

Terminal Evaluation

Asia

1. Outline of the Project

Country:

Malaysia

Project title:

Project on Aquatic Resource and Environmental Studies of the Straits of Malacca at Universiti Putra Malaysia

Issue/Sector:

Fisheries

Cooperation scheme:

Project-Type Technical Cooperation

Division in charge:

Fisheries and Environment Division, Forestry and Natural Environment Department

Total cost:

680 million yen

Period of Cooperation

12 May 1998 - 11
May 2003

Partner Country's Implementing Organization:

Malacca Straits Research and Development Center (MASDEC), Attached to the Department of Environmental Science, University Putra Malaysia (UPM)

Supporting Organization in Japan:

Ministry of Education, Culture, Sports, Science and Technology (MEXT),
Ministry of Agriculture, Forestry and Fisheries of Japan (MAFF)

Related Cooperation:**1-1 Background of the Project**

Pollution became one of the most serious issues in the coastal areas in the Straits of Malacca, along with the promotion of economic activities and the escalation of maritime transportation, increasing the possibility of environmental destruction more and more. In order to develop proper policies for promoting environmental protection, compiling basic scientific data was essential. But not enough data were accumulated on the coastal areas in the Straits of Malacca. University Putra Malaysia (UPM) is one of the major research institutes on aquatic resources and maritime environment sectors in Malaysia, and was expected to make an active contribution through its comprehensive basic research and survey on management of maritime resources, as well as preservation of maritime environment in the Straits of Malacca.

1-2 Project Overview**(1) Overall Goal**

The issues pertaining to the management of coastal zone resources, as well as conservation of aquatic resources and environment of the Straits of Malacca are recognized.

(2) Project Purpose

Research capability of the University Putra Malaysia (UPM) in the field of aquatic resources and environmental studies is strengthened.

(3) Outputs**(A) Capacity Building**

- 1) Expertise and skills of researchers of UPM are enhanced.
- 2) Research facilities and equipment of UPM are improved.

(B) Research Outputs

- 1) Database of bio-diversity and aquatic resources of the Straits of Malacca are accumulated.
- 2) Socioeconomic aspect of aquatic resource utilization is assessed.
- 3) Features on oceanographic conditions and current status of pollution in the Straits of Malacca are analyzed and recognized.
- 4) Impacts of pollution on aquatic and marine resources / environment are analyzed and assessed.
- 5) The improvement measures of environment problems (management methods of contaminant) are discussed.
- 6) Ecological and environmental risks of marine pollutions are analyzed by qualitative values.
- 7) Research findings are disseminated.

(4) Input

Japanese Side:

Long-/Short-Term Experts 21 (173M/M) Equipment 122 million yen

Trainees Received 18 (29.7M/M) Local Cost 39 million yen

Malaysian Side:

Personnel Assignment (Counterparts 31)

Land, Facilities and Equipment

2. Evaluation Team

Members of the Evaluation Team

Team Leader: Kiyoshi KATSUYAMA, Director, Fisheries and Environment Division, Forestry and Natural Environment Department, JICA

Marine Biology: Teruhisa KOMATSU, Associate Professor, Ocean Research Institute, The University of Tokyo

Fisheries Resources and GIS: Tsutomu NISHIDA, Research Coordinator for Ocean and Resources, National Research Institute of Far seas Fisheries, Fisheries Research Agency

Evaluation Planning: Yoshihiro SATO, Staff, Fisheries and Environment Division, Forestry and Natural Environment Department, JICA

Evaluation Analysis: Toyomitsu TERAOKA, Fisheries Engineering Co. Ltd.

Period of Evaluation

15 January 2003 - 1
February 2003

Type of Evaluation:

Terminal Evaluation

3. Results of Evaluation

3-1 Summary of Evaluation Results

The project was consistent with the national policies on the environmental conservation in Malaysia. The 8th Malaysian Plan stressed the enhancement of database in direct ways to conserve the environment, participatory approaches for solving environmental problems, conservation of bio-diversity, and the improvement of marine-related administration. Accordingly, the enhancement of researches on aquatic resources and environment in the Straits of Malacca are in line with the national policies of Malaysia.

Over the past five-year project period, MASDEC/UPM has implemented active research activities in quite a variety of fields. Among the 22 research activities supported by the project, many of them attained research output. Therefore, the project could be evaluated as having contributed to the promotion of research on environmental preservation of resources, which was the main subject of the project through its performance. At the same time, it was also noted that most of the project activities have contributed to the capacity building of the Malaysian counterparts. However, in some sectors, the research activities were active and had reached a high level before 1998, when the project was commenced. In these fields, at least regarding the capability of individual researchers, it was difficult to evaluate the effectiveness of the the project.

- 1) Dispatch of Experts The experts were generally dispatched without delay. However, the experts could not be recruited enough in the field of contamination control, risk evaluation and GIS.
- 2) Assignment of Counterparts There were no serious problems in the assignment of Malaysian counterparts. However, the specialized field of the counterparts was not consistent with some research activities (aquatic resources, seaweed and marine physics).

- 3) Procurement of Equipment Procured equipments were generally utilized and managed well.
- 4) Acceptance of Trainees In the project, the training for the counterparts in Japan functioned well. This was because the academic research institute, which organized the training, sufficiently matched the specialized fields of the counterparts.
- 5) Burden of Research Fund The public research fund, which MASDEC researchers received from the Malaysian government, has decreased considerably since 2001. This was because the government reduced its budget as a result of the Asian economic crisis in 1997. The damage caused to the research activities was huge as a whole, but the effects were varied depending on the individual research levels.

Based on the outputs of the project, it is expected that MASDEC will not only expand its contribution in the academic research field on aquatic resources and environmental preservation in the Straits of Malacca in the future, but will also develop the capability of policy recommendation on the management in the Straits of Malacca, such as continual utilization of coastal natural resources, cooperative management of resources, and solving environmental problems. Strengthening the capability of research activities of MASDEC as a research institute that enabled such recommendations can be evaluated as positive and unexpected impacts of the project. In addition, there were other positive impacts, such as the dissemination of information by holding international conference and workshops, and the education of young researchers at the graduate school.

The retention rate of the counterparts was high. New central laboratory facilities will be built within the year 2003 to secure an integrated space for MASDEC research facilities. Therefore, MASDEC will develop as an implementing organization of the project in the future. However, it is foreseeable that the financial dependency on the competency of individual researchers will continue to prevail in the future and thus it would greatly affect the sustainability of the activities set out by the project. To realize more fruitful research contents, its role must be shared with similar research institutes in Malaysia.

(1) Factors Concerning the Planning

N.A.

(2) Factors Concerning to the Implementation Process The joint research system functioned well in many cases because the knowledge of the counterparts on the Malaysian side was very high. Through the implementation of the project, the counterpart side developed a relationship with the JSPS plan (Joint research by Japan Society for the Promotion of Science and the Core-University Program). This contributed to the progress of the research activities in some sectors.

3-3 Factors that Impeded the Realization of Effects

(1) Factors Concerning the Planning

N.A.

(2) Factors concerning to the Implementation Process

1) Lack of Research Fund In some cases, the lack of funds crippled the development of survey and research. In fact, research which takes time, such as field survey and sample analysis, could not be implemented without hiring graduate students as assistants. It was observed that the implementation of research depended on financial conditions—whether or not the counterparts could scrape up necessary expenses, such as the travel expense. 2) Implementing System on UPM Side UPM was institutionalized midway through the project. Therefore, the number of students increased greatly, and the instructors became extremely busy. As a result, UPM staff could not work with the dispatched experts and the project activities as the counterparts, and the graduate students had to deal with the situation instead.

3-4. Conclusion

There was a difference among the researchers regarding their financial situations, which were affected by their research funds. Also, there were quantitative differences regarding the input of experts and counterparts, such as the number of dispatched experts or counterparts per month, in certain fields of research. Therefore, the levels accomplishment also varied according to the area of research, and some sectors could not obtain the expected outputs. However, there were a lot of research fields that were able to obtain a considerable level of achievement, and the research subjects in these fields were consistent with the main subject of the project. Judging from the above information, it has concluded that the project purpose had been accomplished. One of the greatest outputs was that the continuity of the research system of MASDEC was assured by the project.

3-5. Recommendations

(1) To continue the scientific research activities for the conservation of the Malacca Straits, MASDEC should seek to secure an appropriate amount of funds and human resources from both national and international contributors.

(2) To maintain the current internet-based GIS, at least one highly qualified system engineer/ technician needs to be hired.

(3) For the comprehensive management and research of environment and ecosystem in the Malacca Straits, MASDEC should further promote regional collaboration works with neighboring countries in cooperation with relevant national organizations.

(4) To reduce the pollution and eutrophication in the Malacca Straits, MASDEC should put forth further efforts toward research and analysis on discharge and spill-out from the land. In addition, MASDEC should cooperate with relevant national organizations to detect major sources of pollution and investigate practicable options to reduce such pollution. (5) For MASDEC to secure internal collaboration and to develop appropriate risk analysis of the Malacca Straits, each relevant group should hold periodical coordination meetings and cooperate to design joint activities, especially for more effective research cruise in Malacca Straits. In addition, relevant group leaders should seek to secure the successor of scientists and experts from the perspective of continuing their research and analysis.

3-6. Lessons Learned

The original PDM developed after the commencement of the project was not revised till the time of the terminal evaluation. In particular, the overall goal of the project was "to recognize the issues pertaining to management of coastal zone resources as well as the conservation of aquatic resources and environment of the Straits of Malacca," which was directly connected to the relevancy of the project. As a certain level of recognition regarding this issue existed since the beginning of the project, it should have been revised at the time of the preliminary evaluation, mid-term evaluation or the PDM. At the terminal evaluation, JICA discussed this issue with the Malaysian side, but it could not revise since the Malaysian side determined that it would be better to revise the PDM at the terminal evaluation. The PDM should be revised on a timely basis, if necessary.