INTEGRATED COASTAL ZONE MANAGEMENT
IN SOUTHEAST AND EAST ASIA

15-19 June 1998, Yangon - Myanmar
INTEGRATED COASTAL ZONE MANAGEMENT IN SOUTHEAST AND EAST ASIA

Proceedings of the ECOTONE VII
15-19 June 1998
Yangon, Myanmar

Organized by:

National Commission for Environmental Affairs
Myanmar National Commission for UNESCO
UNESCO Regional Office for Science and Technology in Southeast Asia,
Jakarta, Indonesia
National MAB Committee of Japan

Editors

U Han Tin, Rector, Yangon Institute of Education
Daw Yin Yin Lay, Director, National Commission for Environmental Affairs
Indonesian Coral Reef Rehabilitation and Management
Program Phase I (COREMAP I)

Dr. Malikusworo Hutomo*

ABSTRACT

Indonesia is located at the centre of the world's coral reef diversity and with some 85,707 km² of coral, which holds approximately one-eighth of the world's coral reef. However, the quality of coral reef in Indonesia is declining rapidly. Anthropogenic threats range from destructive fishing practices to pollution and from dredging to tourism related damages. For the above reasons, there is an urgent need to start rehabilitation and management to guarantee sustainable use of Indonesia's potentially finite and valuable marine resources. The Government of Indonesia, therefore, has launched a program called Coral Reef Rehabilitation and Management Program (COREMAP). The overall COREMAP goal is the protection, rehabilitation and sustainable utilization of coral reef and associated ecosystem in Indonesia, which will, in turn, enhance the welfare of coastal communities. This program will be implemented over a period of 15 years, and involve three phases i.e. Phase I, initiation phase-3 years; Phase II, acceleration phase-6 years; and Phase III, internalization phase-6 years. The specific COREMAP Phase I objectives is to establish a viable framework for a national coral reef management system in Indonesia. The program strategy follows the realization that community based management (CBM) of coral reef in Indonesia cannot be successful on a large scale without supporting framework to contain external threats. This framework needs to include: (i) an effective national strategy for coral reef management; (ii) secure user rights for coastal communities; (iii) effective enforcement to protect communities against external threat; (iv) increased awareness amongst decision makers of the treats facing the reefs; (v) an effective monitoring systems; and (vi)

* Dr. Malikusworo Hutomo, COREMAP Project Manager, Research and Development Centre for Oceanology, Indonesian Institute of Sciences, Jakarta, Indonesia
management capacity. The COREMAP program has made the strategic decision to address these aspects during the initiation phase.

Introduction

Indonesia's coral reefs are under threat from bombing, cyanide fishing, sedimentation pollution, anchor damage, and coral mining. Using a measure of live coral cover (LCC) along 371 transects, a nation-wide survey in 1994 found that 42 percent are in poor condition (LCC-0-25 percent), 28 percent are in fair condition (LCC-25-50 percent), 24 percent in good condition (LCC-50-75 percent), and only 6 percent remain in excellent condition (LCC-75-100 percent). To date, the only study on trends in coral reef degradation has been for the Thousand Islands (Pulau Seribu) area in the waters off Jakarta (Hutomo 1987; Tomasick et.al, 1993). This study showed that LCC at one island, Pulau Air, declined from 80 percent in 1969 to 21 percent in 1985 and further declined to 15.4 percent in 1995, an average rate of 2.5 percent per annum. At another island Pulau Pari, a similar rate of decline was recorded (70 percent LCC in 1969 and 29.8 percent LCC in 1995). These islands were resurveyed in 1997.

A recent economic analysis of Indonesian coral reef (Cesar 1996) showed that the net cost to Indonesia of large scale poison fishing amounted to $48 million in a period of four years. The losses attributed to blast fishing are estimated at more than 50 times the benefit obtained from tourism. Hence, from an economic as well as from a social perspective, these practices should be curbed.

For the above reason there is an urgent need to start rehabilitation and management to guarantee sustainable use of Indonesia's potentially finite and valuable marine resources. The Government of Indonesia, therefore, launched a program called Coral Reef Rehabilitation and Management Program (COREMAP) starting from 1998. This program will be implemented over a period of 15 years, and involve three phases i.e. Phase I, initiation phase – 3 years; Phase II, acceleration phase – 6 years; and Phase III, internalization phase – 6 years. This paper is dealing with the implementation plan of COREMAP I to be conducted during the period of 1998 - 2001.
The Program Background

The Coral Reef Rehabilitation and Management Program (COREMAP) is a new initiative by the Government of Indonesia (GOI) to safeguard its coral reefs, the most extensive in the world. The COREMAP program goal is the protection, rehabilitation and sustainable use of coral reefs and associated ecosystems in Indonesia which will, in turn, enhance the welfare of coastal communities. The program’s development objective will be to establish viable reef management systems in priority sites, which are operational, fully decentralized to the regional governments, and institutionalized.

The COREMAP program will be implemented over a period of 15 years, and involve three phases; COREMAP Phase I (Initiation, 3 years); COREMAP Phase II (Acceleration, 6 years); and COREMAP Phase III (Institutionalization, 6 years). The program will cover priority locations in ten provinces (Maluku, Irian Jaya, South Sulawesi, Southeast Sulawesi, North Sulawesi, East and West Nusa Tenggara, Riau, and North and West Sumatra), and is expected to be supported by the World Bank, the Global Environment Facility (GEF), the Asian Development Bank (ADB) the Australian Agency for International Development (AusAID), and the Japan International Cooperation Agency (JICA, during phase II). The world Bank and GEF will support the program through a new adaptable program loan (APL) instrument, which will provide a long-term commitment to the program subject to satisfactory performance of each phase as determined by benchmark indicators and independent evaluations. Other donors would support the COREMAP program through complementary parallel projects, following a common design framework.

The program strategy follows the realization that community-based management (CBM) of coral reefs in Indonesia cannot be successful on a large scale without a supporting framework to contain external threats. This framework needs to include: (i) an effective national strategy for coral reef management; (ii) secure user rights for coastal communities; (iii) effective enforcement to protect communities against external threats; (iv) increased awareness amongst decision makers of the threats facing the reefs; (v) an effective monitoring systems; and (vi) strengthened management capacity. The COREMAP program has made the strategic decision to address these aspects during the Initiation Phase, and to phase interventions at the site level over a period of 15 years. Proceeding cautiously and
using a process approach, the program would ensure that lessons of experience learned from pilot locations are applied to a later, expanded acceleration phase. The program strategy will therefore involve (a) **program maturity**, where the initial focus on a strong central project team and national components would progressively lead to a decentralized program management at the district level; and (b) **geographical expansion**, from an initial four sites to priority coral reefs sites in ten provinces.

**The Preparation Initiatives**

The primary justification for the Project stems from the urgent need to address the serious problem of coral reef degradation throughout Indonesia. Nationwide surveys by LIPI-P30 have found only 6 percent of Indonesia's coral reefs in excellent health, and only 24 percent in good condition. Millions of coastal inhabitants continue to rely on the functions provided by coral reefs, for food and income generation, construction material, tourism, protection from coastal erosion and storm damage, pharmaceuticals and other chemicals, educational and scientific interest, not to mention their global heritage value and biodiversity.

It is clear that central government agencies cannot effectively protect and manage 85,707 sq. km (Tomasick et. al., 1997) of coral reefs spread over many-thousands of islands. Similarly, provincial governments, which will be delegated responsibility for management of these resources, are not yet prepared to do so. The challenges are; giving the affected communities security of tenure over the resources; protecting them from outside destructive forces (blast fishing and cyanide poisoning) by law enforcement agencies; and making them aware of many of their own activities (such as coral mining, overfishing, anchor damage, and sale of coral souvenirs) that are not sustainable. At the same time, institutional capacity must be strengthened at all levels of government. The proposed Project addresses these requirements by investing in the establishment of a supporting framework and pilot implementation in four sites. The Project would proceed, cautiously and using a process approach, to ensure that, subject to satisfactory performance, the lessons learned from a few pilot locations can be applied to a later.

Recognizing the large number of agencies with an interest in coral reef management, in 1995 GOI created a COREMAP Preparation Team under the administration
of the Indonesian Institute of Sciences (LIPI), representing some 10-12 agencies, to prepare a COREMAP program, of which COREMAP I will be the Initiation Phase and the program’s first major project.

Since its establishment in 1995, the COREMAP Preparation Team has met regularly and has been adequately funded to collect baseline ecological and socioeconomic data, conduct a large number of national and local workshops, mount an initial public awareness campaign, and prepare a draft Project Implementation Plan.

Since the beginning of the fiscal year (1997-1998) the preparation team has been conducting several activities to anticipate the real implementation which is supposed to be started in the fiscal year of 1998-1999. The activities are parts of the five components:

1. **Public Awareness**

   The activities in this component consist of:

   - Publish COREMAP Newsletter and Bulletin of Scientific Information.
   - Film production and television programme.
   - Making and printing booklets, leaflets and posters.

2. **Database, Monitoring and Research**

   - Design and Develop Database on Indonesian Coral Reef Management (Indo Reef Base). The database will contain wide range of information including ecological, socioeconomic as well as threats and destructive activities.
3. Institutional Strengthening and Training

- Scientific workshop seminar on research results and on going research which will be presented in the coming International Coral Reef Symposium in the year of 2000 in Bali.
- Institutional coordination for CBM implementation and monitoring. Prior to the trial test of CBM coordination of sectoral agencies in provinces and districts is necessary. And during implementation, the activities have been monitored.
- Several National Workshops / Communication forums and meeting involving National COREMAP Team, provincial steering committees, representatives of donors, NGOs and protect consultants have been conducted during the fiscal year of 1996-1997. The meeting discussed wide areas of issues relevant to the project implementation, identification of possible funding mechanism for implementation, approach on locally based management, and project implementation plan.

4. Law Enforcement and Surveillance

- Trial test of law Enforcement and Surveillance in the three test site, Riau, Nusa Tenggara Timur and Maluku Provinces have been completed.

5. Community – based Management

- Continuation of fishermen empowerment in Lombok Barat, NTB Province. This activity is a continuation of the 1996 activity, conducted by Mataram University.
- Recruitment and Training of nominated field managers. The role of field managers (or facilitators) is key factor for the success of COREMAP. The recruitment and training of nominated field managers has been conducted in cooperation with the Directorate General of Fisheries in association with the Agency for Agricultural Education and Training. At least 50 trainees from the provinces had joint the full manager recruitment training which consist of local government officials, university staffs and local NGOs.
- Trial test of CBM implementation at 15 sites of the ten provinces.
6. Several technical guidelines for implementation of the COREMAP I components have been completed and expected to be used as practical guidance for implementary the project implementation.

COREMAP I Implementation Plan

The COREMAP I is considered to be a learning process to initiate the complex program. The lessons learned from COREMAP I is expected give more confident to implement the program in move wider area in COREMAP II. If the COREMAP II is successful then the program is expected to be ready internalized in the government mechanism at all level, national provincial and district as well as at local communities.

Goal, Objectives and Outputs

The overall COREMAP goal is the protection, rehabilitation, and sustainable utilization of coral reefs and associated ecosystems in Indonesia, which will, in turn, enhance the welfare of coastal communities. The development objective of the COREMAP Initiation Phase is to establish a viable framework for a national coral reef management system in Indonesia as seen in Figure 1. The Initiation Phase will be implemented over the course of three years (April 1998-March 2001). Phase I will establish the supporting framework to the COREMAP Program, as well as test community-based management in pilot sites.

Figure 1. The integration of COREMAP I components for establishing viable and operational Reef Management Systems.
The expected outputs of the COREMAP I Project will be:

- A nation policy, strategic planning and action plan for the COREMAP Program;
- A strengthened legal framework for coral reef management in Indonesia;
- A strengthened institutional arrangement and training for the COREMAP Program;
- A public awareness campaign on sustainable management of coral reef and prevention of destructive management practices launched at the national level and provincial level;
- Models of national and local surveillance and enforcement capacities tested and evaluated in the provinces (including Irian Jaya);
- A coral reef information research and management plans at four provinces designed completed and implemented;
- Preparation and design of a COREMAP II Project.

The Program Components

The COREMAP I consists of six components:

1. Policy, Strategic Planning and Legal Framework

   The previous national coral reef policy and strategy plan (KLH 1996) needs to be updated and strengthened. The Project will prepare the key elements of the COREMAP program strategy which include (i) an updated national policy for coral reef protection, (ii) a national COREMAP program strategy specifying clear guidelines for program support and (iii) a short term (5 years) and a long term (25 years) action plan specifying priorities for the national program. This consolidated policy and strategy document would be discussed at the national level. On the legal front, the Project would (i) help develop a legal framework supportive of community based management, recognizing customary user rights over coral reef areas and on legal backing of CBM plans; (ii) review and rationalize key legislation affecting coral reef ecosystems; and (iii) prepare guidelines for collection of evidence on destructive fishing activities.
2. Project Management and Training

As there is no agency with a defined mandate for managing coral reefs, a program management structure which is effective in coordinating a wide range of stakeholders is critical to the success of COREMAP. Initially, BAPPENAS will play this coordination role, through a Project Steering Committee and Project COREMAP I Secretariat, but must be supported by a strong Project Management Office (PMO), assisted by international and local consultants. This component will cover consultancy inputs, contractual arrangements (for both procurement and interagency agreements), financial management and reporting, benefit monitoring and evaluation, donor liaison, and routine progress reports. Improved human resources capacities to implement the COREMAP Program will be crucial to effective implementation and sustainability of the expected Project goals. Training emphasis will be place on building local capacity in project management, surveillance and enforcement, and reef monitoring and research.

3. Public Awareness

The public awareness component will focus on (i) launching a national campaign on coral reef protection, followed by regional campaign in provinces; (ii) dissemination of COREMAP program outlines and guidelines; (iii) public relations; and (iv) the design of an awards system for the COREMAP Program. The component will raise awareness of the value of coral reefs and their associate ecosystems and the negative social impacts causes by current destructive practices. Provincial and community level public awareness campaign under this component will be linked to national level public awareness efforts.

4. Surveillance and Enforcement

This component will link local communities, who will appoint reef watchers, with strengthened national level law enforcement agencies, to control illegal and destructive activities on priority coral reefs. Specifically, the component would (i) develop a surveillance and enforcement at the four pilot sites, with a preventive approach pilot tested in Nusa Laut Saparua, and a combination of preventive and control enforcement tested Taka.
Bone Rate and Selayar and Biak and (ii) develop a framework for poison and explosives testing in Indonesia.

5. Database, Monitoring, and Applied Research

Management of coral reef ecosystems requires relevant information on the ecology of the reefs, and social and economic aspects of the communities which depend on the reef resources, as well as further investigation into the nature and extent of threats to the reefs and the effectiveness of proposed interventions. These data must be collected, stored, manipulated, and accessed in a form compatible with national and provincial natural resources management information systems. Coral Reef Information and Training Centers (CRITC) will be strengthened in Jakarta, Pekanbaru, Ambon, Kupang, and Ujung Pandang. Information generated from this component will be crucial for public awareness and education campaigns, grass roots level training, and preparing the stage for a possible COREMAP II Project.

6. Community-Based Management

This component will provide the support structure and necessary skills and resources for communities in the pilot sites to develop and implement coral reef management plans. A participatory approach to held organize and mobilize the communities will be adopted. Village level Field Managers recruited from local NGOs / University / private sector will work with the organized groups in each village to develop appropriate coral reef management plans and implement the priority interventions identified under those plans. The village level coral reef management plans will be subjected to an external assessment and ranked against agreed criteria to trigger disbursement of village funds, including matching grants for self-help groups, to held support alternative income generating activities and support reef saving infrastructure. The project would help to organize community groups and assist them in developing alternative income generating activities, but would not provide direct credit for these activities. In Taka Bone Rate and Riau, this component would also held support park zoning and management initiatives.
References


