, the Team did not explore such effects except one case. At the demonstration site that is located within Alas Purwo National Park, east Java, the team observed the following positive effects of the project: (1) collaboration between national park office and local community seems well institutionalized, (2) the development of mangrove eco-tourism has actively been promoted, which brought about the awareness among local villagers on the restriction of logging operation, encroachment and cattle poaching in the mangrove area, (3) the village became a winner of the National Tourism Award at Provincial Level, and (4) villagers have successfully realized their ideas and enthusiasm on rural life and changed their spirit for bettering their daily life and relationships among themselves even though substantial economic return from the activities has not realized yet.

6.5 Sustainability

Sustainability of the project is considered as relatively high from the following reasons. First, organizational, human resources, financial and technical aspects of sustainability for the supporting process of on-site mangrove management have already been endorsed as discussed above.

Second, while the sustainability of on-site supporting process has been endorsed at the MMC level, one small concern is the lack of involvement of MMC II staff in the guideline drafting process. The MMC staff could use the guideline even without their involvement in the drafting process, it is highly likely that their capacity on supporting on-site management processes is further improved if they are directly engaged in drafting activities.

Third, while human resources and technical aspects of sustainability for the maintenance of facilities and equipment are already endorsed, the MMC I still faces difficulty to provide sufficient amount of financial input to the maintenance of mangrove trail. However, the Head of MMC I has articulated during the meeting with the Team that he is confident in taking care of mangrove trail and other facilities so that even though the financial capacity is not sufficient, it would be likely that the maintenance of mangrove trail will continuously be made at the certain level.

7. Conclusion

We conclude the project seems positive overall, at the time of the terminal evaluation, under the condition that the guideline (Output 1) will be produced by the end of the project. The Team expects the establishment of guideline as we consider that it is crucial for the achievement of the project purpose. Otherwise most of the five evaluation criteria results were favorable. Effectiveness was considered moderate, while as discussed, the achievement of Output 2 does not directly affect the project purpose. Furthermore, we confirmed the achievement of overall goal and the sustainability of the project at a certain level. The Team highly appreciates all the efforts made by concerned stakeholders involved in the project.

8. Recommendations and Lessons Learned

8.1 Recommendations

8.1.1 For the Remaining Period

(1) The project is expected to establish the guideline by the end of the project term, which is to be formalized by MoF. Japanese experts are advised to manage the drafting process to ensure the guideline be completed by the project end. C/Ps are advised to be involved in the drafting process of the guideline. Especially C/P of MMC II may require further involvement, despite the physical

distance from the project office. In such way we expect the guideline be more useful reference for the both MMC staffs.

(2) The project is advised to arrange a survey of the MMC I mangrove trail facility to check the physical condition of the trail, by an external expert, for safety and better facility management in the future. Mangrove Trail seems to have some serious issues, such as: the base of the watch tower having a crack, some wood pieces being eroded or unfixed and flipping over, watch tower having a loose handle.

(3) MMCs are expected to request enough budget and human resources required for the coming fiscal year, and MoF is advised to endorse this. The resources should be enough for continuing the on-site management activities (MMC I and MMC II), and for the facility maintenance, including the mangrove trail, aquarium and museum (MMC I).

(4) Project staff and MMC I are advised to explore on additional funding source and collaborations, for the mangrove trail maintenance and the trash issue, and MoF is advised to support the actions. Especially mangrove trail maintenance is costing that it is securer to seek other funding than the main budget. We encourage developing some mechanism for maintenance, such as launching a fund by utilizing the offers of funding from province, private company or other organizations such as World Shorinji Kempo Organization. We appreciate the actions taken for removing the trash, and encourage further challenges of addressing the trash issue in collaboration with the province. We advice MoF to support MMC, in collaborating with the province.

(5) The project is expected to arrange a final seminar before the project termination, and to facilitate the use of the guideline established.

8.1.2 For the Post-Project Period

(1) MMCs are expected to utilize the guideline, for the process in establishing the new demonstration sites, and for the other staffs to share the experiences from this project.

(2) MMCs are expected to continue the monitoring of the existing demonstration sites, and to facilitate in finding appropriate professional resources based on needs and requests of the sites and utilizing the experiences from this project.

(3) MMC I is expected to maintain the facility including the aquarium and the museum resources (such as explanation panels, displays, fauna and flora specimens) as they are valuable unique sources focusing on mangrove ecology, which could be utilized for environmental education and

biological conservation. As currently there are few staffs involved in the maintenance, it may be better to share the skills among the other staffs.

(4) MoF is advised to advance endorsing of the request, by MMC I, to convert MIC land (101 ha) into the Government Forest for Special Use Purpose. Currently the land is owned by the TAHURA Unit, however, converting the land seems crucial for the continuing advancing of the MMC.

8.1.3 For Further Bettering

(1) As discussed in the section 8.2 below, the role played by ex-trainees (former training participants) are crucial in gathering information. MMCs are thus advised to sustain the valuable network of ex-trainees, including the network of the former MIC project term. MMCs should also encourage the activities of the ex-trainees at their sites as they may further enhance the rehabilitation of mangrove forest, which has actually been in practice by some of the ex-trainees.

(2) The development of an exit strategy for supporting process at demonstration sites should be considered in order to ensure the established institutional arrangement of on-site mangrove management to continue upon the end of MMCs' support.

8.2 Lessons Learned

The role ex-trainees played in gathering information on possible candidates of demonstration sites was significant. Reflecting on the positive impact of the training courses, monitoring, following-up and organizing of ex-trainees' activities can be incorporated into the arrangement of training activities.

The finding from the field suggests that motivation of community members is particularly important for the implementation of project activities. In the case of the site in Alas Purwo National Park, the motivated leader has encouraged villagers to be actively involved in the development of eco-tourism and other village affairs and the villagers have been doing so even without quick tangible return from the project activities. In this sense, one of crucial roles of MMC is to solicit and maintain the motivation of villagers for bettering their daily rural life.

The fact that C/Ps of both MMC I and II have explicitly expressed their confidence in coordinating and facilitating project activities at demonstration sites indicates the importance of MMC staff to get directly involved in the field-based coordination work for the implementation of activities. The C/Ps were initially confused due to lack of facilitation experiences and training; however, they could to some extent overcome this constraint through their own trial-and-error processes. Hence, while the provision of training as well as guideline is required, what should be emphasized most is the realization of actual experiences in the field.

Annex I

Schedule of the Joint Evaluation

Date	Leader	Members	
10/18 Sun		Narita → Jakarta	
10/19 Mon		AM Meeting at JICA Indonesia AM Meeting at Embassy of Japan PM Meeting at MoF (Indonesian members joined the team at this stage) PM Discussion with project staff	
10/20 Tue		AM Discussion with Heads of MMC I and II, and counterparts at MoF PM Discussion with project staff PM Jakarta → Denpasar	
10/21 Wed		AM Check facilities and equipment of MIC PM Meeting with Head of MMC I PM Denpasar → Banyuwangi	Discussion with counterparts and project staff
10/22 Thu		AM Meeting with local stakeholders PM Banyuwangi → Denpasar	Discussion with Head of MMC I, counterparts and project staff
10/23 Fri		AM Initial discussion among evaluation team members on evaluation findings PM Preparation of joint evaluation report	
10/24 Sat	Arrived at Denpasar	AM Discussion on joint evaluation report PM Preparation of joint evaluation report	
10/25 Sun	AM Discussion on joint evaluation report within the evaluation team PM Discussion on joint evaluation report with Japanese experts		
10/26 Mon	AM Discussion on joint evaluation report within the evaluation team PM Discussion on joint evaluation report with MMC I Head and C/Ps		
10/27 Tue	AM Discussion on joint evaluation report within the evaluation team and with Japanese experts PM Discussion on joint evaluation report with MMC I Head and C/Ps		
10/28 Wed	AM Denpasar → Jakarta PM Meeting at JICA Indonesia		
10/29 Thu	AM Meeting at MoF PM Meeting at Embassy of Japan		
10/30 Fri	AM JCC meeting PM Meeting at JICA Indonesia Jakarta →		
10/31 Sat	→ Tokyo		

Annex II

List of Personnel Contacted

1. Ministry of Forestry (MoF)

Name	Position
Ir. Indriastuti, MM	Director General of Land Rehabilitation and Social Forestry
Ir. Djoko Winarno	Director of Land Rehabilitation and Social Forestry
Ir. Eko Waksito	Head of Sub-Directorate Mangrove

2. Mangrove Management Center (MMC)

Name	Position
Ir. Sasmitohadi	Head of MMC I
Ir. Murdoko, MM	Head of MMC II
Mochammad Budi Purnomo	Function staff of MMC I
I Komang Tri Wijaya Kusuma	Function staff of MMC I
Isnawati R	Function staff of MMC II
Tri Sumalinda	Function staff of MMC II

3. "Sub Sectoral Program on Mangrove" project

Name	Position
Mr. Hiroyuki Hatori	Chief Advisor
Mr. Daisuke Kadowaki	Local People's Participating / Coordinator
Ms. Oktovina Trisia Windrati	Assistant expert of Training
Ms. Wayan Wiratini	Assistant expert of Museum Management
Ms. Dewi Satyawati	Assistant expert of management

4. JICA Indonesia

Name	Position
Mr. Kiichi Tomiya	Senior Representative
Mr. Nobuo Iwai	Representative

5. Embassy of Japan

Name	Position
Mr. Yasuharu Ina	Secretary for Forestry, Fishery and Nature Conservation

6. East Java Site

Name	Position
Mr. Harutono	National Park Manager
Mr. Drs Suyatno	Chief of the village, Sumberasri Village
Mr. Eko	Leader, Management Team, Sumberasri Village
Ms. Pipit	Ecotourism guide, Sumberasri Village
Ms. Sofa	Ecotourism guide, Sumberasri Village
Ms. Ratua	Ecotourism guide, Sumberasri Village

Annex III

Project Design Matrix (PDM)

Project Title : Sub Sectoral Program on Mangrove Project
 Project Site : The Mangrove Management Center (MMC) Region I (Bali) / Mangrove areas in Indonesia
 Target Group : Staffs of MMC Region I, Mangrove extension agents of the whole country

Project Period : January 2007 – January 2010

Date : 11 June 2007

Narrative Summary		Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal MMCs, as one of its functions, promotes on-site mangrove management activities according as the verified supporting process		1 Mangrove management activities at the demonstration sites established during the Project term is being implemented according as the respective management plan in 2012. 2 The Mangrove Management Centers adopts the supporting process for the new site(s) by 2012.	1 Management Reports of each demonstration site, Implementation report of MMCs 2 Implementation report of MMCs	Political and natural conditions of Indonesia including areas of demonstration site are not drastically changed.
Project Purpose The supporting process for on-site mangrove management is established in MMCs.		1 By the end of the Project, a guideline for supporting on-site mangrove management is established through experimental implementations of at least four demonstration sites(including participative management sites). 2 By the end of the Project, each MMC is furnished with a team for supporting on-site mangrove management composed of staffs who have necessary abilities.	1 "Guideline for supporting the on-site mangrove management" 2 Project Report	• Status of MMC in Depiut is not dropped off.
Outputs 1 "Guideline for supporting the on-site sustainable mangrove management" is established through experimental implementations at demonstration sites(including a participative management sites). 2 A monitoring system for mangrove resource is established, which is necessary in implementation of supporting process.		1.1 At least four demonstration sites(including a participative management sites) are settled and objectives and method of management are identified respectively. 1.2 At least four demonstration sites are furnished with respective management plans worked out by on-site management agents and management activities are implemented according to the plans by MMC staffs on a trial basis. 1.3 "Guideline for supporting the on-site mangrove management" is edited . 1.4 Necessary facilitating activities such as workshop, meeting, training, technology transfer are conducted appropriately in each demonstration site 2.1 A provincial level guideline for mangrove resource monitoring is drafted. 2.2 A method for improvement of a national level mangrove resource monitoring system is proposed. 2.3 Data on national mangrove resources are loaded to the Mangrove Information Centre WEB sites, which is to be periodically updated.	1.1 Management Plans for each demo site 1.2 Management Plans for each demo site 1.3 "Guideline for supporting the on-site mangrove management" 1.4 Project Report 2.1 Survey Reports, "A provincial level guideline for mangrove resource monitoring" 2.2 Project report 2.3 MIC WEB Site	• At the proper timing, appropriate input both from Indonesian side and Japanese side are executed.

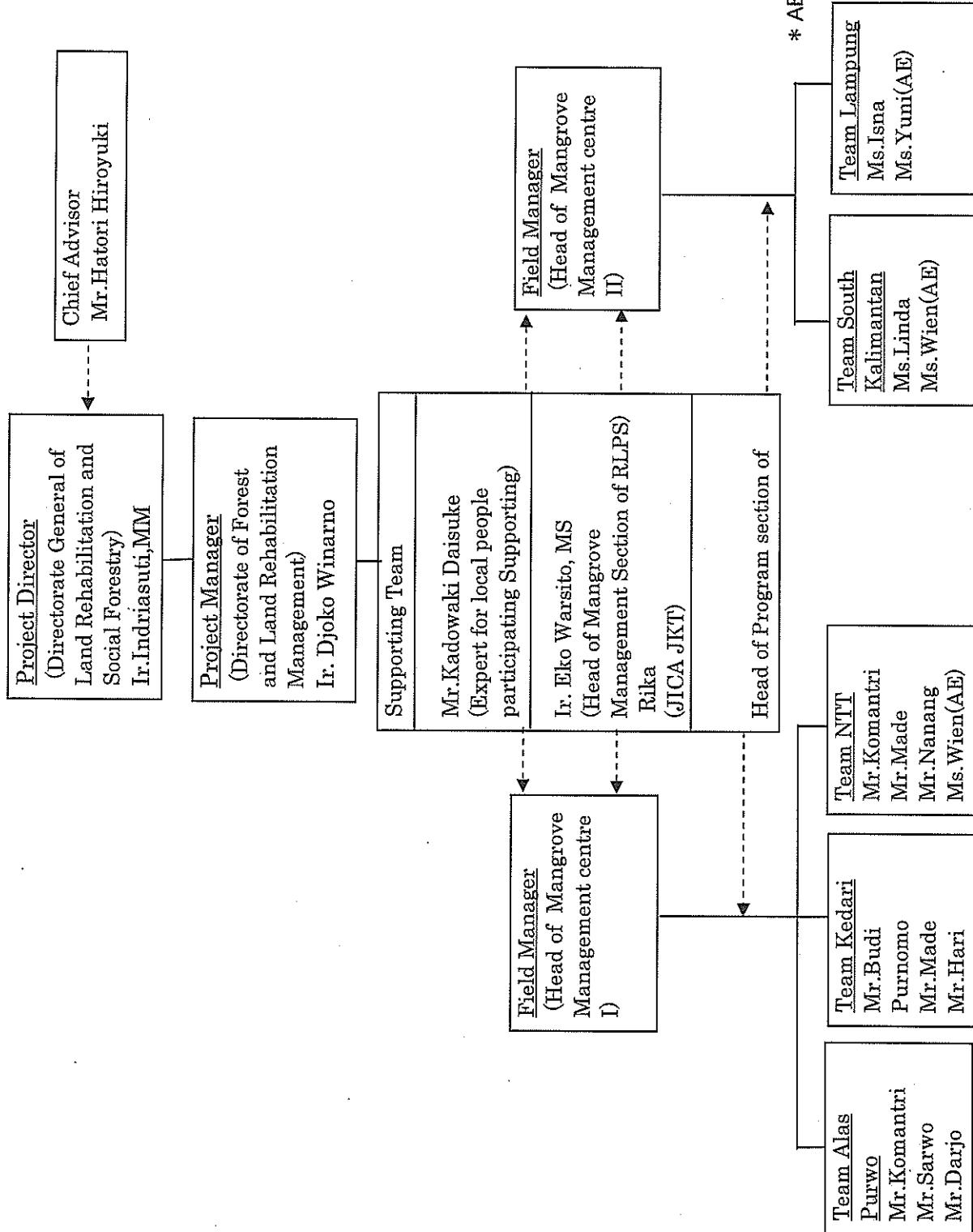
3 Staffs with necessary abilities for the execution of MMC functions are developed in MMC Region I through implementation of various MIE activities.	<p>3.1 Around 100 extension agents per year attend training courses organized by MMC Region I.</p> <p>3.2 Around 5,000 persons per year attend environmental education events and/or activities organized by MMC Region I.</p> <p>3.3 Surveys on mangrove (fauna, flora, utilization etc.) are conducted for several locations and the database of MMC Region I is improved.</p> <p>3.4 Various information distribution activities targeting various groups are implemented.</p> <p>3.5 Facilities of MMC Region I including various facilities for exhibition that are necessary for the implementation of above mentioned activities are appropriately managed, reformed and controlled.</p>	<p>3.1 MMC Region I Annual Report</p> <p>3.2 MMC Region I Annual Report</p> <p>3.3 MMC Region I Annual Report</p> <p>3.4 MMC Region I Annual Report</p> <p>3.5 MMC Region I Annual Report</p>	<p><u>Inputs</u></p> <p><u>Japanese Side</u></p> <p><u>Human Resources :</u></p> <p>< Long-term Experts: 2 person ></p> <ul style="list-style-type: none"> • Chief Advisor 36M/M • Local People's Participating Supporting 33M/M <p>< Short-term Experts ></p> <ul style="list-style-type: none"> • Mangrove Resource Survey, Macro Information System about 2 M/M each <p><u>Facilities/Equipment :</u></p> <ul style="list-style-type: none"> • Necessary equipment for the Project activities • Vehicle (for training activities) <p><u>Local Operation Expenses :</u></p> <ul style="list-style-type: none"> • Necessary expenses for the Project implementation (incl. contract fee for local consultants, etc.) <p><u>Others :</u></p> <ul style="list-style-type: none"> • C/P Training in Japan and/or in the third country: 3 short-term (10 days to 1 month) trainees per year for the project term, 2 long-term (about 3 months) trainees for the project term 	<p><u>Indonesian Side</u></p> <p><u>Human Resources :</u></p> <ul style="list-style-type: none"> • Project Director • Project Manager • MMC Region I Staffs 35 persons • MMC Region II Staffs 4 persons¹ <p><u>Pre-conditions</u></p> <ul style="list-style-type: none"> • At the proper timing, appropriate input both from Indonesian side and Japanese side are executed. <p><u>Facilities/Equipment :</u></p> <ul style="list-style-type: none"> • Necessary equipment for the Project activities • Vehicle <p><u>Local Costs :</u></p> <ul style="list-style-type: none"> • Necessary expenses for the Project implementation (incl. salaries and allowances for MMC staffs) <p><u>Others :</u></p> <ul style="list-style-type: none"> • Necessary expenses for the Project implementation (incl. salaries and allowances for MMC staffs)
Activities				

¹ Staffs of MMC Region II are required only for the activities regarding the said output 1.

Annex IV

Plan of Operation

Organizational Structure of the Project



Annex VI**Performance of Inputs****1. Inputs from the Japanese Side****(1) Experts****a) Long term experts**

No.	Name	Title	Period of assignment	MM
1	Mr. Hiroyuki Hatori	Chief Advisor	January 17, 2007 – January 16, 2010	36.0
2	Mr. Daisuke Kadowaki	Local People's Participating / Coordinator	May 23, 2007 – January 16, 2010	31.8

b) Short term experts

No.	Name	Title	Period of assignment	MM
1	Mr. Michio Matsuda	Mangrove Resources Survey	February 11 – March 11, 2008	1.0
2	Mr. Hiromitsu Kuno	Macro Information System	February 15 – March 21, 2009	1.2
3	Mr. Reiji Yoneda	Mangrove Productivity Survey	(1) February 23 – March 11, 2009 (2) July 24 – August 28, 2009	1.8

(2) National staff

	Position	Number
1	Administration	1
2	Training	1
3	Environmental Education and Museum Management	1
Total		3

(3) Training courses in Japan**a) Group Training**

Name	Title and Institution	Period
Mr.I komang Tri Wijaya Kusuma	Functional staff of MMC I	26 May - 16 Aug 2008
Mr.Mochamad Budi Purnomo	Functional staff of MMC I	26 May - 15 Aug 2009
Mr.Bagus Dwi Rahmanto	Staff of Sub Directorate of Mangrove Forest Management, MoF	26 May - 15 Aug 2009
Mr.Arief Mahmud	Head of Program Section MMC II	26 May - 15 Aug 2009

b) Counterpart Training

Name	Title and Institution	Period
Mr.Wahyu Suriatanuwidjaja	Head of Sub Directorate of Mangrove Forest Management, MoF	23 Oct - 7 Nov 2007
Mr.Sasmithadi	Head of MMC I	23 Oct - 7 Nov 2007
Mr.Murdoko	Head of MMC II	23 Oct - 7 Nov 2007
Ms.Widrati Oktovina Trisia	Assistant Expert of the project	9 Sep -25 Sep 2008
Mr.Darjo	Staff of institutional section of MMC I	9 Sep -25 Sep 2008
Mr.Sukarja Made	Staff of institutional section of MMC I	9 Sep -25 Sep 2008
Mr.Hari Sudrajat	Functional Staff of MMC I	31 Aug -17 Sep 2009
Ms.Luh Sutarmi	Staff of institutional section of MMC I	31 Aug -17 Sep 2009
Mr.Nyoman Sarwa	Staff of institutional section of MMC I	31 Aug -17 Sep 2009
Ms.Ni Wayan Wiratini	Assistant Expert of the project	31 Aug -17 Sep 2009

(4) Vehicle and Equipment Provided

Name of vehicle and equipment	Number	Cost (US\$)	Cost (Rp.)
L300 Disel minibus Delux Model 2006, Mitsubishi	1		102,850,000
Software for GIS, Softelec VP MAP PRO	1	4,730	
Scanner for GIS, CONTEX, HD4230	1	16,500	
Computer, HP Compaq Presario CQ 40116 TU	1	850	
Printer, EPSON, A3 1390	1	420	
	Total	US\$22,500	Rp.102,850,000

(5) Local Operational Cost for Project Implementation at the Japanese Side*

Year	Amount (Rp.)
2007	647,220,050
2008	208,085,950
2009**	171,820,150
Total	Rp.1,027,126,150

* Including electricity, water supply, telephone, internet, cleaning and the maintenance of facilities (mangrove trail and tower; generator; building)

** As of the end of September 2009

2. Inputs from the Indonesian Side

(1) Assignment of Counterparts

Name	Title and Institution	Period
Ir. Darori, MM	Director General of Land Rehabilitation and Social Forestry	Jan – Dec 2007
Dr. Sunaryo	Director General of Land Rehabilitation and Social Forestry	Dec 2007 – Jan 2009
Ir. Indriastuti, MM	Director General of Land Rehabilitation and Social Forestry	Jan 2009 – now
Ir. Djoko Winarno	Director of Land Rehabilitation and Social Forestry	Jan 2007 – now
Wahyu Surya Tanuwidjaya	Head of Sub-Directorate Mangrove	Jan 2007 – Feb 2009
Ir. Eko Waksito, MSc	Head of Sub-Directorate Mangrove	Feb 2009 – now
Ir. Sasmitohadi	Head of MMC I	Jan 2007 – now
Ir. Murdoko, MM	Head of MMC II	Jan 2007 – now
Bagus Dwi Rahmanto	Staff of Sub Directorate of Mangrove Forest Management	Jan 2007 – now
Yurianto	Staff of Sub Directorate of Mangrove Forest Management	Jan 2009 – now
Mochammad Budi Purnomo	Function staff of MMC I	Jan 2007 – now
I Komang Tri Wijaya Kusuma	Function staff of MMC I	Jan 2007 – now
Ir. Arief Mahmud	Head of Section Program of MMC II	Jan – Dec 2007
Isnawati R	Function staff of MMC II	Jan 2008 – now
Tri Sumalinda	Function staff of MMC II	Jan 2008 – now

(2) Local Operational Cost for Project Implementation at the Indonesian Side*

Year	Amount (Rp.)
2007	508,657,950
2008	193,427,602
2009**	103,222,623
Total	Rp.805,308,175

* Including electricity, water supply, telephone, internet, cleaning and the maintenance of facilities (mangrove trail and tower; generator; building)

** As of the end of September 2009

(3) Land, Facilities and Equipment

The Indonesian side has provided an office for the project secretariat in Denpasar..

Annex VII

Evaluation Grid (1): Achievement of the Project

Evaluation Criteria	Items of Investigation	Evaluation Questions	Evaluation Results
1. Achieve -ment	1-1 Projection on the Achievement of Overall Goal	<p>(A) Any supporting data/information to demonstrate the state of the Indicator 1: "Mangrove management activities at the demonstration sites established during the Project term is being implemented according as the respective management plan in 2012."</p> <p>(B) Any supporting data/information to demonstrate the state of the Indicator 2: "The Mangrove Management Centers adopts the supporting process for the new site(s) by 2012."</p>	<ul style="list-style-type: none"> • Informal coordination teams were formed to coordinate and support on-site mangrove management activities for five demonstration sites. Each team consists of MMC staff and project's local staff. • Management plans, which project staff recognize as the arrangement of roles for respective stakeholders and the development of an action plan, were developed at five sites (see Annex IX). • Project activities have been implemented following the action plans at each site (see Annex IX). • Heads of MMC I and II have both confirmed the budget allocation for the supporting process of on-site mangrove management at five sites in 2010. • Four counterparts at MMC I and II have expressed confidence in coordinating local stakeholders for on-site mangrove management activities. • Heads of MMC I and II have both confirmed the budget allocation for the supporting process of on-site mangrove management at new sites in 2010 (three sites for MMC I and two sites for MMC II). • Four counterparts at MMC I and II have expressed confidence in coordinating local stakeholders for on-site mangrove management activities. • A guideline for supporting on-site mangrove management is currently under the development and expected to be published by the end of the project.
	1-2 Achievement of Project Purpose	<p>(A) Any supporting data/information to demonstrate the state of the Indicator 1: "By the end of the Project, a guideline for supporting on-site mangrove management is established through experimental implementations of at least four demonstration sites (including participative management sites)."</p>	<ul style="list-style-type: none"> • Five demonstration sites were established, all of which include participatory component. • Project activities at five sites have been coordinated by members of the coordination teams for their implementation by local stakeholders (see Annex IX). • A workshop was held to share processes, progress and issues at each demonstration sites among all the coordination team members as well as Heads of MMC I and II, MoF staff, JICA Indonesia staff and project staff on August 1, 2008. • Draft outline of the guideline was discussed among project staff and counterparts of MMC I during the second quarter of 2009. • Questionnaire was drafted and distributed to coordination team members to solicit their experiences of on-site supporting process, which was made around September 2009. As of the mid-October, responses from the counterparts of MMC II were already obtained, which were then compiled.

Evaluation Criteria	Items of Investigation	Evaluation Questions	Evaluation Results
		<p>(B) Any supporting data/information to demonstrate the state of the Indicator 2: "By the end of the Project, each MMC is furnished with a team for supporting on-site mangrove management composed of staffs who have necessary abilities."</p>	<ul style="list-style-type: none"> The informal coordination teams were formed to support on-site mangrove management at five sites. Counterparts of MMC I and II, as members of the coordination teams, have experienced the work of coordinating concerned local stakeholders and implementing project activities during the project term (see Annex IX). Four counterparts at MMC I and II have expressed confidence in coordinating local stakeholders for on-site mangrove management activities. Counterparts confirmed good communication with NGO members who work as local facilitators at demonstration sites.
1-3 Achievement of Outputs	1-3-1 Output 1	<p>(A) Any supporting data/information to demonstrate the state of the Indicator 1-1: "At least four demonstration sites (including a participative management sites) are settled and objectives and method of management are identified respectively."</p> <p>(B) Any supporting data/information to demonstrate the state of the Indicator 1-2: "At least four demonstration sites are furnished with respective management plans worked out by on-site management agents and management activities are implemented according to the plans by MMC staffs on a trial basis."</p> <p>(C) Any supporting data/information to demonstrate the state of the Indicator 1-3: "Guideline for supporting the on-site mangrove management" is edited."</p> <p>(D) Any supporting data/information to demonstrate the state of the Indicator 1-4: "Necessary facilitating activities such as workshop, meeting, training, technology transfer are conducted appropriately in each demonstration site."</p>	<ul style="list-style-type: none"> Five demonstration sites were established, all of which include participatory component. Management objectives were shared among local stakeholders and the coordination team members. Roles of local stakeholders were identified at five sites respectively. Management plans, which project staff recognize as the arrangement of roles for respective stakeholders and the development of an action plan, were developed at five sites (see Annex IX). Project activities at five sites have been coordinated by members of the coordination teams for their implementation by local stakeholders (see Annex IX). Draft outline of the guideline was discussed among project staff and counterparts of MMC I during the second quarter of 2009. Questionnaire was drafted and distributed to coordination team members to solicit their experiences of on-site supporting process, which was made around September 2009. As of the mid-October, responses from the counterparts of MMC II were already obtained, which were then compiled. As indicated in Annex IX.

Evaluation Criteria	Items of Investigation		Evaluation Questions	Evaluation Results
	1-3-2 Output 2	(A) Any supporting data/information to demonstrate the state of the Indicator 2-1: "A provincial level guideline for mangrove resource monitoring is drafted."	<ul style="list-style-type: none"> The drafting work of the provincial level guideline was cancelled because of the finding and suggestion provided by a short-term expert (on macro information system) that MoF holds capacity to develop a national level monitoring system by using satellite imagery data and this should be the priority for the development, rather than the provincial level guideline. The decision of the cancellation was reported to JCC members on April 3, 2009 when the formal presentation on findings and suggestion by the short-term expert was made at MoF. The evaluation team confirmed with the Head of MMC I that he has accepted this decision. 	<ul style="list-style-type: none"> The drafting work of the provincial level guideline was cancelled because of the finding and suggestion provided by a short-term expert (on macro information system) that MoF holds capacity to develop a national level monitoring system by using satellite imagery data and this should be the priority for the development, rather than the provincial level guideline. The decision of the cancellation was reported to JCC members on April 3, 2009 when the formal presentation on findings and suggestion by the short-term expert was made at MoF. The evaluation team confirmed with the Head of MMC I that he has accepted this decision.

Evaluation Criteria	Items of Investigation	Evaluation Questions	Evaluation Results
	(D) Background and process of incorporating the Output 2 in the PDM	<ul style="list-style-type: none"> Prior to the commencement of the project, JICA experts assumed that national level monitoring was not feasible but provincial level monitoring could be developed by using aerial photograph, which should be used for the identification of demonstration sites and assessment and monitoring of mangrove resources. The process of drafting the statement of output 2, namely – “A monitoring system for mangrove resource is established, which is necessary in implementation of supporting process” – was as follows. First, all the concerned actors shared the idea that it was not feasible to develop and operationalize the national level monitoring system within three years of the project implementation. Second, it was also shared that the process for developing the system should start as early as possible and project output would be a proposal on the system development. Third, despite such shared understanding, the PDM was designed as “...system...is established” since it sounds more pertinent in a generic sense. Furthermore, the phrase of “...which is necessary in implementation of supporting process” was added because all the outputs should contribute to project purpose. As a result, the statement itself became distant from the shared understanding of the concerned actors. 	
	(E) Background and process of not having changed the PDM upon the revision of Output 2	<ul style="list-style-type: none"> Initially, the project expected to make decisions and arrangement about activities for the output 2 upon the dispatch of the short-term expert in Jan.-Mar. 2008. However, his findings and suggestions were insufficient for the project to make such decisions and arrangement. Then, the second expert was dispatched but it was made only in Feb.-Mar. 2009. Since the remaining project term was less than 10 months at that time, the project decided no revision of the PDM at this stage. 	
1-3-3 Output 3	<p>(A) Any supporting data/information to demonstrate the state of the Indicator 3-1: "Around 100 extension agents per year attend training courses organized by MMC Region I."</p> <p>(B) Any supporting data/information to demonstrate the state of the Indicator 3-2: "Around 5,000 persons per year attend environmental education events and/or activities organized by MMC Region I."</p>	<ul style="list-style-type: none"> The following training courses were organized by MMC I during the project period. <ul style="list-style-type: none"> In 2007, 7 training courses were organized with more than 101 participants in total. In 2008, 3 training courses were organized with 63 participants in total. In 2009, 27 training courses were organized with more than 477 participants in total. The following environmental education activities were organized by MMC I during the project period. <ul style="list-style-type: none"> In 2007, 43 ‘Class-In-The-Field’ events and 32 ‘Planting’ events were organized with 8,272 participants in total. In 2008, 79 ‘Class-In-The-Field’ events and 67 ‘Planting’ events were organized with 15,659 participants in total. In 2009, 40 ‘Class-In-The-Field’ events and 19 ‘Planting’ events were organized with 4,368 participants in total, as of June 2009. 	

Evaluation Criteria	Items of Investigation	Evaluation Questions	Evaluation Results												
		<p>(C) Any supporting data/information to demonstrate the state of the Indicator 3-3: "Surveys on mangrove (fauna, flora, utilization etc.) are conducted for several locations and the database of MMC Region I is improved."</p> <p>(D) Any supporting data/information to demonstrate the state of the Indicator 3-4: "Various information distribution activities targeting various groups are implemented."</p> <p>(E) Any supporting data/information to demonstrate the state of the Indicator 3-5: "Facilities of MMC Region I including various facilities for exhibition that are necessary for the implementation of above mentioned activities are appropriately managed, reformed and controlled."</p>	<ul style="list-style-type: none"> The project conducted a series of survey on topics regarding flora and fauna, socio-economic and biophysical conditions, mangrove rehabilitation, honey cultivation, mangrove productivity, monitoring system, silvo-fishery and Spider. The locations of the above surveys also vary, including Sulawesi, Maluku, Java (east, central and west), Papua, Nusa Tenggara and Bali. The MIC/MMC/project received the following visitors and provided information about mangrove ecosystem and management. The visitors include groups of legislators, government officers and NGO/NPO members, tourist groups from both domestic and abroad and individuals. <ul style="list-style-type: none"> In 2007, the MIC/MMC/project received 34 groups with 870 people. In 2008, the MIC/MMC/project received 32 groups with 617 people. In 2009, the MIC/MMC/project received 22 groups with 370 people as of June 2009. The project produced 3 leaflet, 2 booklet and 2 posters regarding mangrove ecosystem and management and MIC/MMC and made available to public. Both Japanese and Indonesian sides provided budget for the maintenance of the mangrove trail as follows: <table border="1"> <thead> <tr> <th></th> <th>Indonesian side</th> <th>Japanese side</th> </tr> </thead> <tbody> <tr> <td>2007</td> <td>Rs.80,327,350</td> <td>Rs.344,095,000</td> </tr> <tr> <td>2008</td> <td>Rs.9,870,000</td> <td>Rs.34,900,000</td> </tr> <tr> <td>2009</td> <td>Not yet</td> <td>Rs.45,260,000</td> </tr> </tbody> </table> There are two persons who have been in charge of the maintenance of exhibition at MMC I. 		Indonesian side	Japanese side	2007	Rs.80,327,350	Rs.344,095,000	2008	Rs.9,870,000	Rs.34,900,000	2009	Not yet	Rs.45,260,000
	Indonesian side	Japanese side													
2007	Rs.80,327,350	Rs.344,095,000													
2008	Rs.9,870,000	Rs.34,900,000													
2009	Not yet	Rs.45,260,000													
1-4 Inputs		<p>1-4-1 Were Inputs from Japanese side provided as planned?</p> <p>1-4-2 Were Inputs from Indonesian side provided as planned?</p>	<ul style="list-style-type: none"> Project staff and counterparts consider that in principle, inputs were provided appropriately (see Annex VI for the performance of inputs). Project staff and counterparts consider that in principle, inputs were provided appropriately (see Annex VI for the performance of inputs). <ul style="list-style-type: none"> Counterparts were limited to part-time counterparts and full-time counterparts were not assigned to the project. In some cases, daily allowance was not provided to counterparts when they traveled to demonstration sites. 												

Evaluation Criteria	Items of Investigation	Evaluation Questions	Evaluation Results
2. Implementation Process	2-1 Progress of Activities	<p>2-1-1 Were activities implemented as planned?</p> <p>2-1-2 What were background and process of selecting demonstration sites?</p>	<ul style="list-style-type: none"> The supporting process of on-site mangrove management was originally planned to commence in May 2007, five months after the project started. This was largely delayed due to the time requirement for the site selection process and it was in October 2008 when the first action was taken for the supporting process in the field. Project activities of 2.1 and 2.3 were cancelled due to the reasons explained the above 1-3-2. (A) and (C). Thanks to training activities conducted by JICA project in the past, the present project already held a human network of ex-trainees all over the country at the time of the project commencement. The project contacted these ex-trainees and solicited potential location of demonstration sites from them. The project organized a working group to identify demonstration sites. The group consists of members from MoF, MMC I and II, the project and JICA Indonesia. Criteria were identified to assess candidates for the demonstration sites which include; (1) status of resource ownership, planning and management, (2) presence of local institutions, and (3) presence of income generating activities. The first working group meeting was held on February 4-5, 2008 in order to decide the demonstration sites. Among 17 candidates that were assessed in the meeting, 3 sites were selected as demonstration sites (one of three sites was cancelled at the later stage). The second working group meeting was held on August 1, 2008 and 3 new sites were selected as demonstration sites (see Annex IX).
	2-2 Monitoring	<p>2-2-1 What was the activity monitoring plan and how was it implemented?</p> <p>2-2-2 Were the monitoring results applied for the project management?</p>	<ul style="list-style-type: none"> The project has not developed a structured monitoring system for the supporting process of on-site mangrove management at demonstration sites. As indicated in Annex IX, the project periodically supported activities at demonstration sites, that were coordinated by the coordination teams including project staff, and back-to-office reports have been drafted every time. Communications have also been made between project local staff/counterparts and local facilitators at demonstration sites through SMS, email and telephone. The project has organized a monitoring study on follow-up actions taken by ex-trainees. This is conducted once a year. The latest data are currently being compiled and finalized by the end of the project. (Monitoring system has yet been developed.)

Evaluation Criteria	Items of Investigation	Evaluation Questions	Evaluation Results
2-3 Communication among Actors	<p>2-3-1 Was communication among project personnel (Japanese experts, Local staff, C/Ps) satisfactory?</p> <p>2-3-2 Was communication between projects and actors at the Indonesian side (Ministry of Forestry - MoF, Actors at demonstration sites) satisfactory?</p> <p>2-3-3 Was communication between projects and JICA (Indonesian office, Headquarter) satisfactory?</p>	<ul style="list-style-type: none"> No critical issues have been reported on the communication among concerned actors except the case of between Japanese experts and counterparts of MCC II due to physical distance and language barrier that exist between them. No critical issues have been reported on the communication among concerned actors. No critical issues have been reported on the communication among concerned actors. 	
2-4 Decision Making Process	<p>2-4-1 Was the decision making process of project planning and implementation satisfactory?</p> <p>2-4-2 Was the revision of the PDM appropriate?</p>	<ul style="list-style-type: none"> No critical issues have been reported on the decision making of project planning and implementation. The PDM was revised in July 2007 following the EPA decision to incorporate capacity development factor in the project. Indicator 1.4 was added as a result of the EPA negotiation. 	
2-5 Ownership	2-5-1 Was the level of interest and support by MMC and MoF satisfactory?	<ul style="list-style-type: none"> Both project staff and counterparts mentioned that the interest of MMC in the project has been sufficiently high to manage the project pertinently. 	
2-6 Method of technology transfer	2-6-1 Were there any problems in the method of technology transfer?	<ul style="list-style-type: none"> No critical issues have been reported from the Indonesian side in the project approach and management system introduced by JICA. 	
2-7 Management and implementation	2-7-1 Are there any issues/problems identified in the process of the project implementation? What are the causes?	<ul style="list-style-type: none"> The difficulty of mangrove trail management partly stems from the fact that while the mangrove trail is the property of MMC I, mangrove forest and its area are the property of provincial government. 	
2-8 Allocation of C/Ps	<p>2-8-1 Was the assignment of C/Ps appropriate to carry out project activities?</p> <p>2-8-2 Was the provision of budget by C/Ps appropriate to carry out project activities?</p>	<ul style="list-style-type: none"> Counterparts were limited to part-time counterparts and full-time counterparts were not assigned to the project. In some cases, daily allowance was not provided to counterparts when they traveled to demonstration sites. 	

Annex VII

Evaluation Grid (2): Analysis on Five Evaluation Criteria

Evaluation Criteria	Items of Investigation	Evaluation Questions	Evaluation Results
3. Relevance	3-1 Consistency	<p>3-1-1 Is the project consistent with the Indonesian forest policies?</p> <p>3-1-2 Is the support of demonstration sites by the project in line with MMC policy?</p> <p>3-1-3 Is the project in line with the needs of local communities and target groups?</p> <p>3-1-4 Is the project consistent with Japan's ODA policy and JICA's plan for country-specific program implementation?</p>	<ul style="list-style-type: none"> According to the Clause 3 of Ministerial Decree P.4/Men hut-II/2007, which is in accordance with the Forestry Law No.41/1999, core mandates of MMC include the development of models and human resources for mangrove management, the preparation of mangrove resources inventory and information dissemination on mangrove. These mandates are fully consistent with project purpose and outputs. As described in 3-1-1. Since the evaluation team did not conduct the field-based assessment on the needs of local communities, it is not feasible to answer this question based on mission findings. In general, counterparts, who are members of coordination teams for supporting on-site mangrove management, more or less feel the appropriateness of project activities in relation to local needs. In principle, however, all the project activities have been organized in view of the direction toward sustainable mangrove management and there is one case at Site 4 (see Annex IX) that some local people who were eager to open mangrove forest for intensive aqua-culture have been against the project as the project attempts to prevent such mangrove clearance activities. The "Aid Policy for Indonesia" that was drafted by the Japanese government in November 2004 identifies the improvement and strengthening of the capacity of central and local government for natural resources management as one of priority areas of assistance. JICA also endorses the need to assist biodiversity conservation in Indonesia.
	3-2 Strategy and Approach	<p>3-2-1 Was the PDM logic appropriate (i.e. the relationship of Overall Goal⇒ Project Purpose⇒Outputs)?</p> <p>3-2-2 Was the selection of demonstration sites and target groups appropriate?</p>	<ul style="list-style-type: none"> The output 2 of developing a national level mangrove monitoring system does not logically lead to the achievement of the project purpose as 'the supporting process for on-site mangrove management...' does not require national level resource assessment. Although the development of a national level mangrove monitoring system is not directly relevant to the project purpose, the availability of national level resource monitoring data is highly relevant for sustainable mangrove resource management at the national level, which is the 'super-goal' of the project. Both project staff and counterparts have endorsed that the method applied in the selection of sites and target groups was appropriate.

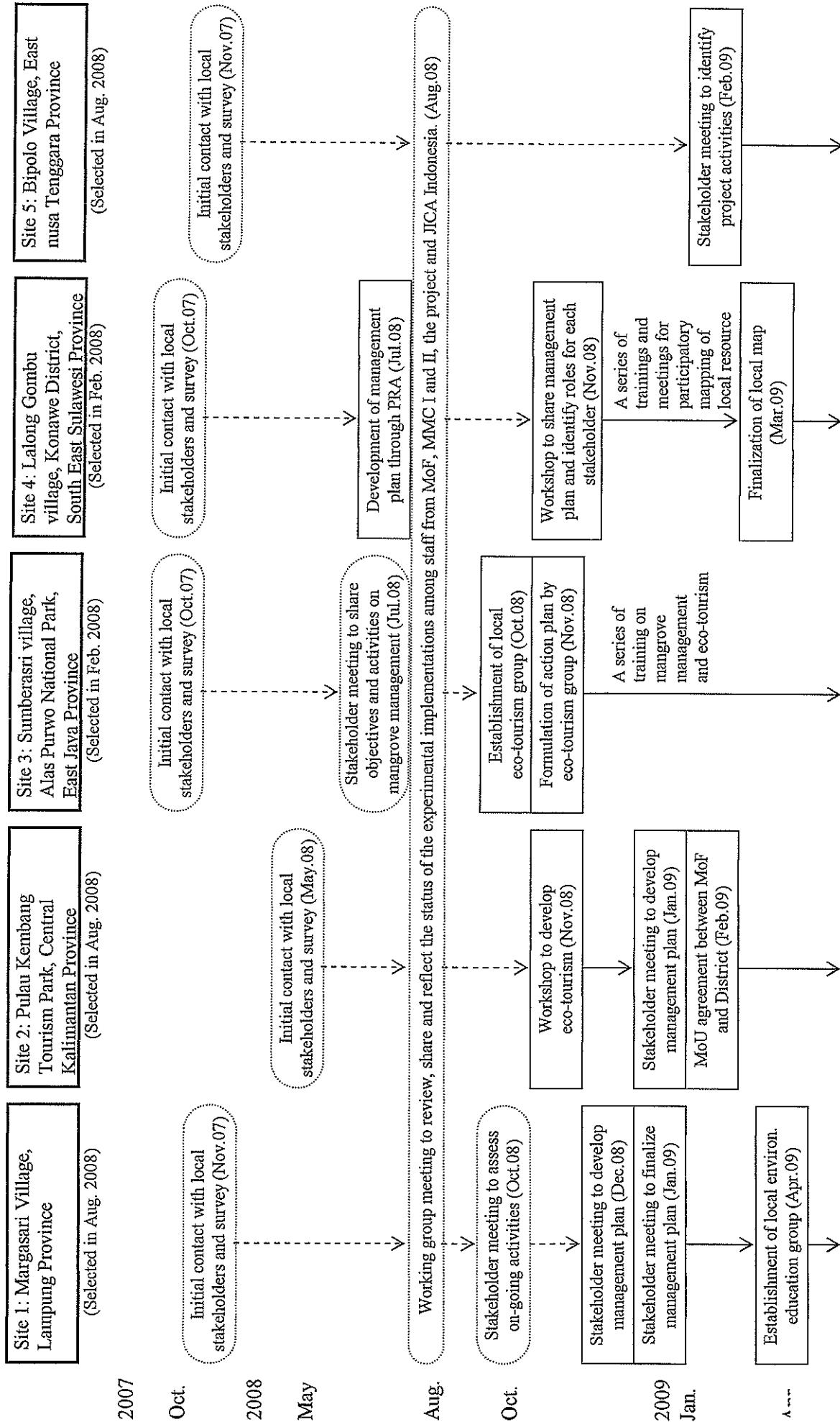
Evaluation Criteria	Items of Investigation	Evaluation Questions	Evaluation Results
		3-2-3 Was the scale of field-based activities (i.e. "site") appropriate?	<ul style="list-style-type: none"> The coordination teams for each site could organize and/or support local institutions for the development and management of a series of activities toward sustainable mangrove management. In this sense, the scale of supporting 'on-site' process is appropriate. Considering the scale of potential areas for rehabilitation within Indonesia, which is more than one million hectare, it is not strategic to assume that supporting 'on-site' process would directly contribute to the rehabilitation due to the smallness of targeted areas by the process. The project conducted monitoring of ex-trainees' follow-up actions and found out that there have been initiatives of mangrove planting and rehabilitation by ex-trainees at their own areas and total planting and rehabilitation areas by those who participated in the training courses organized by the previous project have reached 4,000 ha, which is far higher than the areas covered by the 'on-site' process approach conducted by the present project.
		3-2-4 Was the project period appropriate?	<ul style="list-style-type: none"> Although the site selection process took time much more than originally planned and the supporting on-site process is still under the development, both project staff and counterparts consider the project period is, in principle, appropriate.
		3-2-5 Were the capacity and experiences of JICA sufficient for achieving the Overall Goal?	<ul style="list-style-type: none"> While past experiences of JICA have duly contributed to the successful implementation of the present project, some counterparts feel that more technical support has been required in order to develop their skills and capacity in coordinating and supporting on-site mangrove management effectively.
4. Effectiveness	4-1 Projection on the achievement of Project Purpose	4-1-1 Has the project purpose already been achieved or will be achieved by the end of the Project?	<ul style="list-style-type: none"> The evaluation team concluded that the project purpose is highly likely to be achieved by the end of the project.
		4-1-2 Are there any factors that may inhibit the achievement of the project purpose?	<ul style="list-style-type: none"> No significant obstacles are identified to inhibit the achievement of the project purpose.
	4-2 Causal relationships	4-2-1 Are the three (3) outputs sufficient to achieve the project purpose?	<ul style="list-style-type: none"> The achievement of output 2 or its cancellation does not really affect the achievement of the project purpose in a sense that supporting process for on-site mangrove management can be developed without monitoring data of mangrove resources at the regional and national level.
		4-2-2 Are the important assumptions that exist between the outputs and the project purpose correct at the present point of time?	<ul style="list-style-type: none"> No change has been observed regarding 'important assumptions' that exist between the outputs and the project purpose.
5. Efficiency	5-1 Achievement of outputs	5-1-1 Is the achievement of each output adequate?	<ul style="list-style-type: none"> Although some activities were cancelled under the output 2, the project staff, counterparts and the evaluation team unanimously consider that the level of the achievement of each output is adequate.

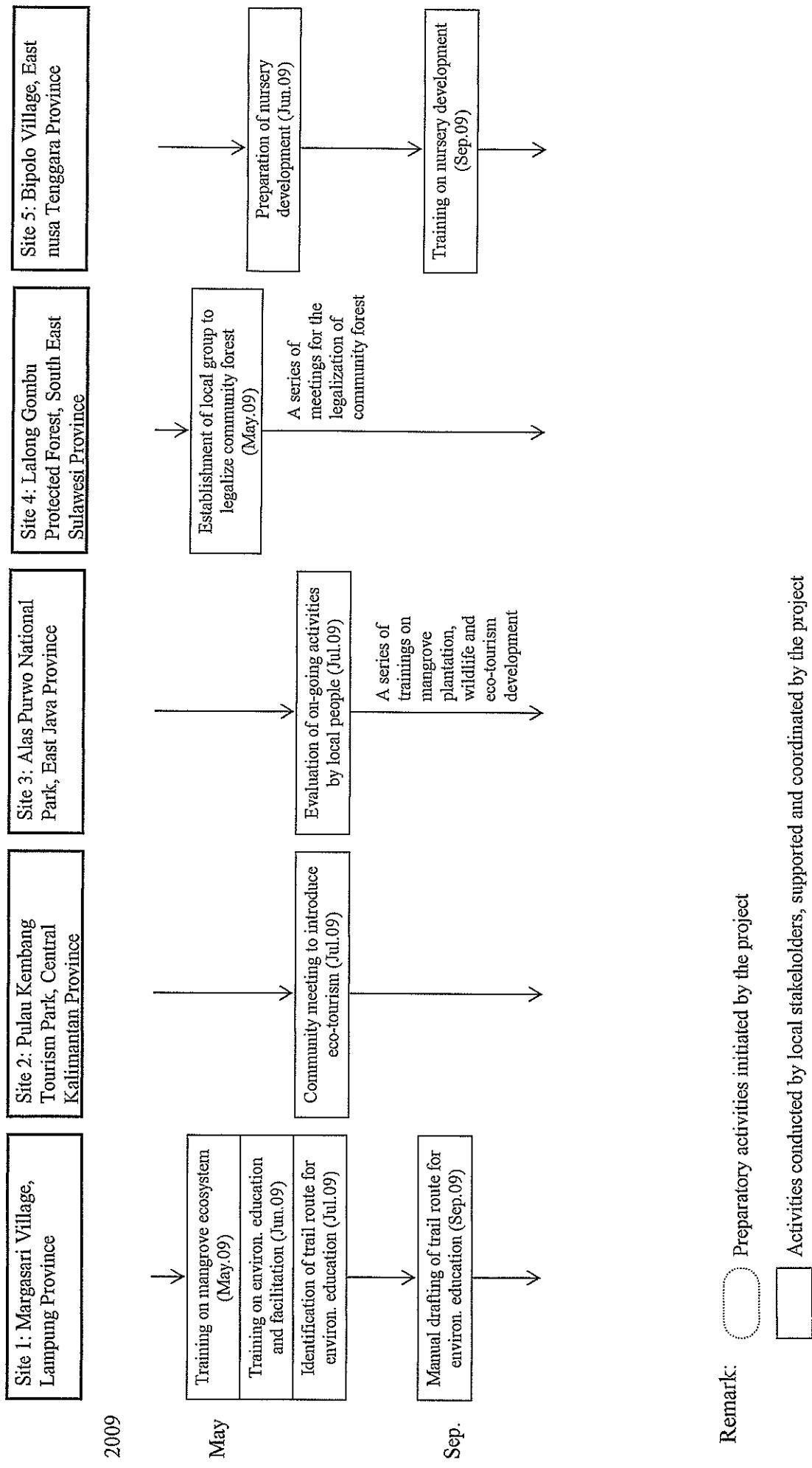
Evaluation Criteria	Items of Investigation	Evaluation Questions	Evaluation Results
5.	5-1 Causal relationships	<p>5-1-2 Are there any factors that inhibited the achievement of the outputs?</p> <p>5-2-1 Are the important assumptions that exist between the activities and the outputs correct at the present point of time?</p> <p>5-2-2 Were the inputs and activities sufficient to produce the outputs (in terms of timing, quantity and quality)?</p>	<ul style="list-style-type: none"> • There were no significant obstacles that inhibited the achievement of each output. • No change has been observed regarding ‘important assumptions’ that exist between activities and outputs. • Both project staff and counterparts consider the inputs were sufficient to produce the outputs. • One constraint was the limitation of supporting work by the expert on local people’s participating due to his second duty as coordinator.
6.	6-3 Cost efficiency	<p>5-3-1 Were available resources effectively used to minimize project costs?</p>	<ul style="list-style-type: none"> • Although on-site assessment was not feasible, the evaluation team found out that the coordination teams for respective demonstration sites have explored existing institutions, activities and other resources at the initial stage of their involvement that were considered useful for sustainable mangrove management and they have crafted project activities onto these existing resources.
6.	6-1 Projection on the achievement of Overall Goal	<p>6-1-1 Is there prospect that Overall Goal is achieved?</p> <p>6-1-2 Is it likely that Output 2 may directly contribute to Overall Goal and beyond?</p>	<ul style="list-style-type: none"> • As described in Annex VII, the overall goal is most likely to be achieved upon the termination of the present project. • As indicated in 3-2-1 above.
6.	6-2 Spreading effects	<p>6-2-1 Were there any positive or negative spreading effects that were brought about through the project implementation?</p>	<ul style="list-style-type: none"> • As indicated in 3-2-3 above, initiatives taken by ex-trainees have a positive impact, which is potentially significant, for the rehabilitation of mangrove forest. • Although quantitative assessment was not at all feasible, activities of environmental education and information dissemination by the project seem to have largely contributed to the awareness building among citizens of Denpasar and Bali toward the importance of mangrove forest.
6.	6-3 Causal relationships	<p>6-3-1 Is it realistic that Overall Goal is achieved within 2-3 years after the realization of the project purpose?</p> <p>6-3-2 Are the important assumptions that exist between the project purpose and the overall goal correct at the present point of time?</p>	<ul style="list-style-type: none"> • As indicated in 6-1-1 above. • No change has been observed regarding ‘important assumptions’ that exist between overall goal and project purpose.
7.	7-1 Policy aspect	<p>7-1-1 Will the current policy framework be maintained after the termination of the project?</p>	<ul style="list-style-type: none"> • Ministerial Decree P.4/Menlhut-II/2007, which is in accordance with the Forestry Law No.4/1999, is the most important legal document that have supported project activities and this framework definitely remains valid.

Evaluation Criteria	Items of Investigation	Evaluation Questions	Evaluation Results
7-2 Organizational, human resource and financial aspects	7-2-1 Will concerned organizations continue to provide supports (human resource and finance) to achieve the overall goal?	<ul style="list-style-type: none"> Concerned organizations such as MMC, local governments, national park office, university and NGOs, which have been involved in on-site mangrove management process, are most likely to continue their support for the on-going initiatives of on-site mangrove management. One constraint is that maintenance cost for the mangrove trail is relatively big and it might be difficult for MMC I to secure the budget that is necessary for the maintenance work. 	
7-3 Technology aspect	7-3-1 Will the facilities and equipment provided by the project be maintained appropriately?	<ul style="list-style-type: none"> Car and GIS equipment that have been provided by the present project have been managed by MMC I and there are no constraints on this. The maintenance of mangrove trail and aquarium have technically been done by MMC staff so that there seems to be no constraints on this. 	
	7-3-2 Is the extension approach and process examined through the project accepted by local actors and C/Ps?	<ul style="list-style-type: none"> There are no complaints or objections that have been reported or observed by local actors and counterparts regarding the on-site approach applied by the project. 	
7-4 Other factors	7-4-1 Are there any factors that may inhibit the maintenance of facilities and equipment and application of local processes in other sites.	<ul style="list-style-type: none"> As indicated in 7-2-1 and 7-3-1 above. 	

Annex IX

Major Project Activities at Five Demonstration Sites





Annex X**List of Activities under Output 3****(1) Training Courses Organized by Project/MMC**

	Organized Courses	Number of Participants
2007	7	101 +
2008	3	63
2009	13	229
	23	393 +

a) In 2007

Date	Type of Training	Participants	Affiliation
29 Jan - 2 Feb 07	Project Cycle Management Training		MMC I staff and project's local staff
11-16 Mar. 07	On Demand Training	23	community leader, Staff of Forestry office in Aceh Besar, Aceh timur, MoF Staff
22 May 07	On Demand Training	15	Staff of FAO project
22- 25 May 07	Facilitator Training		MMC I staff and project's local staff
4-14 Jun. 07	Course A	21	Teacher and community leader from some district
5 - 7 Jun 07	Team Capacity Building		All teams of MMC I and II including two Heads
16 Jul. 07	On Demand Training	10	Community leader and staff of Forestry Office from Aceh
6-10 Aug. 07	Ordinary Course C	24	Teacher and community leader in MMC 1 region
26-1 Nov. 07	On Demand Training	8	Staff of Asahan Regency Forestry Department
14-16 Dec. 07	Mobile training		
Total Number of Participants		101 +	

b) In 2008

Date	Type of Training	Participants	Affiliation
25-29 Feb. 08	Mobile training	20	Local government staff and head and member of NGO in Maluku province
14-18 Mar. 08	Mobile training	22	Local government staff and head and member of NGO in Riau province
4-14 Aug. 08	Ordinary Course A	21	Local government staff and head and member of NGO all indonesia
Total Number of Participants		63	

c) In 2009

Date	Type of Training	Participants	Affiliation
17 - 19 Feb 09	On Demand Training	20	BPDAS Citarum-Ciliwung
23 - 28 Feb 2009	Mobile training	30	District staff of forestry, fishery, agriculture, environment, and NGO in North Sulawesi province.
3 - 7 Maret 2009	Ordinary Course C	21	Teacher and community leader form MMC 1 region
10 - 14 maret 2009	Pelatihan Pengelolaan Mangrove untuk wisata alam	28	Ecoturism management body and guide candidates in Sumberasri

Date	Type of Training	Participants	Affiliation
31 - 3 April 2009	On Demand Training	12	Japanese Red Cross Society Nanggroe Aceh Darussalam(NAD)
16 - 19 June 2009	On demand Training	10	Staff BPTH Jawa Dan Madura
16 - 19 June 2009	On demand Training	4	Dishubun kab. Parigi moutong
14 - 16 July 2009	Mobile training	20	Dusun kelongkong, Ds.Bilelando, kec. Praya Timur, Lombok tengah,
14 - 16 July 2009	Mobile training	20	Desa Wringinputih Kec. Muncar Jawa Timur 2. Pelatihan petani, Kelompok Tegal Joyo
22 - 24 July 2009	On Demand Training	13	Japanese Red Cross Society NAD
July 29- Agt1 2009	Mobile Training	20	Local NGO,Community, and University students
11-15 Agt 2009	Course A	20	Staff of BPDAS in MMC1 region
28 - 30 Sept2009	On Demand Training	11	Japanese Red Cross Society NAD
Total Number of Participants		229	

(2) Research Conducted by Project/MMC

Year	Research Subjects
2007	Flora and fauna in mangrove area in Alas Purwo National Park
2008	Socio-economic and biophysical survey in Nusa Tenggara Barat
2008	Mangrove rehabilitation survey in Sulawesi, Maluku, Java, Papua, Nusa Tenggara Barat and Nusa Tenggara Timur
2008	Honey cultivation in mangrove area
2009	Mangrove productivity
2009	Monitoring system of mangrove resources
2009	Status of mangrove management in Nusa Tenggara Barat, Nusa Tenggara Timur, Java Timur, Java Tengah and Java Barat
2009	Silvo-fishery in mangrove area
2009	Spider in mangrove forest

(3) Environmental Education Events Organized by Project/MMC

a) Class-In-The-Field*

Year	Organized Events	Number of Participants
2007	43	3,479
2008	79	5,493
2009	40	2,548
	162	11,520

*General presentation and discussion are first made in the classroom and then field walk through the mangrove trail is arranged.

b) Planting Events*

Year	Organized Events	Number of Participants	Planted Trees
2007	32	4,793	42,650
2008	67	10,166	107,380
2009	19	1,820	10,600
	118	16,779	160,630

*General explanation is first made in the classroom and then mangrove planting is arranged.

(4) Visitors

Year	Number of Groups	Number of people
2007	34	870
2008	32	617
2009	22	370
	88	1,857

(5) Production of Leaflet, Booklet and Poster

Product	Title
Leaflet	Sekilas BPHM
Leaflet	Guiding to Enjoy the Mangrove Trail
Leaflet	Pengenalan Jenis Mangrove
Booklet	Basic Understanding of Mangrove
Booklet	Sekilas pengelolaan Mangrove Indonesia
Poster	Ekosistem Mangrove
Poster	Budayakan Menanam Mangrove Sejak Dini