

# ***PROYEK PESISIR***

## **AN ASSESSMENT OF THE COASTAL RESOURCE MANAGEMENT PROJECT (CRMP) IN INDONESIA**

**By**

**Arthur J. Hanson, IISD  
(Team Leader)**

**Indriany Augustine, ICEL**

**Catherine A. Courtney, Tetra Tech EM Inc.**

**Akhmad Fauzi, IPB**

**Sarah Gammage, Consultant**

**Koesoebiono, Consultant**

**April 2003**

**CRMP IS AN INITIATIVE OF  
THE GOVERNMENT OF INDONESIA AND USAID**

**IMPLEMENTED BY**

**THE COASTAL RESOURCES CENTER,  
UNIVERSITY OF RHODE ISLAND**

## TABLE OF CONTENTS

	<u>Page</u>
TABLE OF CONTENTS.....	i
LIST OF ACRONYMS AND INDONESIAN TERMS.....	iii
SUMMARY AND RECOMMENDATIONS.....	1
MAIN REPORT.....	25
<b>CHAPTER 1. INTRODUCTION.....</b>	<b>25</b>
Background .....	25
Assessment Objectives .....	27
Approach/Methods.....	28
<b>CHAPTER 2. CONTEXT.....</b>	<b>30</b>
Marine and Coastal Development in Indonesia.....	30
Coastal and Marine Resources and Communities .....	31
<i>Ocean Contributions to Indonesia's Economy</i> .....	31
<i>Condition of Coastal Communities</i> .....	33
<i>Condition and Potential of Fisheries</i> .....	34
<i>Economic Valuation of Coastal and Ocean Resources</i> .....	35
Gender in the Context of Indonesian Development.....	38
<i>Women in the Economy and in Governance</i> .....	38
<i>Women in Fisheries and Coastal Communities</i> .....	39
Ecological Sustainability in the Coastal Zone .....	41
Decentralization and Sustainable Resource Use.....	43
Global and Regional Trends in Ocean and Coastal Management .....	45
Donors Active in Marine and Coastal Programs .....	46
Hope for the Future.....	47
<b>CHAPTER 3. CRMP ASSESSMENT RESULTS.....</b>	<b>49</b>
Overview.....	49
Project Goals and Intended Results .....	49
Performance Indicators .....	52
Individual Program Performance.....	54
<i>Program Summaries</i> .....	54
North Sulawesi Field Program.....	60
Lampung Field Program .....	67
East Kalimantan Field Program.....	72

## TABLE OF CONTENTS (Continued)

	<u>Page</u>
Other Field Programs (Papua) .....	78
Outreach Program .....	78
National Program .....	83
Global Program .....	91
Future Project Ideas .....	94
General Conclusions about CRMP Performance.....	101
<b>CHAPTER 4. FUTURE OPPORTUNITIES .....</b>	<b>104</b>
Scaling Up and Leveraging.....	105
Sea Partnership Program.....	105
Institutional and Policy Development.....	106
Legislation and Regulation .....	106
Economic Valuation for Coastal Sustainable Development.....	107
Economic and Financial Incentives to Stay Engaged.....	109
<i>Coastal Community Livelihoods and Opportunities</i> .....	<i>110</i>
<i>Incentives at Regional Levels</i> .....	<i>113</i>
<i>Nationally</i> .....	<i>114</i>
Atlases, GIS and Spatial Planning at the Regional Level.....	114
Incorporating Gender .....	116
Communications .....	119
<b>ANNEXES .....</b>	<b>120</b>
A. CRMP Assessment Terms of Reference.....	120
B. Assessment Team Members .....	124
C. Schedule of Activities and Interviews .....	126
D. Documents Reviewed and References.....	129
E. Fisheries in Indonesia—What is the True Potential?.....	135
F. Valuing the Benefits from Coastal Resource Management under CRMP.....	138
G. Donor-Supported Marine and Coastal Initiatives in Indonesia.....	144

## LIST OF ACRONYMS AND INDONESIAN TERMS

Academic Draft	Comprehensive review document prepared in advance of new national or local legislation
ADB	Asian Development Bank
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of South East Asian Nations
<i>Bangda</i>	Directorate General for Regional Planning in the Ministry of Home Affairs
BBSMP	Balikpapan Bay Strategic Management Plan (also referred to as BBMP)
<i>BAPEDAL</i>	Indonesian Environmental Assessment Agency within the Ministry of the Environment
<i>BAPEDALDA</i>	District-level environmental bodies
<i>BAPPEDA</i>	Planning boards operating at sub-national levels
<i>BAPPENAS</i>	National Planning Board of Indonesia
BP	International oil and energy company active in various parts of Indonesia, currently exploring oil and gas fields in Bintuni Bay, Papua
CCMRS-IPB	Center for Coastal and Marine Resources Studies, Bogor Agricultural University
CB-CRM	Community-based coastal resource management
CIDA	Canadian International Development Agency
COREMAP	Coral Reef Rehabilitation and Management Project – GoI, World Bank, ADB and others
CRC	Coastal Resources Center, University of Rhode Island
CRM	Coastal Resource Management
CRMP	Coastal Resource Management Project of USAID – title is same for projects located in both Indonesia and the Philippines, although the two are separate activities
<i>DAU</i>	<i>Dana Alokasi Umum</i> – General allocation funds, a key source of funding for provincial government
<i>DKP</i>	<i>Departemen Kelautan dan Perikanan</i> – Department of Marine Affairs and Fisheries
EMDI	Environmental Management Development in Indonesia – Project of GoI and Dalhousie University funded by CIDA during 1980s and 1990s, including early work on coastal zone management
GIS	Geographic information system for spatial analysis of development
GoI	Government of Indonesia
ICEL	Indonesian Center for Environmental Law
ICM	Integrated Coastal Management
ICRM	Integrated Coastal Resource Management
IISD	International Institute for Sustainable Development
INCUNE	Indonesian Coastal Universities Network
<i>IPB</i>	<i>Institut Pertanian Bogor</i> – Bogor Agricultural University
JICA	Japan International Cooperation Agency
<i>Jurnal Pesisir</i>	<i>Jurnal Pesisir &amp; Kelautan</i> – Indonesian Journal of Coastal and Marine Resources
<i>Kabupaten</i>	District or county-level administrative unit
<i>Kecamatan</i>	Rural administrative unit below the district level
<i>Kelurahan</i>	Administrative unit within a city, below level of kotamadya
<i>Kotamadya</i>	Main city-level administrative unit
<i>LIPi</i>	Indonesian Institute of Sciences
LOP	Life of Project – USAID phrase describing activities and outcomes taking place during the immediate period of a project
<i>LSM</i>	<i>Lembaga Swadayaan Masyarakat</i> – Indonesian term for non-governmental organization (NGO)

MSY	Maximum Sustained Yield – sometimes used to describe the amount of fish that can be removed from a stock while still maintaining the long-term health of the stock
MCRMP	Marine and Coastal Resource Management Project (GoI and ADB)
NRM, NRM II	First and second phases of the major USAID program under which CRMP functions
<i>PERDA</i>	<i>Peraturan Daerah</i> - Regulation issued at the level of district government
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia – A Global Environmental Facility (GEF) sponsored initiative active in Indonesia and elsewhere for marine and coastal management
<i>PD</i>	<i>Peraturan Daerah</i> – Local regulation
<i>PPPSA</i>	Center for Study and Management of Water Resources, UNMUL
<i>Proyek Pesisir</i>	Coastal Project – Indonesian title for CRMP
<i>Renstra</i>	Strategic plan for marine and coastal management – used in Lampung Province and elsewhere
SIDS	Small Island Developing States – grouping of nations within UN
<i>SK</i>	<i>Surat Keputusan</i> – Directive issued by senior government official such as a governor
STAC	Science and Technology Advisory Committee to Balikpapan Bay Council
<i>TERANGI</i>	Indonesian Coral Reef Foundation
TNC-Indonesia	The Nature Conservancy, Indonesia
<i>UNILA</i>	University of Lampung
<i>UNIPA</i>	University of Papua
<i>UNMUL</i>	Mulawarman University, East Kalimantan
<i>UNRAM</i>	Mataram University
<i>UNSRAT</i>	Sam Ratulangi University, Manado
UNOCAL	International oil and energy company operating in East Kalimantan
URI	University of Rhode Island
USAID	United States Agency for International Development
WWF-Indonesia	World Wildlife Fund Indonesia

***PROYEK PESISIR***

**AN ASSESSMENT OF THE  
COASTAL RESOURCE  
MANAGEMENT PROJECT (CRMP)  
IN INDONESIA**

**April 2003**

**SUMMARY AND RECOMMENDATIONS**

**ASSESSMENT PURPOSE**

The Coastal Resource Management Project (CRMP), a USAID and Government of Indonesia funded initiative (USD 13 million from USAID since 1997) has been implemented through a cooperative agreement with the Coastal Resources Center at the University of Rhode Island (CRC-URI) over the period 1997 to mid-2003. The purpose of the Project is to strengthen participatory and decentralized coastal resources management in Indonesia. This assessment is to determine USAID's contribution to coastal resource management in Indonesia via CRMP and to assess the potential for a follow-on initiative starting in mid-2003. The Coastal Resources Center has indicated that it does not wish to continue serving in a project execution capacity once the current phase of work is completed.

The major objectives of the assessment are to: (1) articulate and document the importance of coastal and marine resources to Indonesia with respect to socio-economic development, food security and biodiversity conservation; (2) assess and summarize past USAID contributions through CRMP to improved coastal and marine resources management in Indonesia; and (3) provide recommendations as to how USAID can continue to make contributions to improved, decentralized coastal and marine resources management in Indonesia.

The assessment was carried out by a team of three international coastal zone specialists and three Indonesian experts, with field visits and interviews at project sites in North Sulawesi and East Kalimantan and interviews in Jakarta and Bogor during the period 20 January to 7 February 2003. Additional interviews were carried out with USAID staff in Washington, D.C. and at the University of Rhode Island.

**KEY FINDINGS**

**Importance of Coastal and Marine Resources to Indonesia**

There is no country in the world that might have a greater need than Indonesia to be concerned about its ocean space and resources. For centuries at a crossroads of commerce, with geo-strategically located straits, forming the world's largest archipelagic nation in terms of population and extent of islands (more than 17,500), and possessing the greatest marine biological diversity of any region of the world, Indonesia should be recognized as one of the most significant ocean nations. Indeed, in the years when the Law of the Sea was negotiated, Indonesia was recognized as one of the outstanding leaders. Yet, to a remarkable extent, Indonesia has turned its back to the oceans and wanton levels of destruction that have taken place in coastal ecosystems. While 60% of the people live in close proximity to the coastal zone, their interests have not focused well on sustainable use of the seas.

The contribution of the coastal and marine related activities to the national economy, both from renewable and non-renewable extraction, is estimated to be one-quarter of Indonesia's Gross Domestic Product (GDP). Among the 10 most populated countries of the world, none come close to matching this level of economic dependence on the ocean. This sector provides an important source of employment and income for those living in coastal and rural areas. It is estimated that some 14 to 16 million people are directly employed in coastal and marine related activities.

Key sectoral contributors to the ocean economy include fisheries and aquaculture, oil and gas, maritime industry, naval defense, marine and coastal tourism, marine development including harbors and communications, marine trade and industry including mining production and processing and coastal forest resources. There is no ocean technology roadmap that would provide an overview of where there might be particularly important opportunities for future investment by Indonesia beyond the obvious such as further expansion of oil and gas.

Coastal and marine resources, especially the fisheries sector, are a critical source of animal protein for both coastal and inland people, often providing the only affordable source of protein for the majority of coastal inhabitants. The demand for fish is high within larger cities as well—including both low cost and luxury food. FAO reports that fish contributes nearly two-thirds of the supply of animal proteins in Indonesia. Consumption levels will increase, perhaps leading to a doubling of the current production. In addition, there is a substantial reported and unreported level of seafood and marine aquarium species export.

At a very pragmatic level, Indonesia has enormous challenges to face related to coastal and marine security. With an ocean area of 5.8 million km<sup>2</sup> that is three times larger than land mass, it is very difficult to patrol even the richest fishery zones. Piracy in certain areas has re-emerged as a major concern. The illicit movement of people, drugs, smuggled goods and armaments is an on-going problem.

The average population density in most coastal villages is more than 100 people/km<sup>2</sup>. With severely limited access to potable water, sanitation and health facilities these populations are vulnerable to disease and parasites. In addition, many of these communities are also prone to natural disasters such as storms and floods. Human capital is also low in coastal villages. The average education of coastal people is considerably lower than other inland community groups. Many coastal people are either illiterate or have completed only grade five equivalent elementary school. It is widely believed that coastal people operate at an economic and social disadvantage, although surveys do not always bear this out. Within some regions, of course, there are pockets of considerable wealth based on exploitation of natural resources, for example in East Kalimantan.

Employment opportunities in the coastal areas are particularly limited. For those unable to find work, fishing is increasingly the only perceived alternative. As greater pressure is exerted on fish stocks per capita incomes will undoubtedly decline. Recent estimates of per capita income for coastal people range from US\$5 to US\$7 per month. This income level is clearly below the poverty threshold estimated by the government, which is approximately US\$ 10 per capita per month. Since the economic crisis in 1998, the number of people living in poverty has now more than doubled, rising from 17 million in 1995 to almost 40 million in the last 5 years. Of these 40 million people, 60 percent are coastal inhabitants, primarily fishers and fisher-farmers.

The conditions of coastal cities are highly variable, but in no coastal city are environmental needs being adequately met. The ecological footprint of the cities, and of major conurbations such as along the North Coast of Java are large and growing. The impacts of even the smaller centers such as Balikpapan and Manado are significant because they are tied to poor practices related to natural resource use, domestic sewage, and unsustainable industrial development, including but by no means limited to small and medium-sized enterprises.

Ecological security is a problem existing at an entirely different plane. The rapid and unsustainable development pattern established over the past decades has led to ecological devastation today. Coral reef ecosystems, including the rich fish and invertebrate biodiversity, have been destroyed almost beyond

recognition in some areas as a consequence of fishing with explosives, use of cyanide in fishing, and various other practices, by mining of coral, land-based sources of pollution and sedimentation, plus the impacts of climate change. Similarly sea grass and mangrove ecosystems are being destroyed, leaving lagoons and coastal areas vulnerable to storm damage and erosion. The valuable ecological functions associated with all these coastal ecosystems, including water purification, nursery grounds and carbon sequestration, are under very serious threat.

At a time in Indonesia's history when economic development expectations are high and often driven by short-term needs, technological exploitation possibilities are at an unprecedented level. With management and regulatory systems in a state of transition and high uncertainty, especially in relation to effective enforcement, the outlook for sustainable coastal and ocean resource use might seem hopeless. Indeed some people draw that conclusion.

But there is another side to it. Part of this other side is the enormous human resource talents available in the coastal zone. There are more than 6000 thousand villages and other communities with people that make their living directly from the sea. Many of these inhabitants possess knowledge about their local surroundings that can be used to restore sustainability—if the people can exercise authority and are accountable for results. Secondly, the capacity of Indonesian marine and coastal scientists and administrators is improving. They have access to modern tools such as geographic information systems (GIS) that can be used to address coastal decision support needs. And, third, there is the beginnings of a potentially robust administrative legal and administrative framework for integrated coastal and ocean management that is being built simultaneously from the bottom up and the top down.

Thus, the “glass half full” perspective is that a very important window of opportunity is present now—and likely over the next two or three years, perhaps longer—to fundamentally change how Indonesia views its use of coastal and marine resources, and move towards a much more sustainable approach. This perspective has informed and helped shape the CRMP, especially over the last three years.

### **Institutional Context – Decentralization and National Strengthening of Marine Affairs and Fisheries**

Natural resources have become a currency used in many corrupt ways and as part of a reward system operating at both local and national levels within Indonesia. Often resource licenses are given with little regard either for sustainable use, or for cross-sectoral impacts, or environmental carrying capacity. This set of unsustainable approaches is being addressed through various reforms, among the most important of which is decentralized control. However, there is grave concern that decentralization also could lead to further corruption, and, in the absence of good management systems, even more rapid and destructive patterns of resource exploitation.

The Regional Autonomy Act no.22/1999 gives power to local government in managing its coastal resources, starting from January 2001. This Act was expected to achieve democratic decentralization, one of the key elements in creating good governance. The Act also provides for defined administrative areas offshore: 4 miles from the coastline in the case of districts (*kabupaten*) and cities (*kotamadya*), and from this distance seaward to 12 miles for provinces. Authority includes exploration, exploitation, conservation, natural resources management and preservation. This delegation of responsibilities creates wealthy and poorer local regions; both are represented within the CRMP regions.

Decentralization in coastal areas has created interpretation differences, which most local governments have translated as a kind of local sovereignty—a parceling of the sea. The implementation of decentralization also collides with some existing sectoral regulations, with overlapping and uncertainty among those laws intended to regulate coastal resources management.

Legal reform is underway, with models emerging at community, district, provincial and national levels. But this effort is still at early stages. In the absence of integrated coastal resources management laws, the potential of coastal resources and environmental services has long been seen largely as sectoral assets. During the Suharto era many such resources were centrally allocated, generally with a breakdown of traditional management regimes where they existed. Since Act 22 came into force, the resources are being



claimed by local government and community as a local asset. However, the 1945 Constitution stated that natural resource assets should belong to the Nation under state authority. Thus decentralization does not change ownership, but devolves responsibility for their use and management. How these local and national perspectives can be reconciled is still a puzzle.

The real need, as defined by various legal experts, is to create new institutional arrangements, formulate a national legislation framework on coastal resource management which can harmonize the existing regulations, at the same time fill in loopholes on coastal management policy and meet with the local initiatives, building human resources capacity and financial support, conducting law enforcement and genuine public participation. This strategy is expected to be carried out simultaneously at national, provincial and local levels—vertical and horizontal approaches to achieve integrated coastal resource management in the context of decentralization.

It should be clear from this brief overview that decentralization, and the national response to it, will be extremely important to the future of Indonesia and sustainable coastal resource use.

Much stronger national leadership is now being provided through the 1999 re-organization of ocean administration into a new Ministry of Marine Affairs and Fisheries, headed by a dynamic Minister, who in his own right is internationally recognized for his expertise in integrated marine and coastal management.

### **Observations on Project Activities**

The project has a solid set of accomplishments under a number of program areas. These programs include the:

- North Sulawesi Field Program,
- Lampung Field Program,
- East Kalimantan Field Program,
- Other Field Programs (Papua),
- Outreach Program,
- National Program,
- Global Program.

Of these activities, the most developed are the North Sulawesi and East Kalimantan Field Programs and the National Program. These are supported by teams located in Manado, Balikpapan and Jakarta, respectively.

The assessment was guided by several areas of questioning: program performance in achieving the life of project goal and developing good practices; institutionalization of coastal resource management by the program's partners and overall in the country; decentralization in relation to the program's activities and coastal resource management in general; issues and threats related to the program's goals, interventions and externalities; and opportunities for future program initiatives. Key accomplishments are summarized below, with special attention to activities that appear to have had a major impact, in some instances serving as a national model.

#### *North Sulawesi Field Program*

This program includes the most significant investment during the entire life of the project at the village level, establishing four Anchor Sites for sustainable coastal resource management in three widely separated areas of Minahasa District, North Sulawesi. Some 24 additional sites were started recently in the Sub-district of Likupang as a "scaling-up" effort designed to move beyond the initial Anchor Sites that are now "graduating" from the program. A major focus has been on the establishment of small marine sanctuaries where habitat use, including fishing is controlled. This sets a pattern of local control, including village ordinances, that is leading to reduction in bomb fishing and other early signs of improved resource use practices. Other activities, including village conservation information centers, provision of water and sanitation facilities, and eco-tourism have been less successful. Some sites, especially Blongko, are now well known and treated as a potential national model for improving coral reef dependent communities.

The project has worked with law makers, government officials, university and non-governmental community bodies to produce the country's first district level (Kabupaten Minahasa) comprehensive regulation on coastal resource management, and is in the process of completing a law for the Province of North Sulawesi on this subject. This initiative has already engendered interest throughout the country and is an essential component for decentralization. Accompanying this policy and institutional development effort has been a great deal of relationship-building among units of government that is important for shaping, planning, public finance and operational programs. A recently completed Coastal Resource Atlas covering Minahasa and local cities is intended to build awareness and provide some decision support.

#### *Lampung Field Program*

Work in Lampung has been conducted by the Coastal Resource Center at the Bogor Agricultural University (IPB) in cooperation with the provincial government in Lampung, local university and villages. While two villages have been supported by the project, including development of a marine sanctuary and of best practices for coastal aquaculture, the prime accomplishment was the development of Indonesia's first coastal atlas and a comprehensive provincial coastal resource plan (*renstra*), with funding targets that apparently have been acted upon through major budget allocations. Within CRMP the Lampung atlas became the model for the North Sulawesi atlas and a similar product now being produced for Bintuni Bay. More, generally, it set a standard for more than a dozen atlas initiatives commissioned by other provinces.

The Lampung program needs better follow-up over coming years by IPB and CRMP in order to learn what is and is not actually happening as a consequence of the project's investment. As well, problems have emerged in terms of quality and value to decision-makers of the atlases, including those being produced without CRMP input. This appears to be on track to become a nationally-significant activity, and therefore its usefulness needs to be carefully considered.

#### *East Kalimantan Field Program*

A recent addition to CRMP, the purpose of this program is to examine how to bring about an integrated approach to managing a watershed-bay system. The area selected, Balikpapan Bay and its watersheds, is complex in terms of activities, including oil and gas, coal washing, mining, fisheries, forestry, industrial development, tourism, and urban development. It is equally complex in terms of institutions and jurisdictions. And it includes various coastal ecosystem types—coral reefs, mangroves, and various estuarine and freshwater conditions. The work has included formation of a new Balikpapan Bay Council that will become functional later this year, support mechanisms including a science and technology committee with strong ties to the local university, inputs from a similar bay situation in the USA, creation of a "Save the Bay" NGO body, and inputs to some local communities that have resulted, for example, in replanting of fringing mangrove forest along part of the bay. The major task to be accomplished is to produce a Balikpapan Bay Management Plan.

The work in Balikpapan has generated strong interest in other parts of this resource rich but heavily exploited and ecologically damaged province. Unlike some other regions such as North Sulawesi, where local funding is scarce, East Kalimantan, under new decentralization laws, is likely to be significantly better off financially. Therefore, the concern is not so much finding the funding for sustainability efforts, but locating workable approaches. The Balikpapan Bay Council is therefore a model being followed with interest for possible application of the approach elsewhere in the Province, for example in the Mahakam River Delta. CRMP has built useful links with the private sector, for example, the oil company UNOCAL has provided USD 150,000 in support of community-based activities.

#### *Other Field Programs (Papua)*

With financial support from BP, which is planning a very large gas facility in Bintuni Bay, CRMP has started to prepare a coastal resource atlas. This area faces important planning decisions about its very rich mangrove and other estuarine resources. It is also an entry point for CRMP into a remote, culturally complex part of Indonesia. The future directions that might be taken in Papua will depend very much on the success of this initiative over the coming year.

### *Outreach Program*

CRMP has produced a mountain of documentation in the form of technical reports, a national coastal journal, internationally refereed journal articles, best practices and lessons learned materials, video and CR-ROM material, and popularized materials including the atlases noted above plus calendars and posters. By comparison to other larger donor-supported projects, CRMP is remarkably productive. In addition, CRMP has produced a national survey of attitudes towards the marine and coastal zone and has had prepared under contract with Johns Hopkins University a proposed Communications Strategy.

The outreach activities, however, have not been as successful as might be hoped for a project that depends vitally upon such activities for dissemination and replication of important findings and models. There appears to be limited understanding on how to create behavioral change on a large scale. This is the nub of the problem for developing sustainable coastal resource use in Indonesia and elsewhere. It is not a problem faced only by CRMP, but a general issue nationally that must be faced by the Ministry of Marine Affairs and Fisheries, and also by the provinces and local government. While some of the pieces for successful outreach are in place, they do not add up to an effective system anywhere.

### *National Program*

The general approach of CRC has been to take a “two-track approach” with effort at the national level as well as locally. In Indonesia most of the work at the national level of government started in the post-Suharto years and well after local activities were initiated. However activities with the Coastal Center at IPB (Center for Coastal and Marine Resource Studies, CCMRS-IPB) began early on, with the founding Director who now serves as Minister of Marine Affairs and Fisheries. This has permitted a great deal of continuity and on-going demand at the national level. The results have been rewarding, especially over the past two years. National Law and regulations are under preparation that, when enacted, should establish the enabling framework in which decentralized coastal management can flourish.

Of particular interest are emerging mechanisms for funding support to provinces, universities and communities. Several are likely. CRMP has been working with the Ministry on development of the Sea Partnership Program, based on the U.S. Sea Grant Program. It would provide for capacity building to improve technical capacities, using local universities. This assistance would lead to extension services and abilities to provide scientific and monitoring needs that do not exist or are poorly developed at present.

The national program also maintains contact with a variety of government departments active in coastal issues, and with international donors and NGOs funding activities in Indonesia’s coastal zone. There is considerable awareness of CRMP as a result, but more contact is needed to promote best practices and national models arising from the project.

### *Global Program*

There have been several study tours, visits of U.S. and other experts to Indonesia and other types of cross-learning experiences carried out under CRMP. This is of strong interest to Indonesians involved in the project. The expertise of the University of Rhode Island, and its Coastal Resource Center, spans four continents. Many of the lessons learned elsewhere have applicability in Indonesia. There is a level of concern on the part of some CRMP Indonesian partners that the global program might have introduced a wider range of perspectives—a feeling that untapped, but relevant marine expertise exists within URI.

### **General Conclusions about CRMP Performance**

CRMP has turned out to be the right type of project at the right time. It has been influential, with visibility nationally and in several regions. The most valuable innovation of CRMP has been to serve as an incubator—to present and test new ways for coastal resource management. It has contributed useful experience that has helped shape both local and national response to decentralization. It is consistent with a number of the elements arising from Agenda 21 and the marine and coastal outcomes of WSSD. The project has been implemented at a time of rising interest in coastal issues on the part of several major

donors. Results from CRMP should prove to be of both direct and indirect value to these other initiatives, although more effort is needed to maximize the synergies.

The area-based outcome indicator used in the USAID NRM parent project (“Strategic Objective 1 – Area of USAID assisted sites where condition of targeted natural resources is stable/improving as a result of best practices being implemented”) does not give an appropriate measure of policy-oriented and other achievements over the life of the CRMP project.

CRMP has focused attention on regions of high interest to USAID, with “flagship activities” started in North Sulawesi and East Kalimantan. New activities have started in Papua and there has been some discussion of future activities in Aceh. This effort to align CRMP activities with high priority areas for the funding agency has positive and negative elements. For example, work in Lampung may have been prematurely terminated, as interest in that province waned. And starting activities in far-flung areas such as Papua and Aceh could tax capacity of the project in the future unless carefully designed and managed.

Using a list of “*Most Important Overall Outcomes*” defined in the latest CRMP Annual Work Plan, the following conclusions may be drawn about how well these outcomes may be achieved by the June 2003 project end:

- *Codified institutional and legal mandates in place* – partially achieved, with model legislation in place in one province and district that can be adapted for many other locations, and several new institutions such as the Balikpapan Bay Council; national regulations, draft law, and a transformed ocean and coastal administrative structure. In summary, elements of a marine and coastal management regime, but not the full system, have been developed.
- *Allocated budgets for CRMP locations* – limited Indonesian financial commitment exists currently, and it is hard to verify either level or effectiveness. Promising future funding mechanisms are emerging in some locations and nationally. The full impact of recent CRMP efforts to secure appropriate levels of Indonesian funding support may still be two or more years away.
- *Awareness of ICM importance for food security, conflict management, economic development and democracy* – this list of outcomes, while comprehensive is very general. It is very difficult to assess project results in relation to any one of these topics, and to attribute Indonesian awareness specifically to the CRMP. However, with recognition that the project has provided considerable policy advice, contributed reports and scientific knowledge and papers, and created a dialogue at many levels, some credit should be given. For there is certainly a greater awareness and interest in coastal sustainability compared to even three years ago.
- *A repertoire of demonstrated ICM best practices available for replication* – yes, there is well documented experience, including anchor sites and demonstration activities plus a considerable investment in learning from other parts of the world. But there also is debate among project staff and partners about the judgmental nature of the term “best practice” since it is not always desirable to transfer practices from one place to another in the same form. The learning team approach, implemented by IPB’s Coastal Center, has been somewhat successful, although more needs to be done to ensure that maximum value is extracted from these efforts both technically and in terms of useful diffusion and use of the knowledge.
- *Identified group of ICM practitioners, policy advisors, academicians, bureaucrats and public supporters* – yes, there is a proliferation of informed individuals and institutions, but they are not yet performing very well as a group or network that could contribute in a well coordinated way. And there is not yet a fully developed coastal management system in which to make their contributions.

It will only be in the years ahead that a true measure of results and outcomes can emerge. The six year project time span is too short to truly be certain that the earnest efforts of CRMP are actually improving the situation of Indonesia’s reefs, mangroves and other coastal ecosystems. Indeed the concern is that an alarming increase in unsustainable use may be the pattern for some time to come—turning the curve towards sustainability is very difficult.

The key issue that has not been adequately addressed by the project is the link between poverty reduction and conservation. This relationship, and the accompanying concern about the economic incentives required to address sustainable livelihoods have not been dealt with adequately in the project. These economic and poverty aspects have been ignored in favor of an approach heavily weighted towards physical planning, law and regulations, and demonstration sites. The absence of socio-economic benefits and policy indicators from the NRM indicators works against incorporation of such factors in the design. It is, however, clear that the national government as well as local government and communities want more focus on revenue and local income generation in any work on coastal management.. And the need for this economic focus will only continue to increase—the dilemma is whether it will be achieved sustainably.

CRMP is a complex undertaking that has consistently maintained a two-track approach, operating locally and nationally. But over time the relative balance has shifted, with activities maturing at local levels and national policy work strengthened. In part this is the result of the important changes in the national government structure and attitudes during the life of the project. It now really is a three-track approach at present, since there also is an important level of commitment at provincial levels.

What has made CRMP a success, as defined by its influence and visibility, is the adaptive design. There have been many tensions as the project continues to re-define itself in relation to emerging needs. Particularly, the pace of change has been influenced by the combination of decentralization, reformist legislators, and a new and dynamic national ministry. Overall, CRMP appears to have addressed changing circumstances while being productive in most activities in which it engages.

It is clear that governments at various levels within Indonesia are not yet well equipped to assume full ownership, including sufficient funding, for most CRMP initiatives. This is not from lack of interest. The evolution in governance and decentralization is still at an early stage with built in lag phases for even the most basic efforts. It may be two years or more before new governmental programs are capable of backstopping new legislation and management initiatives with funding and other inputs. The coming year will be an important test for North Sulawesi in particular. It does not appear to be such a major concern in East Kalimantan, where the problem is much more to maintain focus, given emerging demands.

It also should be mentioned that CRMP has been successful in leveraging some additional funding beyond USAID and GoI support. Three grants have been received: USD 330,000 from The Packard Foundation to implement marine sanctuary activities, USD 30,000 to support the university marine network (INCUNE) and USD 150,000 from UNOCAL to support activities in East Kalimantan. In addition, BP is providing some funding for the Bintuni Bay atlas. These are promising beginnings—more might be done in the future, especially with large coastal projects supported by international donors.

CRMP is definitely at a stage where more attention needs to be paid to consolidation, and this point is recognized by project staff. There are three matters that should be considered: (1) careful analysis of gaps within the overall system of coastal management and determining where and how CRMP can help to address the gaps; (2) taking a more considered look at national and local public finance and alternative funding mechanisms in strategic support for the directions already established, and for diffusion, replication and scaling up where appropriate; and (3) creating synergy with other donor supported initiatives, including USAID efforts (not only NRM but also governance, for example) and the various major initiatives for ocean, coastal and watershed management.

The ability to wind down activities is about as important as the capacity to start new initiatives in a project that seeks to remain on the leading edge. This is a huge problem for CRMP since it has been a pioneering effort, piloting several models new to the country. Has CRMP now bitten off more than it can chew comfortably? Has the institutionalization effort lagged? Will some initiatives wither on the vine once they are “graduated” from the project? These are serious questions, and it is not always the case that CRMP’s follow-up monitoring is sufficient to answer them.

The overall performance of CRMP is sufficiently strong that it should continue. The project should continue to evolve, ideally over another five year period, with defined activities for the coming two years, guided by several key considerations noted in the main recommendations of this assessment.

## **Future Opportunities**

The opportunities for CRMP to stay at the cutting edge of coastal resource management in Indonesia will certainly exceed the capacity and available funding over the next several years. Therefore choices will be important, and with these choices comes the responsibility of serving multiple levels of need within government and building stronger linkages with private sector and community/civil society interests. The opportunities discussed below are not prioritized; the Assessment Team believes that it is a mix that is needed. And not all need to be taken up by CRMP.

### *Scaling Up and Leveraging*

Moving from existing pilot activities started in several provinces to a much larger number of similar activities within these same provinces, and elsewhere in the country is beyond the scope of CRMP's limited budget and approach. The key scaling up models so far developed include: village level initiatives such as marine sanctuaries coupled to best practices for sustainable fisheries and ecosystem conservation; local integrated planning and institutional mechanisms exemplified by the Balikpapan Bay Council and Management Plan; coastal resource atlases and their utilization for management and budgeting as exemplified by the Lampung Coastal Resource Management Plan; local, district, and provincial legislation, regulations, directives and ordinances; coastal resource centers and technical activities as exemplified by work started through IPB and INCUNE.

Demand for replication will increase, probably dramatically, and it is consistent with NRM II's overall objective of decentralized, sustainable resource management to see this happen. The opportunity is to work via government programs at national and more local levels and, in some cases, via the leverage of other donor projects such as COREMAP and MCRMP to use the existing work as models for follow-up implementation by others. This will require a different method of operation. Specifically, a commitment to promote these models, including adequate information on monitoring of their problems and successes during further implementation, and to provide support in their adaptation. Also needed is public finance expertise within CRMP that would help to ensure funding and the appropriate frameworks for action become available at all levels of government.

The scaling up opportunities are obviously important for CRMP, but they also could overwhelm the capacity of the project to take on new cutting edge initiatives. Therefore a balance is needed.

### *Sea Partnership Program*

Just as the Sea Grant Program in the USA has been successful in linking national funding for developing university-based programs, local technical and extension expertise, and committed state and local agencies for improved coastal development and conservation, the Sea Partnership Program Indonesia is proposing, could be a tremendously helpful mechanism for strengthening science and technology and institutional support for a decentralized coastal management system. CRMP has been involved in the development of this program from the start and is the key channel for brokering the contacts within the U.S.A. so that the Sea Partnership activities can be informed by three decades of U.S. experience. The International Sea Grant Program and some individual U.S. Sea Grant supported universities can assist. But much of the work need for the design and early implementation of the Sea Partnership Program can be helped by direct assistance and inputs of CRMP to DKP and INCUNE member institutions. This is an area that is ripe for a concerted effort drawing upon CRMP international staff resident in Indonesia and possibly also from CRC, which has had pioneering experience with Sea Grant in the U.S.A.

### *Institutional and Policy Development*

With the development since 1998 of so many precedent-setting activities and decisions within Indonesia that have a directed impact on the coastal zone, and others that have unintended consequences, there is a need for much follow-up policy and institutional development. This has to take place at all levels from the

community up to national government. Much of it involves horizontal relationships among organizations, and the development of better relationships among government, business and civil society.

It is a rare opportunity to have alignment among various elements that can permit rapid and productive shifts in institutions and a great interest in better policies. CRMP has developed the trust and working relationships at all levels to take a leadership role not possible by others. The coming two years, incorporating the period up to and past the next national election, is a particularly important time. For it is in this period that consolidation of existing directions can take place, and the ground work laid for an additional, necessary round that builds on the learning so far about what is good and not so good about decentralization efforts.

There should be considerable flexibility built into the next phase of policy and institutional development assistance. The opportunity is to bring better coherence to the somewhat fragmented system that is being put together. Much of the effort has to take place at the national level. And there will be needs for policy inputs for a broad range of topics. It is important that the Minister of DKP not feel constrained about either the topics or the timing of advice on policy development. And it is also essential for CRMP to have considerable independence in its relationships with local and regional governments to explore both institutional development and policy needs.

#### *Legislation and Regulation*

CRMP has worked closely with all levels of government to help design model legislation for coastal management, and also some of the enabling regulations. All of this is a work in progress, but it is likely that the regional and provincial models will set a pattern for other parts of the country, and there will be on-going demand for new regulations if the national law is passed. There is an expectation on the part of various levels of government that CRMP should continue to support further development of the legal system. And, as important, there is a need to monitor progress on implementation issues. At the moment it is a patchwork system, partially developed in response to decentralization. The legal system may have to be further modified to make it more consistent with incentive-based approaches.

#### *Economic Valuation for Coastal Sustainable Development*

Introducing total economic valuation into the project will (1) improve assessment of the impact of coastal resource management on potential economic opportunities that can be derived from local resources, (2) identify the opportunity cost associated with cross-sectoral impacts and declining resource and environmental situations, and (3) provide a better sense of the considerable value of ecological services. This economic knowledge will help to build local, regional and national awareness of benefits arising from the coastal zone and help decision-makers to determine levels of investment required to acquire such benefits on a sustainable basis. There are satisfactory techniques available for this analysis, and sample calculations are provided in Chapter 4.

#### *Economic and Financial Incentives to Stay Engaged*

The issue arises—why stay engaged with coastal resource management? Of the many answers that might be given, including the critically important need for long-term conservation of coastal ecosystems, the one that has consistently eluded CRMP is that such decisions should be strongly guided by clearly identified economic opportunities. Addressing the financial incentives that can bring about desired behavioural changes needs to be done at the community, regional (sub-district to provincial), and at the national level.

Incentives can help to overcome inertia and breakdown barriers that inhibit sustainable development. They often are essential to shift behavior. Indeed, there is every possibility that without on-going incentives, much of the work started by CRMP might not be followed up by long-term action. The CRMP can complement the activities it has carried out on law and regulation and on local conservation by creating a better understanding of how public finance tools can be used to create a performing system that creates synergy among local, regional and national programs for maximum impact.

The need is for a range of programs to assist in development of local livelihoods, restructuring of taxation, and public finance decisions to support new coastal activities. CRMP could assist by providing guidance on directions and in identifying coherent pathways involving government at all levels. This approach is consistent with a market-based approach as well, since there is a need to design incentives that engage the private sector without excessive command and control regulation.

#### *Atlases, GIS and Spatial Planning at the Regional Level*

There is a major demand for development of decision support tools and applications that will give local and regional decision makers the information needed to shape location-specific decisions of many types ranging from situation of infrastructure, to restoring watershed functions, pollution discharges, marine sanctuaries and other protected areas, and traffic separation zones. The CRMP atlas approach provides awareness, but does not supply adequate information for detailed decision-making. Applications involving GIS, zoning, and boundary resolution are required. Such applications are required for both coastal watersheds and for marine zones. CRMP could demonstrate practical applications through its work with the science and technology committee for Balikpapan Bay, by taking a decision-oriented approach in Bintuni Bay, and via the little-heralded but important work CRMP has undertaken to define potential *kabupaten* and provincial sea boundaries.

#### *Incorporating Gender*

Although provided with a number of good inputs into how gender might be mainstreamed into coastal development and management, CRMP has so far failed to incorporate many of these ideas into project implementation. There is receptivity on the part of various project partners to be more proactive on this issue, including USAID based on its own guidelines. As the project has done on other topics, CRMP ought to be showing leadership on gender concerns. Given the commitment CRMP has both to local communities and to good policy development, there are a variety of entry points. It is not only an opportunity, but also an imperative that several be followed up at the beginning of the next phase, as noted in the recommendations within this section.

#### *Communications*

Moving to the next stage of sustainable coastal use will require more attention not only to broadening awareness on the part of people, government and industry, but also to mechanisms for bringing about actual behavioral changes. Needed are effective messaging, proven communications mechanisms, and design of campaigns that might involve a number of organizations. All of this is more than can be accomplished by CRMP operating on its own. However, CRMP does have a considerable amount of published and other material that provides some of the technical basis for a communications program. It also has a communications proposal prepared for the project by Johns Hopkins University, although CRMP staff do not consider this document in its current form appropriate for implementation as a strategy.

At this stage there is a clear need for better definition of demand on the part of national government in particular, and also of the interest of other donor projects in cooperative efforts to meet demand. CRMP could be a catalyst in bringing together these interests to determine what would be an appropriate approach to communications for coastal management awareness-raising and behavior changes, and then to determine what it might be able to accomplish either on its own, or operating with other donors.

## **RECOMMENDATIONS**

CRMP can continue to take advantage of the decentralization process to reinforce and mobilize interest and to build local and regional capacity for addressing coastal and marine resources management. At the same time the project is extremely well positioned to provide policy advice to central government agencies such as the Ministry of Marine Affairs and Fisheries. It is an opportune moment that, if not taken now when a number of critical elements are well aligned, may well not be available in the years ahead. The critical need



is to make the whole system work well—from villages and cities to the national level; and with good participation by private sector and civil society organizations as well as government.

The opportunity truly is to set a new path for coastal resource management based on sustainability criteria and on a new working relationship between people and government at all levels. It would be wrong to think that such change could be fully implemented in only a few years—it will take decades. But the directions can be set, perhaps quickly.

Ten main recommendations are set out below. Some additional detailed recommendations also have been included on specific programs and topics. It is important to note that the recommendations laid out here are not repeated in the main text of the report. Therefore, the reader may wish to refer to this section while reading Chapters 3 and 4.

## **Main Recommendations**

**1. Extend the project at a funding level at least equivalent to present expenditures.** Two years is too short for full impact. A five year horizon is better, with activities planned for the first two years. It is important to avoid any gap between the end of the current activities in June 2003 and the start-up of a follow-on project. In general terms, the extension should focus attention on at least some of the future opportunities noted, but avoid trying to be all things to all people. There are five key points to keep in mind in considering the character of activities:

- Continue a mix of local, regional and national efforts, taking an adaptive management approach in setting objectives.
- Adopt a catalytic, brokering, and facilitating role for CRMP.
- Foster effective collaboration with other USAID projects.
- Engage more closely with other donors to scale up and replicate CRM experiences.
- Introduce economic benefits and poverty reduction objectives into CRMP.

**2. Help make the whole system for coastal resource management work well.** Enabling frameworks are beginning to be put in place nationally by government so that full value can be obtained in the future from the many emerging coastal management efforts involving local communities, districts and provinces. There are several ways in which this effort could be assisted by CRMP.

- Continue to support coastal zone policy development needs wherever they are needed, but especially within the national government.
- Help make the Sea Partnership Program become a flagship effort for decentralized technical and financial support system for CRM, building capacity and utilizing local universities to provide better inputs within their regions.
- Assist with policy advice concerning implementation of national legislation for integrated marine and coastal management if such legislation is adopted.
- Strengthen two flagship systems of decentralized coastal management (North Sulawesi and East Kalimantan) by helping to build vertical linkages between local regional and national systems.
- Assist with public finance expertise to seek opportunities to rapidly improve funding for sustainable coastal resource and community development. This could be started immediately in North Sulawesi, where there is an urgent need to develop a province-wide effort to mobilize financial resources for coastal management both within the province and via national sources.

**3. Scale-up by promoting successful models rather than funding scaling-up initiatives directly.** CRMP should not take on replication directly. The project should promote successful models with government and with other donors interested in coastal management rather than take on scaling-up via project funds. This approach will help to build strong Indonesian ownership and demonstrated commitment to the future financial needs of sustainable coastal resource use. Several additional considerations:

- Activities should be strategic and maintain innovation. There is no “cookie-cutter” approach that can be applied well in all locations. This point needs to be made in promoting models developed by CRMP. An important part of the project’s success has been its adaptive approach.
- It is unlikely that the intensity of effort required in the early stages in North Sulawesi Anchor communities could be sustained in government or donor-sponsored programs. This point needs to be addressed when these models are promoted.
- A key area where scaling up has started is in Likupang, North Sulawesi. The activities there require a realistic assessment about what can be accomplished with less CRMP involvement in the future. It would be most difficult to suddenly withdraw support for work started in this past year.
- Scaling-up involves a whole range of locations and activities started under CRMP. Those models identified as being of particular importance include: village level initiatives such as marine sanctuaries coupled to best practices for sustainable fisheries and ecosystem conservation; local integrated planning and institutional mechanisms exemplified by the Balikpapan Bay Council and Management Plan; coastal resource atlases and their utilization for management and budgeting as exemplified by the Lampung Coastal Resource Management Plan; local, district, and provincial legislation, regulations, directives and ordinances; coastal resource centers and technical activities as exemplified by work started through IPB and INCUNE.

**4. Add economic dimensions.** As stressed throughout this assessment, coastal conservation will happen only when there is attention to sustainable livelihoods and economic wellbeing of communities, and with better consideration of economic value provided by coastal ecological services. CRMP therefore should incorporate an economic dimension to key activities as follows:

- Integrate a household economics approach within CRM, emphasizing local opportunities, value-added approaches, and forward-backward linkages that identify where intermediary relationships might be altered to produce greater benefits locally.
- Introduce an ecological-economic perspective into regional activities such as the Balikpapan Bay technical studies and Bintuni Bay atlas.
- In future work with lawmakers, and with government units, focus effort on market-based incentives in regulations, and on sustainable investment policies.

**5. Produce short-term, practical outcomes.** While some activities can only be expected to demonstrate their full benefits over a longer time span, even well past the end of the project, it is important to demonstrate real economic and environmental value over much shorter time periods. Such outcomes may include: improved working relationships among sectors leading to new forms of economic cooperation; positive impacts at the community level arising from a reduction in fishing pressure or cessation of illegal resource harvesting; and more effective investment by government as a consequence of improved coastal planning. These points are not well covered by existing project indicators, but they are the type of indicator that will be needed by a government concerned about investing in sustainable economic growth. Of the various measures, perhaps the most important are those which highlight activities that directly benefit local communities and that improve decentralization results.

**6. Continue working within the existing regions in order to capture their full value as national models.** The work within the existing regions should aim to build breadth and depth, including use of existing anchor sites for training and demonstration purposes, and to determine implementation issues that may be important for use elsewhere and in further policy development. The following recommendations are made for each region.

**North Sulawesi – Continue the effort for this Province to become the leading national model for a village-to-province system of small island and coastal reef sustainable development.** From the work at the community Anchor Sites, existing scaling-up efforts in Likupang, and existing initiatives with *kabupaten* and provincial level governments, legislators, academics and NGOs, help to strengthen decision support processes, especially for additional scaling-up sponsored by government and communities, and provide additional advice on policies, especially related to public finance and other sources of support for successful coastal management.

Specific points to consider include:

- Helping to develop mechanisms for vertical and horizontal linkages, creating a functional management system that encompasses the entire province, with better links to sources of national support.
- Work with other USAID activities in the region, MCRMP, JICA, etc., to influence directions for sustainable coastal management.
- Explore the use of existing Anchor Sites for training involving other districts and communities.
- Working with both provincial and district governments to ensure functioning law, regulations and budget for coastal management are in place. An Indonesian or international expert in public finance is needed to assist in this effort.
- Foster activities to move from Atlas (awareness and overview) to functional spatial planning for land and sea use. Such activities need to be considered in light of investment by others, especially new JICA activities that may follow-up the existing work with the North Sulawesi government *BAPPEDA* for improved coastal planning.

Although various individuals have pointed out the potential value of starting new initiatives, for example in offshore small island groups such as the Talaud Islands, any such an initiative in the near future would divert attention from the consolidation effort required to ensure that existing promising directions are turned into a functional management system.

**East Kalimantan – The Balikpapan Bay Council becomes the first fully functional model in Indonesia for integrated watershed-bay management.** The high ecological and economic value of this bay makes it a showcase opportunity that over time could influence many other estuarine and bay settings in Indonesia. There is every reason to believe that the right levels of interest, cooperation and finance can be maintained in Balikpapan Bay, but it will take a very dedicated effort to derive demonstrable short-term benefits arising from the new Council. For this reason, it makes sense to concentrate effort on work already started and let the learning diffuse to other settings in East Kalimantan rather than directly take on additional sites under CRMP, although demand is high.

Several points need to be kept in mind in the extension of work in Balikpapan Bay:

- Major emphasis should be placed on strengthening institutional relationships among the many bodies with a stake in the Bay and watershed, on building an effective and accountable set of public-private partnerships, and on ensuring there is real community participation, with defined mechanisms for input and feedback on the Council's work. Communities and local resource users are concerned that the Council may well operate at a level that does not adequately consider their input.
- Relentless effort is needed to leverage funding from local sources for coastal resource management activities. Every major industry on the Bay and in the watershed should be a potential funding partner.
- Derive full benefit of land and water spatial planning, including zoning approaches—not as an atlas but using more functional tools such as GIS for application in decision-making.
- If there is interest, help to build a more formal and enduring twinning relationship with a U.S. bay management initiative.

A mechanism is needed for addressing substantial, pressing demands for action in other East Kalimantan areas, especially the Mahakam Delta, while not diverting attention from the key tasks involving the Balikpapan Bay Council. There should be some advisory services provided to the Province and district/city governments to assist with this, and attention is needed to setting up learning processes that can involve people from other sites so that the experience of the Balikpapan Bay Council can be disseminated rapidly. Some of the assistance may be directed to further legal development.

**Lampung – Pursue limited activities via IPB to monitor success in implementation of the Provincial Coastal Strategic Plan (*Renstra*), including its on-going influence on expenditures.** IPB, the local university and Lampung provincial officials are best placed to determine longer-term impact of past CRMP investment. This work should be conducted over the full five year period of the Strategic Plan unless it is

apparent that it is simply not working. In that case, analysis is needed on why the Plan has failed to be properly implemented.

**Papua – Consider future program activities once the Bintuni Bay Atlas is near completion and its value to local communities and stakeholders becomes clear.** Additional efforts in Papua should be undertaken only after it is clear that value has been added to local district and community level through the coastal resource atlas initiative, and that there is a genuine, local demand. Complete the atlas activities in a fashion that provides real value for immediate use in spatial and strategic planning.

**7. Limit the number of new regions to be added over the next two years.** Work has been suggested in several possible areas including a more comprehensive effort in Papua, a new initiative in Aceh, and possibly some effort focused on Bali. Any initial efforts in Aceh should be limited to exchanges, bringing people from Aceh to courses, or field sites to learn from experience in other regions where the project has been active. The INCUNE initiative, the Sea Partnership Program implementation effort, or building a learning base for marine and coastal tourism might be explored as vehicles for work in Bali if this location becomes a high priority for USAID funding support.

**8. Make gender a priority throughout project activities.** The opportunities to seriously consider gender issues have been documented in Chapter 4 of the Report. There should be accountability on the part of the CRMP Chief of Party that a plan of action for gender is developed and implemented at the start of the extension. The plan should consider the following points:

- Explicitly include gender within every new and on-going initiative, and then track performance.
- Ensure capacity-building, project-hiring, and community participation activities reflect gender balance.
- Analyze differences in perspectives of men and women on coastal management issues.

**9. Maintain strong ties with the Indonesian University System, including the Coastal Center at IPB and INCUNE, and with one or more U.S. marine and coastal oriented universities.** This is a project borne of ideas generated through leading coastal centers at both IPB and URI. The project grew in complexity over its life, and both universities likely will want a different role in the future—whether or not via USAID support. But there should be room for both to continue providing inputs, and opportunities for other universities as well. Some of these opportunities could be linked to the new Sea Partnership Program, perhaps via ties with the Sea Grant Program in the U.S.A. And there should be other explicit roles as well, relating to specific follow-up activities, for example, those noted above in recommendations concerning North Sulawesi and Lampung. These should be tied to developing longer-term twinning or other exchanges among institutions within Indonesia, within Asia, and between Indonesia and the U.S.A.

The following points should be considered:

- A twinning arrangement between the IPB Coastal Center and one or more US universities should be fostered if there is strong mutual interest. Such an arrangement could continue some of the activities now carried out under the global program, and could open doors for new activities carried out with other potential sources of funding.
- A defined set of responsibilities including follow-up work on ecological results monitoring and on evaluation of community-based coastal development models might be contracted to a combination of Indonesian and U.S. universities.
- As noted in a previous recommendation, the Sea Partnership Program should provide opportunities for strengthening many technical aspects of coastal resource management. It provides an excellent near-term and longer-term set of opportunities for drawing in a wider set of skills to the project, ranging from policy and finance to oceanographic, economic and communications/extension experience. Careful selection of a well-experienced Sea Grant University in the U.S.A. to work with Indonesian universities would be appropriate. This could be done in cooperation with the Sea Grant Program, presumably on a competitive basis, as there undoubtedly would be considerable interest on the part of several institutions.

**10. Change the name from *Proyek Pesisir* to *Mitra Pesisir* – “The Coastal Partnership.”** Activities and expectations have evolved from a standard project model to a set of activities that involve many kinds of stakeholders and institutions. Appropriately, it is partnership that has been stressed in recent years. No one organization or level of government can on its own guarantee the future well-being of complex coastal zones. It is time to recognize in a formal way this need for partnership by adopting a new name.

### **Additional Detailed Recommendations**

#### *Detailed Recommendations on Goals and Indicators*

Recommendations for clarifying project goals and developing improved outcome indicators:

- **Review and revise the mission statement and program goals to capture new or modified project directions and intended results.** The mission statement, program goals and intended results for the project should be critically reviewed and revised to provide a rollup framework that clearly links all programs, specific activities, and measures of success. A single diagram showing the relationship between these elements should be developed and included in all project work plans and work plan implementation reports.
- **Review and revise the NRM Results Framework and indicators.** A serious review of the NRM Results Framework should be undertaken to incorporate outcome/impact indicators, measures that can document the evolving relationship between NRM and decentralization, and indicators that incorporate horizontal and vertical cooperation and linkages between central and local government, village initiatives, NGOs, and academia. Furthermore, the overarching goal of biodiversity conservation could be improved by expanding it to embrace sustainable development in terms of economic benefits, food security, and biodiversity conservation benefits. This review should be conducted in close consultation with counterparts of the GOI both to capture government priorities as well as to provide input to the GOI’s medium term development plan.
- **Develop socio-environmental indicators to show impact.** A few selected socio-environmental indicators at both the strategic objective and intermediate results level could be used to illustrate impacts of the project on community beneficiaries, fisheries and habitat management. This would be appropriate given the significant effort and project resources used to develop baseline data and monitor socioeconomic changes and biophysical monitoring in local marine protected areas over the life of the project.
- **Identify several key indicators that can be used jointly by USAID, national government agencies, and local governments to measure progress in Indonesia marine and coastal management.** USAID, together with CRMP could provide valuable assistance to the Ministry of Marine Affairs and Fisheries to develop national indicators for marine and coastal management that are grounded by local implementation results. USAID and GOI counterparts could conduct a joint review of indicators leading to an agreement by both parties to adopt several common indicators. The inclusion of other donors and donor-funded project in this exercise could provide a mechanism to add up the impact of marine and coastal management projects and programs under a common results framework.

#### *Detailed Recommendations for the North Sulawesi Field Program*

CRMP should focus on developing North Sulawesi as a leading national model for a village-to-province system for coral reef ecosystem management. Recommendations for the North Sulawesi Field Program include the following:

- **Facilitate mechanisms for vertical and horizontal linkages to create a functional management system from village to provincial levels.** The roles and responsibilities of the province and districts in

CRM need to be clarified and defined. The project could facilitate working sessions with provincial and district staff to agree on institutional roles and responsibilities.

- **Develop functional relationships with MCRMP and other donor-funded projects for replication.** Many opportunities are being lost due to lack of coordination between donor-funded projects. The province should take a lead role in facilitating coordination and action planning among these projects leverage resources and amplify results.
- **Build the capacity of local government to provide technical and financial support to village-led initiatives in CRM in partnership with academic institutions through the Sea Partnership Program.** Local government cannot deliver the assistance currently provided by CRMP. The newly established Sea Partnership Program of the Ministry of Marine Affairs and Fisheries provides an important opportunity to build the capacity of provincial and district government in collaboration with local universities.
- **Create the demand for village-led CRM through local outreach activities planned and implemented with NGO, academic institutions, and private sector partners.** As part of an integrated communications strategy implemented under the Outreach Program, strategic communication activities should be developed and implemented in close coordination with NGOs, academic institutions, and private sector to increase the demand for technical assistance in CRM from the village level.
- **Develop a cross-learning experience on coastal governance for a provincial delegation via a study tour to the Province of Bohol in the Philippines.** A provincial delegation, composed of the Governor and Mayors, members of the Provincial and District Parliaments, and selected staff from relevant Provincial and District offices could benefit from a study tour designed to experience decentralized CRM. The closest example of this can be found in the Province of Bohol, Philippines, a site of the USAID-funded CRMP-Philippines.

#### *Detailed Recommendations for the Lampung Field Program*

- **Work with IPB to develop a robust framework for improving future coastal atlases and in particular their quality, electronic versions that can be periodically upgraded, and their value to users.** This is an urgent task since many atlases have been started. IPB has produced some documentation on lessons learned based on the Lampung Atlas experience, but largely focusing on technical issues associated with data gathering and production rather than on user needs and a broad vision of their true value.
- **Carry out a low cost survey in cooperation with IPB to track implementation performance of the Lampung coastal strategic plan and, if appropriate, consider limited follow-up activities via IPB.** Such activities should be directed primarily towards two objectives: assisting the government with producing an adaptive strategy, if modification of the plan is needed, and determining what lessons can be learned for application elsewhere.

#### *Detailed Recommendations for the East Kalimantan Field Program*

CRMP should continue with the work initiated on developing East Kalimantan as a leading national model for integrated watershed-bay management. Recommendations for the East Kalimantan Field Program include the following:

- **Aim to have the Balikpapan Bay Council fully functional, with necessary funding for the initial action plan in place within the current calendar year and with an operational secretariat.** The timing is important because the local demand is for practical results as soon as possible.

- **Build the capacity of the Scientific and Technical Advisory Committee (STAC) to assist the province, districts and city implement the Balikpapan Bay Management Plan (BBMP).** Additional support is needed to catalyze implementation of the BBMP. Training and technical assistance to the STAC and the relevant offices of local government should be continued move the work into spatial planning and implementation.
- **Continue leveraging public-private partnerships for BBMP implementation.** East Kalimantan represents a fairly unique opportunity to develop strong public-private sector partnerships for environmental management. Institutional relationships should be clarified with formal mechanisms for interagency, inter-local government collaborative and cooperative relationships along with substantive involvement from the private sector and NGOs.
- **Conduct additional outreach activities with concerned stakeholders for BBMP implementation.** Outreach activities should attempt to reach all polluters and others engaged in destructive resource use practices, as well as establish a hotline to report environmental problems. In addition, outreach activities, in the form of technical information kits and cross-visits, could provide mechanisms for supplying some level of technical assistance to other areas that have expressed interest in applying the same model.
- **Develop mechanisms for those concerned about other parts of East Kalimantan such as in the Mahakam Delta to learn from the BBMP but without committing CRMP to undertake the work directly.** CRMP may serve as a broker, assist with provincial legislation, or assist in other ways. But it will be better to focus on the difficult job of safeguarding one bay well so that others can learn from success.
- **Continue to foster relationships with one or more bay management programs in the USA in order to develop a longer-term twinning program that could persist well after CRMP has completed its inputs.** Experience in the USA and elsewhere has shown that sustainable management of these water bodies requires commitment measured in decades, not years. Access to experience, training and new techniques can be assisted by exchanges and mutual learning processes associated with twinning. The existing connection with the Pacific Northwest is valuable, but consideration might also be given to American locations elsewhere, such as in the Southeast, where ecological conditions are more similar, or with the experience of a similar-sized body of water such as Narragansett Bay, where there are explicit efforts to manage watershed and bay together.

*Detailed Recommendations for Papua CRMP activities*

- **Develop the Bintuni Bay Atlas into a product of genuine use to the full range of stakeholders active in the Bay.** It will be a real test of success if the Atlas can meet local community needs as well as those of major industry and natural resource users as well as for coastal and marine conservation interests. The Atlas should be available electronically, and be compatible with available GIS, in addition to being produced in printed format.
- **Consider expanding activities in Papua once the Atlas is well along.** The nature of future activities could be based on those underway elsewhere, such as in East Kalimantan, but it is important that they be defined according to regional priorities. In other words, avoid a formulaic approach.

*Detailed Recommendations for the Outreach Program*

There is a definite need for an effective communications and outreach program, operating at both local and national levels. Recommendations for future directions, including refinements and revisions of the proposed Communication Strategy, are as follows:

- **Develop and implement an integrated communication strategy to guide the Outreach Program.** A strategic, relevant, and appropriate communications strategy is needed that can be adopted and implemented in full coordination and cooperation with project partners, especially, NGOs, and leveraging resources of other USAID-funded projects (e.g. NRM, or possibly GreenCom), other donor funded projects, and private sector. The proposed Communications Strategy developed by John Hopkins may serve as a starting point; however review and revisions should be made to provide strategic focus to the program.
  - **Review and apply the results of the National Attitudinal Survey on Oceans, where appropriate, to the communication strategy.** The proposed Communications Strategy prepared by John Hopkins University presented no review or analysis of the results from this survey.
  - **Standardize and consistently use appropriate terminology.** The proposed Communication Strategy uses the terms, ICRM, CRM, and CB-CRM, interchangeably. A single, generic term should be used to describe the complex suite of theoretical and practical elements of managing marine and coastal resources in order to build national and local name recognition.
  - **Build networks of national and local partners to implement the communications strategy.** Project partners at national and local levels should be organized and involved in a process to review, revise, and implement the communications strategy as part of the Outreach Program. In addition the Sea Partnership Program, modeled after the U.S. Sea Grant Program, should be mentored and tapped as one of the communication networks developed through the Outreach Program. IPB, INCUNE, and the Sea Partnership Program should be encouraged to maintain a popularized newsletter on marine and coastal management for distribution to NGOs, and academic institutions but also to all provinces and districts in the country
- **Build the capacity of government, NGOs, and media to articulate CRM problems and solutions.** Successful communication programs must be implemented by individuals that have a firm and grounded grasp of marine and coastal ecology, resource use issues, and the breadth of solutions to managing coastal resources
- **Popularize CRM technical materials for local guidance.** CRMP has amassed a body of technical reports, publications, and other materials generated by the project as well as from other projects. The overall CRM framework and process should be adapted to the local government context. Guidelines for developing CRM plans and programs, and local laws, establishing marine sanctuaries and other best practices should be popularized and packaged using various media into a CRM Information Kit. This kit should be developed as official national government guidance from the Ministry of Marine Affairs and Fisheries, adopted by the Minister, bearing the logo of the Ministry as well as other relevant national government agencies, and disseminated to all provinces and districts in the country.
- **Identify and foster a critical mass of national and local leaders for CRM.** National and local leaders, celebrities, religious leaders, village heads, governors, mayors, and legislators interested in CRM should be tapped for communication campaigns, workshops, and other events. CRM must be viewed as mainstream on the sociopolitical agenda.
  - **Identify strategic opportunities to promote interagency and local and national government linkages and coordination.** A national communication strategy should use existing forums, such as APKASI (Association of Local Government) and the Indonesian Maritime Council, to raise awareness of local government officials, private sector, and national government agencies in CRM and provide mechanisms for vertical and horizontal linkages and coordination.
  - **Build the capacity of a communications unit with the Ministry of Marine Affairs and Fisheries.** Training programs should target increasing social marketing and mobilization skills as well as technical knowledge for appropriate Ministry staff as well as national and international NGO partners. The Outreach Program should also promote the Ministry of Marine Affairs and Fisheries role as lead national agency for CRM.



### *Detailed Recommendations for the National Program*

Recommendations for the National Program include the following:

- **The Sea Partnership Program should be strengthened, perhaps becoming the primary mechanism for technical and financial support for local CRM.** The CRMP should provide technical support to the Ministry of Marine Affairs and Fisheries to fully develop the Sea Partnership Program. The Ministry will implement the Sea Partnership Program, adapted from the U.S. Sea Grant Program, through local universities and in partnership with provincial government, initially in six locations. The Sea Partnership Program will provide CRM extension services and funding for small projects to catalyze local CRM. IPB and the INCUNE can be incorporated into the Sea Partnership Program.
- **Interagency coordination mechanisms should be strengthened through efforts by the National Program.** Mechanisms must be identified for effective coordination among national government agencies with CRM-related responsibilities and programs to develop joint, strategic plans and share information and lessons learned. In addition, a mechanism for fostering cooperation between Directorate Generals within the Ministry of Marine Affairs and Fisheries should be established to plan, monitor and evaluate progress, provide guidance, set standards and establish strategic directions of marine and coastal management projects and programs.
- **The National Program should maintain limited support for a national legal reform agenda.** The National Program should focus on assisting the Ministry of Marine Affairs and Fisheries with national legal reforms to harmonize marine and coastal management-related policies and laws in the context of decentralization. Institutional strengthening should target formulation of technical guidelines to guide local government; aligning projects and programs to provide sufficient technical assistance to local government and communities. And there will be an increasing role for enforceable regulations and incentive-based approaches promulgated nationally to improve coastal ecosystem protection and sustainable economic opportunities.

### *Detailed Recommendations for the Global Program*

Recommendations for the Global Program include the following:

- **Revamp the Global Program to incorporate some existing activities within the Outreach Program and operate via university twinning arrangements where appropriate.** Some activities currently conducted under this program might be incorporated into the Outreach Program. More fundamentally, if there is a shift in the relationship of CRC to the CRMP, there is an opportunity to focus more effort on global activities, perhaps working in partnership or via a twinning arrangement with IPB and INCUNE. There are also possibilities via the Sea Grant Program, or perhaps through an alliance among several marine-oriented universities. In general there is a strong interest within Indonesia in learning from the best sources within the USA and elsewhere. And there is some regret that maximum value was not obtained from the current global program.
- **Target local government officials for learning experiences in decentralization mechanisms for CRM, drawing particularly on experience in the Philippines.** Some of the most relevant and cost-effective international experience for Indonesian local government officials may be found in the USAID-funded CRMP-Philippines experience. The primary mission of CRMP-Philippines has been to build the capacity of local government to support community-based initiatives and to institutionalize coastal resource management systems. Over the last 7 years, CRMP-Philippines has worked with over 100 municipalities in 10 provinces to clarify roles and responsibilities of provincial and municipal government, to establish local legal frameworks and mechanisms for inter-local government and multisectoral collaboration in CRM. Local governments in the Philippines have had over 10 years of

experience with decentralization. Similar to Indonesia, the responsibility for CRM was devolved to the municipal and provincial levels of government.

#### *Detailed Recommendations for Incorporation of Gender*

A number of recommendations for incorporation of gender into CRMP are proposed drawing heavily on the recommendations of two earlier studies for the inclusion of gender in the project<sup>1</sup>, as well as information from site visits and reviews of secondary materials undertaken between January 20 and February 7, 2003. As noted above, since the majority of field observations on this topic are from North Sulawesi, the detailed recommendations use examples from this region, but the topic should be integrated throughout. Overall the project should make gender a priority by:

- Explicitly including gender within every new and ongoing initiative
- Ensuring that capacity building, project hiring, and community participation activities reflect gender balance
- Analyzing differences in benefits and incentives derived by men and women in participating in CRM and use these analyses to improve project approaches and interventions

Specific actions to facilitate and reinforce a gender perspective in CRM activities may include the following:

- **Review existing gender appraisals and documents that have been produced for but not fully utilized by CRMP.** Two key documents have been produced that explore the potential for CRMP to incorporate a gender focus into its activities, Soderstrom, 1995 and Diamond *et al.*, 1997.<sup>2</sup> These documents should be reviewed to see how CRMP has followed these guidelines for mainstreaming and infusing gender throughout its programs and activities. It appears, from the brief overview of the project conducted by the Assessment Team, that attempts to implement the gender recommendations have been piecemeal and sporadic. Furthermore, it is disappointing to note that although some gender-training has been provided for staff and in communities where CRMP is working, that CRMP does consistently disaggregate data by sex, and that little gender analysis is evident either in project documents or revealed during interviews with project staff.
- **Integrate gender analysis into materials where sex disaggregated data are available and clear differences and distinctions have been observed.** For example, Crawford, Pollnac and Sukmara (2000) report gender differences in awareness about the coastal management plans, perceptions about the threats to coastal ecosystems and the benefits deriving from these ecosystems. Yet, while the data clearly indicate gender differences in perceptions, little is made of this distinction and how it likely issues from men's and women's different relationships to the ecosystem and engagement in the development of the management plans and consequently their different knowledge base and incentives to preserve, protect and transform ecosystems goods and services. A gender analysis that focuses on men's and women's differential access to and control over physical, financial and natural resources, their differential positions, roles and responsibilities within institutions and households, as well as other socio-cultural and religious attitudes that prescribe or sanction women's and men's mobility and engagement in productive and reproductive activities, could greatly illuminate gender roles in coastal resource management. Such an analysis should consider power, agency, voice, and access as fundamental attributes that shape women's participation in CRM.

Although the project has attempted to incorporate women as staff members, extension officers and within the coastal management committees, there has been no analysis of gender differences incentives

---

<sup>1</sup> Especially, see Annex 3 by Soderstrom, in Design for the Integrated Coastal Management Project. NRM II Program USAID. Indonesia. December 1995.

<sup>2</sup> Refer to Diamond, N., S. Machfud, and R. Kinseng. 1997. Proyek Pesisir Gender Assessment, CRC/URI CRMP, Jakarta, 98 pp., for a proposed gender work plan which outlines a series of actions and a time-frame in which these should be accomplished.

to participate in coastal resource management. Furthermore, there has been no attempt to analyze the conditions under which women are able to participate in community-based resource management in a meaningful and effective fashion. A gender analysis could inform a more nuanced approach to community-based management exploring how and why women participate, where they may be excluded, and what incentives and disincentives they face contributing to existing management plans and activities. A participatory approach, without sufficient attention to culture, and to gender inequalities and differences is seldom able to ensure meaningful inclusion, participation and representation.<sup>3</sup>

Certainly evidence from CRMP assessment team field site visits to Tumbak and Talise appeared to underscore that women's participation in coastal management committee activities was highly circumscribed, and that women were largely confined to administrative and secretarial roles in the committees and sub-committees. Furthermore, key informant interviews with members of the management committees at both sites demonstrated that men participate more actively and vocally in decision-making and may have had greater influence over the design and planning of coastal management activities.

- **Develop training modules and participatory methods and collaborative relationships with NGOs to enhance women's participation in CRM.** CRMP has made efforts to include women, but greater attention should be paid to their meaningful participation. This may require additional resources and effort on the part of extension and field staff. In North Sulawesi, it was apparent that a number of NGOs with the capacity to address gender concerns employing participatory learning-based empowerment techniques could be drawn upon to engage women at the anchor sites and increase their level of participation and agency within the coastal resource management activities.

CRMP could draw on relationships with groups such as *Suara Perempuan* in North Sulawesi to provide specific training to coastal management committee members and other community members to increase their participation in local decision-making fora. Leadership training, gender awareness and civic participation training could prove to be particularly useful to facilitate women's greater and more meaningful involvement at the anchor sites. Training modules should be developed that focus on specific concerns that may mobilize and engage women affording an opportunity to build capacity and eventually draw them into more active participation with the coastal management committees and engagement with local government about coastal management. For instance, CRMP may wish to work with *Suara Perempuan* to develop training modules on health, nutrition, waste management, decentralization and civic participation.

- **Build links to women's organizations at the project sites.** CRMP is beginning to forge links horizontally within communities to village government structures. Many of the members of the coastal management committees are active in other village government and organizations. In North Sulawesi, in Bentenan and Tumbak women members of the coastal management committees were also active in the *Arysan*<sup>4</sup> and PKK. CRMP should draw on these organic links between the management committees and women's organizations to increase women's participation, to explore the importance of CRM for women, and to socialize and modify CRM to fully incorporate a gender perspective at the village level.
- **Analyze incentives and livelihood benefits and costs to individuals engaging in coastal resource management distinguishing between men and women.** Analysis of the gender specific motivation in coastal resource management could enhance women's participation and reduce conflict over the use and transformation of coastal and marine resources. Analyzing whether women now benefit—and how

---

<sup>3</sup> For implications of cleavages and differences within and across communities, see Mayoux 1995, Schrijvers 1995, Guijt and Shah 1998, and Cook and Kothari 2001.

<sup>4</sup> The *Arysan* functions as an informal savings and lending association and is open to both men and women—although women appear to predominate.

they benefit—from CRM would provide a basis for enhanced participation in CRMP activities. It is important, however, not to consider women as a homogenous group, since various differences and cleavages are evident even within small communities. For instance, providing access to water in Tumbak may have enabled some women to reduce the time and effort expended in bringing water back to the village in boats. However, some women may have sold water to other households to generate income. If this is the case, changes in access to and distribution of water may benefit some individuals and disadvantage others.

CRMP may need to define a series of intermediate objectives that facilitate women's inclusion in decision-making at all levels of project activities. Merely recording the number of women attending project trainings or staffing sub-committees does not ensure that their participation is meaningful. CRMP could convene gender-segregated focus groups with the assistance of NGOs and university faculty throughout the project sites to explore the extent of women's participation in the decision-making fora at the anchor sites. These focus groups could provide key process indicators that will allow CRMP to monitor and assess the extent to which women's participation is meaningful and effective.

- **Increase the gender focus in policy and outreach activities.** CRMP policy documents should be reoriented to emphasize how women's meaningful and effective participation can be secured in coastal resource management to reinforce a gender focus in coastal resource management at project sites and nationally. CRMP policy outputs should analyze differences in gender roles and responsibilities and incorporate a gender focus in their preparation and dissemination. In particular, policy recommendations for coastal resource management, development activities and scaling-up should be informed by a gender analysis. Policy and advocacy materials should disaggregate data by sex, where appropriate, and stress that men and women have different relationships to the resource base. Highlighting these differences will enable policymakers and development practitioners engaged in coastal resource management to interpret and incorporate gender differences in incentives to use and transform coastal and marine resources into planning activities and project design. Policy documents and advocacy materials should also address how women's limited access to physical and financial capital may also impede women's ability to benefit from sustainable development initiatives.

One strategy for increasing CRMP focus and national exposure to a gender analysis of coastal resource management would be to convene a conference on gender and sustainable development in coastal environments. The outputs from such a conference could be submitted to *Jurnal Pesisir* as an edited volume on gender and coastal resource management in Indonesia.

- **Convene a Technical Advisory Working Group on gender.** In an attempt to build capacity both within and beyond the project and their counterparts, CRMP could convene a gender technical advisory group (GTAG) to review and provide input into the design of activities, analyze key policy documents and briefs and to inform broader development strategies in the coastal zone. The gender TAG could be drawn from other projects and donors as well as governmental and non-governmental organizations. By following the recommendations originally developed by Soderstrom in 1995, CRMP could incorporate the following groups in a GTAG:
  - COREMAP has had a gender component and has fostered the development of expertise in its partner agencies. Individuals working with COREMAP who have specific gender expertise should be invited to participate in the GTAG.
  - *Suara Perempuan* in North Sulawesi has collaborated with CRMP in the past to develop gender training modules. They should be drawn upon to participate in and provide input for the GTAG.
  - Women's organizations and NGOs such as *Kalyanamitra* (Women's Communication and Information Center), YASANTI (The Institute of Self-Help Women).
  - Academia, in particular from *Pusat Studi Wanita* (PSW) a research institute at IPB with links throughout the national university network.

- BAPPENAS, most notably, those staff who are responsible for overseeing the integration of women and gender issues into the work of other ministries.
  - UPW, the State Ministry on the Role of Women.
  - KOWANI, the Indonesian Women's Congress identifies environment as one of the 11 areas of focus. Members from this section of KOWANI should be included in the GTAG.
- **Identify specific intermediate results indicators that support the greater inclusion of women in coastal resource management.** Although CRMP Life of Project goals do not explicitly identify women as a focus for CRM activities, many of these goals would be enhanced were the project to place greater emphasis on the inclusion of a gender focus. Moreover, USAID has identified gender as a cross-cutting issue that runs throughout its 2000-2004 strategy for development assistance in Indonesia.<sup>5</sup> In support of mainstreaming, USAID Indonesia has identified four key activities to incorporate gender issues into its efforts to support decentralized and strengthened natural resource management.
    - Provide women with the basic skills needed to participate in environmental decisions by improving access to information and education in science, technology and economics.
    - Train women -- including indigenous women -- to participate in environmental decision-making in various capacities: as managers, designers, planners, implementers and evaluators of environmental projects.
    - Include women in decisions with local parliaments, administrators, non-governmental organizations and communities.
    - Foster women's participation in processes of conflict resolution in natural resource objectives.

---

<sup>5</sup> See Additional Priorities: Integrating Gender into USAID/Indonesia's Strategy and Activities, <http://www.usaid.gov/id/others-women.html>.

# ***PROYEK PESISIR***

## **AN ASSESSMENT OF THE COASTAL RESOURCE MANAGEMENT PROJECT (CRMP) IN INDONESIA**

### **MAIN REPORT**

#### **CHAPTER 1 INTRODUCTION**

##### **Background**

The Indonesia Coastal Resources Management Project (CRMP) is a component of the United State Agency for International Development – Government of Indonesia (USAID-GoI) Natural Resources Management Program II (NRM II)<sup>6</sup>. The goal of NRM II is to strengthen and decentralize natural resources management in Indonesia. The CRMP is intended to address this goal by *strengthening participatory and decentralized coastal resources management in Indonesia*. The project operates through a global Cooperative Agreement between the Coastal Resources Center (CRC) of the University of Rhode Island and USAID<sup>7</sup>. The Cooperative Agreement provides considerable flexibility and the opportunity to draw upon comparative experience of the CRC-URI on the subject of integrated coastal management. The global Cooperative Agreement between the CRC and USAID is drawing to a close. The current phase of CRMP is to end in June 2003. This CRMP Assessment was initiated by CRC at the request of USAID near the completion of the project. The terms of reference are provided in Annex A.

The CRMP design was initiated in 1995-96<sup>8</sup>, during the last years of the “New Order”, when government was very centralized. The country was nearing the point of economic, political and ecological crisis. A series of El Niño events had precipitated detrimental changes such as coral bleaching that exacerbated effects of unsustainable practices such as explosives fishing; the Asian Meltdown was about to happen, and the Suharto Government was about to fall. These convergent crises were unprecedented in three decades of Indonesia’s development experience.

---

<sup>6</sup> NRM II See: An Assessment of the USAID Natural Resources Management Program in Indonesia: Recommendations for the Future. April 2001.

<sup>7</sup> USAID-CRC Cooperative Agreement No. PCE-A-00-95-0030-05.

<sup>8</sup> Design for the Integrated Coastal Management Project Natural Resources Management II Program USAID Indonesia. December 1995. Technical Report prepared for Office of Rural Environmental Management, USAID, Indonesia. B.R. Crawford, L.Z. Hale, A.T. White, CRC-URI, R. Dahuri, PPLH-IPB, and K. Lowry, Univ. of Hawaii. 107 pp + annexes.

But crisis does breed opportunity, and over the life of the project<sup>9</sup>, which started in 1997 and will run until the end of June, 2003, enormous political change has occurred, including landmark legislation for decentralization of control concerning natural resource use and management, and commitment to transparent and democratic governance processes. A new Ministry of Marine Affairs and Fisheries (*Departemen Kelautan dan Perikanan*, DKP) has been established. Enormous pressure exists to develop new sources of economic wealth so that development may continue in the face of great need and important national and international uncertainties. There is widespread recognition and considerable effort on the part of civil society and government alike to see that development becomes sustainable.

Thus, CRMP began at an ideal time—the beginning of what undoubtedly will be a long phase of innovation and testing on sustainable natural resource management, and within an evolving government structure seeking to manage coastal resources in a sustainable and integrated fashion. Against these positive observations must be noted the considerable confusion that has surrounded the early years of decentralization, the new potential opportunities for rent seeking behavior, and the on-going demands arising from prolonged economic, ecological and socio-political crisis. Assessing the performance of CRMP needs to take these major issues into account, along with consideration of how well the project has been able to re-shape itself to changing circumstances.

At the beginning of the CRMP, USAID reached agreement with the Government of Indonesia on three broad objectives for the project:

1. Develop models for greater stakeholder participation in decisions about the planning, management, use and monitoring of natural resources;
2. Improve policy development and implementation; and
3. Strengthen institutional capacity for biodiversity conservation.

Implementation sites were selected in Minahasa Regency in the Province of North Sulawesi, Lampung Province in South Sumatra and in the Province of East Kalimantan in Indonesian Borneo. These focused on three geographic and administrative scales:

- Minahasa focused on developing a model for *community-based* coastal resources management.
- In Lampung Province, the CRMP worked at the *provincial scale* to develop a provincial coastal atlas and coastal resources inventory followed by the development of a coastal strategic plan.
- In East Kalimantan, the project set out to *introduce watershed-based coastal and marine planning* for Balikpapan Bay loosely based on the United States' National Estuary Program.

---

<sup>9</sup> See Proyek Pesisir. Life of Project Strategy FY 00-02. CRC, University of Rhode Island, November 1999. 15 pp.

It is important to note in the 1995-96 project design, it was envisaged that almost all of CRMP's efforts were to be within three "special management areas." In other words, involvement at provincial and national levels was to be limited and later in the process once local activities were well underway.

With the changing political circumstances from 1998 onwards, and especially with fiscal decentralization that started in 2000, and with a new Ministry that focused attention on coastal and small island issues, CRMP was able to expand its focus on creating the overall framework and enabling conditions for integrated coastal resources management in Indonesia. Thus national and outreach programs have featured heavily in project implementation since 2000. In addition, work was started recently at a fourth field site, Bintuni Bay in Papua. The project also conducted various linkage activities, including study tours to the USA and elsewhere, as part of a global program. Although in various documents there are references to varying numbers of CRMP main initiatives, the elements noted below have been used to describe CRMP programs:

- North Sulawesi Field Program,
- Lampung Field Program,
- East Kalimantan Field Program,
- Other Field Programs (Papua),
- Outreach Program,
- National Program,
- Global Program

This order is followed in the program descriptions discussed later in the report.

There are a substantial number of other activities on marine and coastal management underway within Indonesia at the present, and these build on various research, institutional development and capacity building efforts extending back to the mid-1970s. Therefore an important matter for this assessment has been to understand the role of CRMP in relation to these other initiatives.

The CRMP Assessment Team (see Annex B for members) is reviewing a project that was last examined during the 2001 overall assessment of USAID NRM II. The work within Indonesia was undertaken from 20 January to 6 February 2003, with some follow-up after that time by Indonesian team members and submission of the report in April 2003.

### **Assessment Objectives**

The USAID Mission in Indonesia has requested an assessment of the current CRMP initiative with the dual objective of *documenting USAID contributions through CRMP to coastal resources management in Indonesia to date and assessing the potential for a follow-on initiative starting in mid-2003*. The follow-on initiative might last for a period of approximately two years at similar or somewhat elevated funding levels compared to



the current project. The assessment was not intended to conduct cost-benefit analysis or to audit financial practices.

The major objectives of the assessment are to:

1. Articulate and document the importance of coastal and marine resources to Indonesia with respect to socio-economic development, food security and bio-diversity conservation.
2. Assess and summarize past USAID contributions through CRMP to improved coastal and marine resources management in Indonesia,
3. Provide recommendations as to how USAID can continue to make contributions to improved, decentralized coastal and marine resources management in Indonesia.

USAID has extended its natural resource program activities within Indonesia with objectives of:

- Clarifying the roles and responsibilities of stakeholders involved with natural resources management by making local planning processes that impact on natural resources more transparent, accountable, inclusive, and empirically based
- Creating broader-based and articulate constituencies for sustainable natural resources management that lead to widespread replication of good NRM models and practices
- Improving livelihoods of natural resource stakeholders through appropriate technology and sustainable market oriented activities.

### **Approach/Methods**

The primary audiences for the report include USAID staff in Washington and in Indonesia: the CRC and others in the University of Rhode Island and project staff in Indonesia; the Ministry of Marine Affairs and Fisheries and *BAPPENAS*; partner organizations, including local levels of government and several Non-governmental organizations (NGOs - *LSMs*) within Indonesia and selected international organizations and private companies engaged with the project. A broad cross-section of these bodies were contacted over the course of the assessment, and many were present at a presentation of preliminary results of the assessment held in Jakarta on 5 February 2003. The assessment has been undertaken in a fashion intended to be as transparent and participatory as possible. Thus, feedback mechanisms were put in place at the 5 February session, and CRC has indicated that it will make the final report available on the CRMP and CRC websites.

It should be noted that interest in learning from the assessment results has been expressed by others engaged in integrated natural resource management within Indonesia. The CRMP assessment team believes that this interest extends beyond Indonesia as well.

The assessment reached out to more than 200 people over the period that team members were together in Indonesia. Structured interviews took place in Jakarta, Bogor; several

locations in North Sulawesi including Manado, Tondano, Tumbak and Bentenan, Talise, and Blongko; and in Balikpapan, East Kalimantan. Unfortunately time constraints did not permit field visits in either Lampung or Papua. However it was possible to interview people associated with CRMP activities in these provinces. The interview schedule included small (2-5) and larger groups (6-30 people) as well as a substantial number of one-on-one consultations. The Assessment Team schedule is noted in Annex C. A complete list of all people contacted has been maintained by the CRMP office in Jakarta and is not included in this report.

A substantial literature on coastal resource use and management within Indonesia has developed in recent times.<sup>10</sup> The CRMP Assessment Team reviewed much of this material and most of the substantial information base published as books, papers, CD-ROMs, posters, etc., directly associated with the project. A number of the references are footnoted in the text of the report, and additional information is provided in Annex D.

---

<sup>10</sup> Useful reviews include: Tomascik, T., Mah, A.J., Nontji, A, and M. K. Moosa. 1997. The Ecology of the Indonesian Seas. Parts One and Two. The Ecology of Indonesia Series. Volume VII and III. Periplus Editions, Jakarta; Edinger, E. and D.R. Browne, 2000. Continental Seas of Western Indonesia. Ch. 78 in C. Sheppard (ed.) Seas at the Millennium. An Environmental Evaluation. Vol II. pp 381-404; Sloan, N.A. and A. Sugandhy. 1994. An Overview of Indonesian Coastal Environmental Management. Coastal Management. Vol. 22, pp 215-233.

## CHAPTER 2      CONTEXT

### **Marine and Coastal Development in Indonesia**

There is no country in the world that might have a greater need than Indonesia to be concerned about its ocean space and resources. For centuries at a crossroads of commerce, with geo-strategically located straits, forming the world's largest archipelagic nation in terms of population and extent of islands (more than 17,500), and possessing the greatest marine biological diversity of any region of the world, Indonesia should be recognized as one of the most significant ocean nations. Indeed, in the years when the Law of the Sea was negotiated, Indonesia was recognized as one of the outstanding leaders.

Yet, to a remarkable extent, Indonesia has turned its back to the oceans and has not dealt effectively with wanton levels of coastal resource destruction. While 60% of the people live in close proximity to the coastal zone, their interests have not focused well on the sustainable use of the sea. Any report card on the health of the coastal zone in virtually any region of the country will produce distressing grades. What is particularly shocking is the rapidity of decline.

Coral reef ecosystems, including the rich fish and invertebrate biodiversity, have been destroyed almost beyond recognition in some areas as a consequence of fishing with explosives, use of cyanide in fishing, trawling and various other practices including coral mining, reclamation, land-based sources of pollution and sedimentation, plus the impacts of climate variability and change. Until the past 15 years, and in spite of recent strong promotion of marine-oriented tourism, relatively few Indonesians have had the opportunity or interest in diving or snorkeling on the remarkable reefs. Almost half the country's mangrove ecosystems (among the world's largest and most diverse) were logged or converted to shrimp and fish ponds over the past two decades, neglecting important ecological functions of these systems. Even sea grass beds are being destroyed, leaving lagoons and coastal areas vulnerable to storm damage and erosion. The valuable ecological functions associated with all these coastal ecosystems, including water purification, nursery grounds and carbon sequestration, are under very serious threat.

The rapid growth of large cities and coastal industries is leading to the accumulation of heavy metals including mercury, raising the specter of Minamata disease and other health problems. At the periphery of the country, especially the more outlying islands, a new concern has arisen. Recently Indonesia lost two small islands to Malaysia, the consequence of boundary assumptions that proved to be flawed. This has led to widespread feelings—that may or may not be justified by the facts—that without greater attention to boundary areas further sovereign losses could occur. This feeling has catalyzed interest in economic and social development strategies for the smaller islands.

At a very pragmatic level, Indonesia has enormous challenges to face related to coastal and marine security. With an ocean area of 5.8 million km<sup>2</sup> that is three times larger than land mass, it is very difficult to patrol even the richest fishery zones. Piracy in certain areas has re-emerged as a major concern. The illicit movement of people, drugs, smuggled goods is an on-going problem. And ecological security is a problem operating at an entirely different plane. The rapid and unsustainable resource development pattern established in watersheds and coastal areas over the past decades operates at a devastating level today.

At a time in Indonesia's history when economic development expectations are high and often driven by short-term expectations, technological exploitation possibilities are at an unprecedented level, and with management and regulatory systems in a state of transition and high uncertainty, especially in relation to effective enforcement, the outlook for sustainable coastal and ocean resource use might seem hopeless. Indeed some people draw that conclusion.

But there is another side to it. Part of this other side is the enormous human resource talents available in the coastal zone. There are more than 6,000 thousand villages and other communities that make their living directly from the sea. Many of these inhabitants possess knowledge about their local surroundings that can be used to restore sustainability—if the people can exercise authority and are accountable for results. Second, the capacity of Indonesian marine and coastal scientists and administrators is improving. They have access to modern tools such as geographic information systems (GIS) that can be used to address coastal decision support needs. And, third, there is the beginnings of a potentially robust administrative legal and administrative framework for integrated coastal and ocean management that is being built simultaneously from the bottom up and the top down.

Thus, the “glass half full” perspective is that a very important window of opportunity is present now—and likely over the next two or three years, perhaps longer—to fundamentally change how Indonesia views its use of coastal and marine resources, and move towards a much more sustainable approach. This perspective has informed and helped shape the CRMP, especially over the last three years.

## **Coastal and Marine Resources and Communities**

### ***Ocean Contributions to Indonesia's Economy***

The contribution of the coastal and marine related activities to the national economy, both from renewable and non-renewable extraction, is estimated to be one-quarter of Indonesia's Gross Domestic Product (GDP).<sup>11</sup> Among the 10 most populated countries of the world, none come close to matching this level of economic dependence on the ocean.

---

<sup>11</sup> See for example, A. Fauzi 2001 Marine and Coastal Management in Indonesia. Unpublished report. 12 pp; Dahuri, R. and I. Dutton 2001. Integrated Coastal and Marine Management Enters a New Era in Indonesia. Integrated Coastal Zone Management Vol 1 pp 11-16.

This sector provides an important source of employment and income for those living in coastal and rural areas. It is estimated that some 14 to 16 million people are directly employed in coastal and marine related activities.<sup>12</sup>

Coastal and marine resources, especially the fisheries sector, are a critical source of animal protein for both coastal and inland people, often providing the only affordable source of protein for the majority of coastal inhabitants. The demand for fish is high within larger cities as well—including both low cost and luxury food. The Food and Agricultural Organization of the United Nations (FAO) reports that fish contributes nearly two-thirds of the supply of animal proteins in Indonesia.<sup>13</sup> Furthermore, the importance of fish in the Indonesian diet appears to be rising: a recent Fisheries and Marine Affairs report estimates that in 1968 per capita fish consumption was only 9.96 kg annually. By 1998, this figure had risen to 19.25 kg per annum.<sup>14</sup> For decades the GoI has actively promoted increasing seafood in the diet. The intent is to raise consumption to the much higher levels found in some other Asian countries. This would mean at least a doubling of production from existing levels.

Indeed, raising consumption of ocean sources of protein is an important argument being made for investing in the marine and coastal zone. Given that Indonesia already exports a good deal of its aquaculture and sea production (export fisheries generate over US \$2 billion in foreign exchange),<sup>15</sup> including high value species sold live for the restaurant trade in various Asian cities, there likely will be competition between domestic and international markets. And, it is clear that the existing levels of exploitation, included “Illegal, Unreported and Unregulated” (IUU) catches, are placing great pressures on Indonesia’s ocean biodiversity. Indonesia contains the richest marine diversity in the world and is host to more than 450 species of scleractinian corals and over 2000 fish species.<sup>16</sup>

But it is also important to recognize that fisheries, however significant, represent only a fraction of the economic activity conducted in marine and coastal areas—about 2% of GDP, compared to the total 24% that the oceans contribute to Indonesia’s GDP. The Indonesian Input-Output model used by the central statistics bureau lists a number of key sectoral contributors fisheries and aquaculture, oil and gas, maritime industry, naval defense, marine and coastal tourism, marine development including harbors and communications, marine trade and industry including mining production and processing.<sup>17</sup> Coastal forest resources, especially the massive area of mangrove and peat swamp forests have been rapidly and unsustainably exploited, often with conversion to fish ponds, rice, oil palm and other uses. Mining contributes in various ways. There is, however, no ocean technology roadmap that would provide an overview of where there

---

<sup>12</sup> See Hopley and Suharsono, 2000.

<sup>13</sup> FAO 2001.

<sup>14</sup> Department of Fisheries and Marine Affairs (now the Ministry of Fisheries and Marine Affairs) cited in Fauzi 2001. This average obscures the particular dependency of coastal populations on fish proteins.

<sup>15</sup> Data from Fauzi 2001.

<sup>16</sup> Data are taken from Fauzi and Buchary 2002.

<sup>17</sup> See Budy P. Resosudarmo et al. 2002. Analisa Penentuan Sektor Prioritas Di Kelautan dan Perikanan Indonesia. Indonesian Journal of Coastal and Marine Resources Vol 4(3) pp 17-28.

might be particularly important opportunities for future investment by Indonesia beyond the obvious such as further expansion of oil and gas.<sup>18</sup>

### ***Condition of Coastal Communities***

The average population density in most coastal villages is more than 100 people/km<sup>2</sup>. With severely limited access to potable water, sanitation and health facilities these populations are vulnerable to disease and parasites.<sup>19</sup> In addition, many of these communities are also prone to natural disasters such as storms and floods. Human capital is also low in coastal villages. The average education of coastal people is considerably lower than other inland community groups. Many coastal people are either illiterate or have completed only grade five equivalent elementary school. It is widely believed that coastal people operate at an economic and social disadvantage, although surveys do not always bear this out. Within some regions, of course, there are pockets of considerable wealth based on exploitation of natural resources, for example in East Kalimantan.

Optimistic appraisals of the productivity and potential revenues available from coastal and marine resources, however, are at variance with any review of the welfare and well-being of coastal populations, or of the current economic potential harbored in coastal villages and settlements. Since the economic crisis in 1998, the number of people living in poverty has now more than doubled, rising from 17 million in 1995 to almost 40 million in the last 5 years. Of these 40 million people, 60 percent are coastal inhabitants, primarily fishers and fisher-farmers.

Employment opportunities in the coastal areas are particularly limited, and to a great extent fishing has become the employment of last resort for those people. For those unable to find work, fishing is increasingly the only alternative. As greater pressure is exerted on fish stocks per capita incomes will undoubtedly decline. Recent estimates of per capita income for coastal people range from US\$5 to US\$7 per month.<sup>20</sup> This income level is clearly below the poverty threshold estimated by the government, which is approximately US\$ 10 per capita per month.<sup>21</sup>

These figures, of course, represent rural situations. The reality is that many people are living within cities—some small and others ranging to the size of a mega-city, Jakarta. The conditions are highly variable, but in no coastal city are environmental needs being adequately met. The ecological footprints of the cities, and of major conurbations such as along the North Coast of Java are large and growing. The impacts of even the smaller urban centers such as Balikpapan and Samarinda are significant because they are tied to

---

<sup>18</sup> The major report prepared by Minister Dahuri in his presentation on becoming *Guru Besar Tetap* at IPB on 18 January 2003 (*Paradigma Baru Pembangunan Indonesia Berbasis Kelautan*) provides a vision and considerable information on future opportunities for development based on the sea, including many innovative uses such as those related to marine biotechnology and ocean renewable energy.

<sup>19</sup> Fauzi, 2001.

<sup>20</sup> See Saruan, 2000 and Fauzi, 2001.

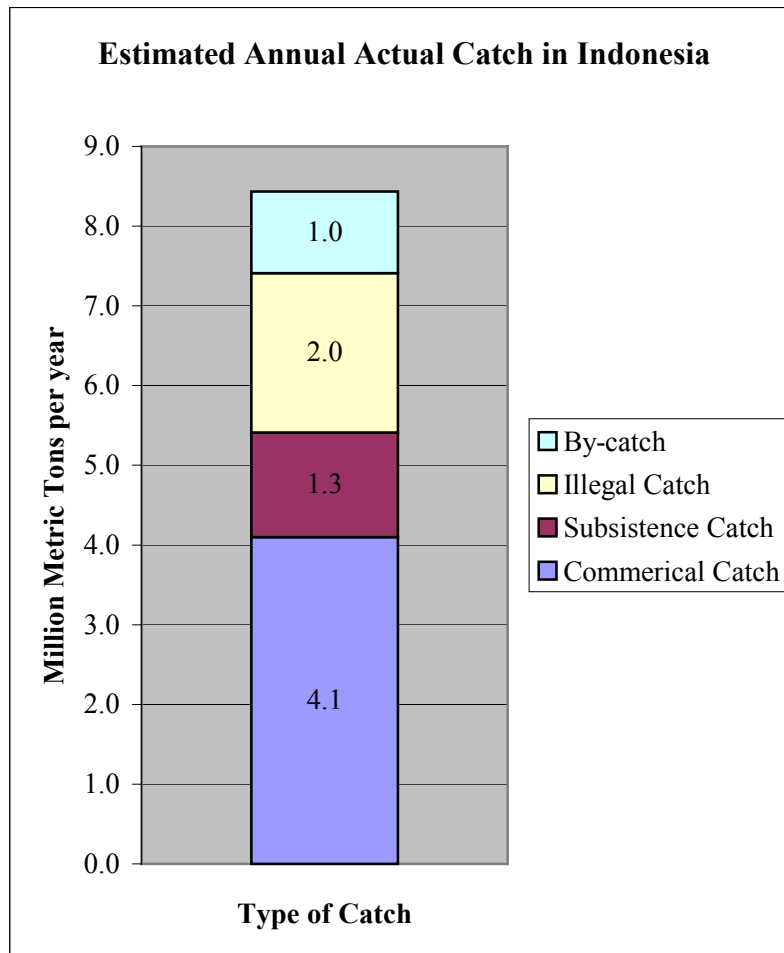
<sup>21</sup> For a detailed account of how poverty rates are calculated, see Central Statistics Agency, 2002.

poor practices in hinterland areas related to natural resource use, domestic sewage discharge, and to unsustainable industrial development in the coastal zone, including but by no means limited to small and medium-sized enterprises.

### ***Condition and Potential of Fisheries***

The livelihood insecurity and poverty of coastal people and communities in Indonesia are often seen as confounding when compared to the potential benefits that could be generated from the resources, especially in the fisheries sector. Various sources report that marine resources in Indonesia are still abundant and far from being fully tapped to meet national development needs. Indeed, the Maximum Sustainable Yield (MSY) for all marine resources within Indonesia's jurisdiction is calculated to be approximately 6.2 million metric tons per year. This estimate of MSY is based on a number of different sources and is restricted to commercially valuable fish. With the current level of production estimated at 4.01 million metric tons, the level of exploitation is estimated to be 60 percent of the MSY.

**Figure 2.1. A rough estimate of Indonesia's marine fish catch from both reported and unreported sources of capture.**



Based on this estimate of the MSY, however, it would be naive to assume that production can be more significantly increased, given a number of uncertainties surrounding the estimate and the degree of unreported and illegal fishing. The DKP's official estimate of resource potential should be interpreted with caution since it is drawn from various sources with varying degrees of reliability. For some parts of western Indonesia in particular, stocks appear to be on the decline. And, given the degree of reef and mangrove habitat destruction over the past decades, important nursery areas might not be able to produce the fish and shellfish that might be expected if they were in a healthy state.

Annex E discusses the problems of estimating Indonesia's real potential to increase fish production and thereby provide a larger number of livelihoods and more food supply. The conclusion has to be that available information is insufficient to provide hard numbers. But the rough calculations are not promising, as noted in Figure 2.1.

### *Economic Valuation of Coastal and Ocean Resources*

Over the past decade increasing attention has been given to addressing the full range of direct and indirect economic values (including ecological services) of ecosystems. While the resulting estimates are only approximate, they highlight values that are often overlooked, or considered as zero. Full economic valuation has been carried out for a number of coral reef and mangrove areas of Indonesia.<sup>22</sup> These studies and secondary data sources illustrate the importance of taking a broad view of coastal ecosystem valuation.

Certainly, research supported by the World Bank confirms that Indonesia is facing a substantial net loss from destructive fishing and extractive behaviors, one that exceeds any economic benefits generated from their use.<sup>23</sup> For example, coral mining is estimated to yield net benefits of US \$1,210 per hectare while causing a net loss to society of US \$93.6 per hectare in fisheries values and an estimated range from US \$120-2,600 per hectare in coastal protection, between US \$ 29-4,819 per hectare in tourism values and US \$670 per hectare in forest damage.<sup>24</sup> The actual magnitude of the losses has never been tabulated but some partial estimates are available, as noted below.

---

<sup>22</sup> See, for example, BAPPENAS. 1996. Economic Value of Forest and Marine resources: Applications of Market and Non-Market Valuation Techniques to Indonesia Natural Resources, Natural Resources Management Project, ARD/USAID, BAPPENAS, Jakarta. 76 pp; Cesar, H. 1996. Economic Analysis of Indonesian Coral Reefs. Environment Department, Work in Progress, World Bank, Jakarta. 97 pp; Cesar, H. 1998. Indonesian Coral Reefs: A Precious but Threatened Resource. in M.E. Hatzios, A.J. Hooten and M. Fodor (eds.) Coral Reefs: Challenges and Opportunities for Sustainable Management. Environmentally and Socially Sustainable Development Division, World Bank, Washington, D.C. 224 pp; Ruitenbeek, H.J. 1992. Mangrove Management: An Economic Analysis of Management Options with a Focus on Bintuni Bay, Irian Jaya. Environmental Management Development in Indonesia Project. Jakarta, 90 pp.

<sup>23</sup> Please refer to Cesar 1996 and 1998.

<sup>24</sup> All benefits are projected across a horizon of 25 years and expressed as a present value using a discount rate of 10 percent. The study made no attempt to estimate foregone sustainable subsistence food values and existence or option values on biodiversity.



*Losses from mismanagement of Indonesian coral reefs (Cesar, 2000)<sup>25</sup>*

Net losses to Indonesian society due to threats facing coral reefs, over 25 yrs at a 10% discount rate per sq km - in thousands of US dollars:

poison fishing	43-476
blast fishing	98-761
coral mining	176-903
sedimentation	273
overfishing	109

*Losses from illegal foreign fishing annually in North Sulawesi Province (NRM I Report)*  
US\$ 60,000,000

*Losses from blast fishing in Indonesia (Pet-Soede, L. et al., pp. 82 in Cesar (ed). 2000*  
US\$ 3.8 billion over the last 20 years.

A marine area where USAID has been very active is Bunaken Marine Park in North Sulawesi. Bunaken Marine Park consists of 2 sections, the larger northern section (62,150 ha) that encompasses the islands of Bunaken, Manado Tua, Mantehage, Siladen and Nain and the coastline of Pisok Point to the north of Manado city. The southern section is smaller (16,906 ha) and comprises the fringing reefs and mangroves of Arakan Wawontulap peninsular south east of Manado. Approximately 80 percent of the park is open sea with depths ranging from 200 meters to over 1000 meters.

A USAID NRM report valuing the fisheries resources secured in Bunaken Marine Park estimates the total direct fisheries value from artisanal and commercial production, seaweed farming and gleaning activities to be US \$3.8 million.<sup>26</sup> These benefits accrue to approximately 20,000 full and part-time fishers and households who depend on the resources secured in Bunaken Marine Park. The value of recreation to non-local and local tourists visiting the park was estimated at US \$4.5 million per year. Preservation values were estimated at US \$4.4 million per year. The valuation exercise did not assess the net benefits from sustainable mangrove management (timber, fuel wood, charcoal, wood chips), although some of these benefits may be assumed to be captured by the preservation values elicited through willingness to pay. As a result, the estimated benefits are likely to represent a lower bound on the total economic value of the marine park.

These holistic economic valuation studies are, however, the exception rather than the rule. Sectorally-driven coastal exploitation in Indonesia rarely looks beyond the direct value of single resources—for their immediate sale, often with little value-added

---

<sup>25</sup> Cesar, H. 2000. Coral reefs: their functions, threats and economic value pp. 39 (Table 1) in Cesar (ed). 2000. Collected essays on the economics of coral reefs. CORDIO, Sweden. This report contains a number of useful estimates, including comparative work by Alan White, and the calculations by Pet-Soede *et al.*

<sup>26</sup> These figures are drawn from a 1999 NRM report which updates a previous study by BAPPENAS undertaken in 1996 and uses a variety of production function, travel cost and willingness to pay approaches (NRM 1999; BAPPENAS 1996).

processing. The current profile of degradation and habitat destruction in the marine and coastal environment stems from a failure to recognize the true opportunity costs of those resources lost as a result of anthropogenic pressure from destructive activities.<sup>27</sup> The failure to recognize the magnitude of the costs to the economy and to present and future generations of current destructive behaviors contributes greatly to the inability to correct these behaviors.

Table 2.1 reports the total multiple use and preservation benefits per hectare and per capita for a number of studies at CRMP sites and other sites throughout Indonesia. The economic value framework employed is that of Total Economic Value which comprises Use Values (those derived from direct use and transformation of ecosystem goods and services), Non-Use Values (values that are available to be utilized in the future or deriving from their existence, and/or aesthetic and cultural importance), and Intrinsic Values (non-anthropocentric values). The range of estimates varies substantially from US \$150.7 per hectare per year to US \$71,792.6 per hectare per year. The range is probably more a reflection of what is included and left out and assumptions concerning values rather than actual differences.

Fortunately there is a growing recognition within Indonesia of the urgent need for linking both economic and ecological rationales for preventive and remedial activities in order to redress degradation and resource loss in the coastal zone. Clearly, one strategy to promote the eventual internalization of these externalities emerging from both market and policy failures is to develop and disseminate measures of the economic values lost to current practices. This point will be discussed further in Chapter 4.

**Table 2.1. Estimates of economic values secured annually through coastal resource management at selected sites in Indonesia. (Sources a to e are noted in Annex F)**

Study	Values Estimates	Per Hectare US \$/ha/year	Per Capita US \$/capita/year	Date
Bunaken, N. Sulawesi <sup>a</sup>	Direct Use Value and some Non-Use Values <sup>b</sup>	150.7	595.6	1996 <sup>c</sup>
Barelang and Bintan, Riau <sup>d</sup>	Direct and Indirect Use Values and some Non-Use Values	71,792.6	N/A	1999 <sup>c</sup>
Manado, Bitung, Minahasa, Bolaang Mongondow, N. Sulawesi <sup>e</sup>	Direct and Indirect Use Values and some Non-Use Values	1,957.7	2,263.4	2001

<sup>27</sup> Revealing values is a necessary but not sufficient condition to ensure ecosystem protection. Prices, property rights and incentives must be carefully designed within the context of a legal framework that promotes accountability and transparency and an institutional framework that promotes and secures good management practices.

White *et al.*, 2000. (in Cesar, ed. 2000), examining a USAID CRMP-Philippines project site, estimated current net revenues from Olango Island reef and wetlands of 38.3 to 63.4 thousand US\$ per sq km for a total of 1.53-2.54 million dollars for the entire 40 sq km area. With management costs of approximately \$100 thousand annually, improved reef quality and wetland stewardship could result in a 60 percent increase in annual net revenues from reef and mangrove fisheries and tourism, demonstrating a significant return on investment. Areas in Indonesia with similar habitat and tourism potential could be expected to show a similar order of magnitude of potential and improvements from management. They calculated benefit cost returns from Gilatungan Island Marine Sanctuary (1 sq km) of 15:1 and for Olango Island (40 Sq km ) overall of 30:1, with annual incremental benefits of \$1.4 million.

## **Gender in the Context of Indonesian Development**

### ***Women in the Economy and in Governance***

An analysis of gender differentials over the last three decades reveals some important and positive changes in women's rights and access to resources education and health-care in Indonesia. Indonesia is signatory to a number of conventions that contribute to reducing gender inequalities: the International Convention on the Elimination of All Forms of Discrimination Against Women; the International Convention on the Elimination of All Forms of Racial Discrimination and the Convention on the Rights of the Child. Yet despite these strides towards greater equality, gender inequalities prevail in Indonesia.

Women in Indonesia play significant roles in the productive sector. Economic activity rates are comparatively high in Indonesia with 55 percent of women over the age of 15 engaged in productive activities, generating income and contributing to measured output.<sup>28</sup> Women are prominent actors in key sectors of the economy, most notably in agriculture and services. Table 2.2 reveals that 42 percent of the female labor force over 15 years of age is employed in agriculture with a similar percentage employed in services. Despite women's contributions to the productive economy, they lag behind men in terms of their access to education and overall adult literacy rates (see Table 2.2). Approximately 81 percent of adult women and 92 percent of adult men are defined as being literate. Although more girls are attending school, gross and net enrolment rates at all levels of education indicate that girls remain disadvantaged when compared to boys.

Women's representation in parliament and their role as decision-makers in ministries and government agencies remains low especially when compared with the region as a whole. In 2000, 40 women were elected to the House of Parliament or single chamber parliament, as can be seen from Table 2.2, this represents only 8% of the total seats.<sup>29</sup>

---

<sup>28</sup> This compares with estimates economic activity rates of 49.4 percent for the Philippines, 35.4 percent for Fiji, and 47.8 percent for Malaysia. Thailand and Vietnam exhibit higher participation rates of 72.9 percent and 73.5 percent respectively (United Nations 2001).

<sup>29</sup> See United Nations 2001.

Women's under-representation in decision-making in Indonesia is apparent at all levels of governance. Indeed, only 3 percent of all village heads are women.<sup>30</sup>

**Table 2.2 Some key gender statistics for Indonesia.**

Indicator	Male	Female
<b>Education</b>		
Adult Literacy Rate <sup>a</sup>	91.5	81.3
Combined Gross Enrolment <sup>b</sup>	68.0	61.0
<b>Economic Activity</b>		
Economic Activity Rate <sup>c</sup>	82.1	55.0
Percent of the Total Labor Force <sup>d</sup>	59.2	40.8
Percent Employed in Agriculture <sup>e</sup>	41	42
Percent Employed in Industry <sup>e</sup>	21	16
Percent Employed in Services <sup>e</sup>	39	42
<b>Political Representation and Governance</b>		
Seats in parliament <sup>f</sup>	92.0	8.0
Percent in Decision-making at Ministerial Level <sup>g</sup>	97.0	3.0
Village Heads	97.0	3.0

<sup>a</sup> Percent literate aged 15 and over in 1999. Table 21, HDI 2001.

<sup>b</sup> Combined primary, secondary and tertiary gross enrolment ratio: number of students enrolled per 100 population in each age category. The gross enrolment ratio for tertiary education, regardless of age, is expressed as percentage of the population in the five-year age group following on from secondary-school leaving age Table 21, HDI 2001.

<sup>c</sup> Percent population aged 15 and over economically active in 1999. Table 24, HDI 2001.

<sup>d</sup> Table 2.2, WDI 2002.

<sup>e</sup> Percent of total male and female labor force between 1994 and 1999. Table 24, HDI 2001.

<sup>f</sup> Percent of total in 1999. Table 22, HDI 2001.

<sup>g</sup> Percent of total in 1998. Table 1.5, WDI 2002.

*Source:* World Bank 2002; United Nations 2001.

### ***Women in Fisheries and Coastal Communities***

Although there are few analyses of women's role in fisheries, there is an extensive literature on women's participation in agriculture—most notably in lowland and upland rice-growing communities.<sup>31</sup> The lack of consistent and comparable data on women's participation in fisheries and in the coastal communities, however, highlights the need for data to inform policy and programs in the coastal zone. Certainly, there is evidence from a variety of sources that women are engaged in fishing, aquaculture, seaweed farming and fish-processing throughout Indonesia.<sup>32</sup> Yet, few studies report gender breakdowns of for fishing and fish-processing activities. Key documents such as the Agenda 21 report for Indonesia, consistently refer to fishermen, ignoring the fundamental role that women play in this sector as fishers, fish-processors and fish-marketers.<sup>33</sup>

A review of some of the literature on women's roles in productive and reproductive activities in Indonesia reveals startling variation between regions, islands and villages.

<sup>30</sup> CIDA 2001.

<sup>31</sup> See Diamond *et al.*, 1997.

<sup>32</sup> See Pollnac *et al.*, 1997, JICA 2002, Volume III, Siason *et al* 2001.

<sup>33</sup> MOE/UNDP 1997, Felsing *et al.*, 2000.

Women appear to play central roles in coastal and marine environments, fishing, farming seaweed, marketing fish, hauling water, collecting mangrove fuelwood and processing copra. Yet these roles vary extensively. For example, Hourihan (1986)<sup>34</sup> describes how the spouses of Muslim fishers in Sumatra did not engage in marketing and played a minimal role in fish processing. In contrast, in Javanese transmigrant households in South Sumatra women were actively engaged in fish marketing and processing. Similarly, Machfud *et al.*, (1991) report that women play a dominant role in marketing raw fish in West Java. Indeed, throughout Java women dry and salt fish.

JICA 2002, Volume III reports that women in North Sulawesi frequently assist their husbands when they fish, and some take the boat out and fish by themselves—primarily in coastal and near-shore fisheries. In addition to fishing activities in North Sulawesi, women also culture seaweed and collect sea cucumbers.<sup>35</sup> The JICA 2002 report also notes that in coastal villages in North Sulawesi, women's participation in economic activities is important and significant:

*"Women catch, process, and market fish, cultivate seaweed, collect sea cucumber, also farm, run small shops, make cookies and bread. Women in a fishing community are, therefore, very important stakeholders in the use of natural resources..."* JICA 2002:III, 2-12.

Table 2.3 reports data from Sitorus (1995). These data underscore that women are engaged in a variety of fish culture, marine capture, processing and marketing in Indonesia. While women are clearly less prominent in marine fish capture, they do participate as marine fishers. Women clearly predominate, however, in fish processing and marketing.

**Table 2.3 Percentage of men and women from fisher households participating in various fisheries activities.**

Activities	Principal Job	Principal Job	Supporting Job	Supporting Job
	Male (%)	Female (%)	Male (%)	Female (%)
Freshwater fish culture	12.2	10.1	54.5	41.9
Marine capture	79.6	18.1	27.6	9.3
Processing	2.7	42.3	5.7	23.3
Marketing	2.3	26.2	3.3	16.3
Others	3.2	3.3	8.9	9.3

*Source:* Sitorus 1995, cited in Siason *et al.*, 2001.

Throughout Indonesia, seafood processing occurs on a variety of scales, spanning traditional and artisanal methods to large scale commercial processing. The industry is dominated by small and medium scale operations that are primarily located near fish landing sites, ports and in coastal communities. Women are often employed as manual laborers. Many of these small and medium sized factories produce a range of products including salted and dried fish, salted boiled fish, smoked fish, fermented fish products,

<sup>34</sup> Hourihan 1986 cited in Diamond *et al.*, 1997.

<sup>35</sup> JICA 2002, Volume III.

fish and shrimp crackers, frozen and canned fish and fish meal.<sup>36</sup> Heruwati *et al.*, (1998) report that 80-90 percent of the largely young female workforce employed in canning and fish meal factories are not from fisher households. Changes in technology may be contributing to reducing the female workforce in fish-processing and canning. The modern and extensive commercial factories are highly mechanized and typically employ male workers. Data from the Indonesian Statistic Bureau reveal that the female workforce in canning, transportation and shipping and net repairs has declined substantially in numbers over the last three decades.

In addition to women's engagement in the fish and fisheries sector, women play a primary role in overseeing household finances. In Indonesia, women are often charged with the responsibility of managing the household finances in both rural and urban areas. Yet, control over these financial resources is largely mediated by male family members who may determine how much of total household income is destined for the household and ceded to the effective control of women. Women's access to credit remains limited by their ability to offer collateral to secure loans and circumscribed by the gender division of labor in rural and particularly coastal communities.<sup>37</sup> Understanding how women's access to credit may limit their ability to scale-up economic activities in the coastal zone may prove central in any exploration of development opportunities in coastal communities.

Finally, although women are frequently members of formal and informal coastal community groups, their membership in productive association is highly circumscribed. Few women predominate in cooperatives and unions of fishers or farmers, despite their engagement in these sectors.<sup>38</sup> Machfud *et al.*, (1996) note, however, that women are engaged in community savings and credit association such as the *arysan*, PKK and religious groups at the community level. Women's limited access to and membership of productive associations and decision-making bodies, however, means that their equal participation in coastal resource management cannot be ensured unless particular efforts are made to draw women into decision-making forums.

### **Ecological Sustainability in the Coastal Zone**

The environmental situation in much of Indonesia's coastal zone is beyond critical. The pressures continue largely unabated. The dilemma is that even well-intended governance reforms such as decentralization can have negative short-term, and cumulative impacts. For example, the breakdown of control over small-scale gold mining in watersheds of Kalimantan and North Sulawesi affects coastal environmental conditions through sedimentation and mercury contamination. The urgent need for jobs and revenues in the face of economic crisis translates into larger and larger pressures on all types of resources. And the limited investment in infrastructure means that both domestic and

---

<sup>36</sup> See Siason *et al.*, 2001.

<sup>37</sup> See Hourihan 1996, Upton and Susilowati 1991 and Ravicz 1998.

<sup>38</sup> Gender inequalities in participation in a number of different fisheries associations prevail at all levels. Indeed, Siason *et al.*, 2001 note that in Indonesia 95 percent of the membership in the Asian Fisheries Society is male.

industrial wastes are dumped without treatment into receiving bays. The list of problems is very extensive and even where there has been progress with analytical tools (e.g. GIS) and regulatory processes (e.g. Environmental Impact Assessment), the results have been uneven. Thus it appears very likely that actual coastal environmental conditions will continue to degrade over the coming decade, even with extensive reform efforts.

The frequently seen figures concerning two key ecosystem types provide some perspective on the level of destruction:

- Coral reefs in poor condition, with less than ¼ live cover:<sup>39</sup>

Western Indonesia	49%
Central Indonesia	37%
Eastern Indonesia	29%
  
- Mangrove % loss from 1980 to 1990:<sup>40</sup>

South Sumatra	35%
Riau	29%
North Sumatra	68%
West Java	92%
East Kalimantan	61%

COREMAP estimates suggest that overall within Indonesia only 7% of the coral reefs remain in excellent condition. And throughout western Indonesia some 58% of the mangroves overall have been removed in the 1980 to 1990 period.

Other important ecosystems such as the seagrass beds, which rival coral reefs in extent, are not well studied, but it can be presumed that they are also susceptible to damage from oil spills, aquaculture, and land-based sources of marine pollution. There is evidence of other damage, such as serious decline in water quality and deposition of heavy metals in some major bays. A matter that deserves more attention is the loss of trophic layers in pelagic and demersal open water ecosystems as a consequence of fishing pressure. And, there is serious concern for marine mammals, many of which migrate through Indonesian straits, or congregate in bays and river mouths (e.g. dugong and the Irrawaddy dolphin)

The coastal zone is also highly vulnerable to various ecological disruptions. For example, when mangroves ecosystems are disturbed by land development, standing water provides ideal habitat for certain species of malarial mosquitoes. Removal of offshore reefs as building materials destabilizes shorelines. In many urban areas there is evidence of salt water intrusion into ground water. The tidal irrigation transmigration areas have had detrimental effects on coastal ecosystems, especially along the East Coast of Sumatra and parts of Kalimantan.

---

<sup>39</sup> Suharsono 1998. Condition of Coral Reef Resources in Indonesia. Indonesian Journal of Coastal and Marine Resources. Vol 1 pp 44-52.

<sup>40</sup> Tomascik *et al.*, 1997, as quoted in Edinger and Browne 2000.

The current coastal conservation situation is a mix of serious efforts led by the various levels of government and by NGOs to save the best examples of remaining outstanding marine and coastal habitats, to protect endangered and threatened marine and coastal species, to restore major areas of coral and mangrove ecosystems, to halt ecological decline within other areas in order to maintain ecological services and reasonable environmental quality, and to address root causes of coastal ecological change, for example, by improving watershed conditions. Taken together, this set of challenges would be immense for any nation, but is especially difficult in Indonesia, given the sprawling nature and ecological diversity of the country. It is a task that is impossible to do top down from Jakarta, although that has been the thrust for the past three decades. Therefore the hope must be tied to some considerable extent on national capacity to build from the ground up in addition to support from the top down during this new era of political reform.

### **Decentralization and Sustainable Resource Use**

Many of Indonesia's past inequities and resource management problems have been traced to the centralized control of resource use, including egregious cases where local rights have been trampled. Resources have become a currency used in many corrupt ways and as part of a reward system operating at both local and national levels. This system is intended to be addressed through various reforms, among the most important of which is decentralized control. However, there is grave concern that decentralization also could lead to further corruption, and, in the absence of good management systems, even more rapid and destructive patterns of resource exploitation.

A second, and very pernicious problem of resource use in Indonesia is the ability of various units and levels of government to provide licenses for exploitation of resources, often with little regard either for sustainable use, or for cross-sectoral impacts, or environmental carrying capacity. Accommodating special interests, especially in light of widespread illegal practices that further amplify impacts and push resource uses beyond a sustainable level, is having a terrible impact throughout water basins, since upstream effects such as those of excessive logging accumulate downstream and into estuarine and reef areas.

The Regional Autonomy Act no.22/1999 gives power to local government in managing its coastal resources, starting from January 2001. This Act was expected to achieve democratic decentralization, one of the key elements in creating good governance<sup>41</sup>. The

---

<sup>41</sup> The realization of good governance in Indonesia is considered to be through 6 prerequisite conditions as follows:

1. Representative institution functioning as a legislator and an effective controller;
2. Independent judiciary (clean and professional)
3. Strong, professional & reliable bureaucracy;
4. Democratic decentralization (the ability to design checks and balances in local level as a consequence of regional autonomy);
5. Strong & participatory civil society; and
6. Existence of effective conflict resolution mechanisms (prevent, mitigate, remedy the conflicts which occur on a large scale all over the country).



Act also provides for defined administrative areas offshore: 4 nautical miles from the coastline in the case of districts (*kabupaten*) and cities (*kotamadya*), and from this distance seaward to 12 nautical miles for provinces. Authority includes exploration, exploitation, conservation, natural resources management and preservation. This delegation of responsibilities creates wealthy and poorer local regions; both are represented within the CRMP field programs.

Decentralization in coastal areas has led to differences in interpretation, which most local governments have translated as a kind of local sovereignty—a parceling of the sea. The implementation of decentralization also collides with some existing sectoral regulations, with overlapping and uncertainty among those laws intended to regulate coastal resources management.

In the absence of integrated coastal resources management laws, the potential of coastal resources and environmental services is seen largely as sectoral assets and since Act 22 came into force, the resources are claimed by local government and community as a local asset. However, the 1945 Constitution stated that the asset should belong to the Nation under state authority (article 33: 3), meaning the coastal resources and environmental services should be managed in integrated and sustainable manner for the interest of the Indonesian people. How these local and national perspectives can be reconciled is still a puzzle.

The sectoral vision of coastal resources and environmental services management has encouraged departments and other institutions of government to produce regulations concerning coastal natural resources or environmental services management reinforcing these interests. In addition, the local governments are, of course, inclined to produce local regulations based on their self-interests. As a result, the coastal resources management arrangements are growing complex for all stakeholders, with considerable overlap, uncertainty of law and very limited enforcement.

To an extent, the legal principles in some existing regulations<sup>42</sup> have already provided some basis for coastal resource management standards, and have good potential to mesh with an integrated coastal resource management policy. But the real need, as defined by various legal experts,<sup>43</sup> is to (1) create new institutional arrangements, (2) formulate a national legislation framework on coastal resource management which can harmonize the existing regulations, while at the same time (3) fill in loopholes on coastal management policy consistent with the need of local initiatives, (4) build human resources capacity and financial support, (5) conduct law enforcement, and (6) bring about genuine public participation. This daunting strategy is expected to be carried out simultaneously at

---

<sup>42</sup> For example, the Environmental Management Act no.23/1997 has regulated the main principles related to environmental management in Indonesia that support marine and coastal sustainability. Article 5 states that everyone has the right to access information in relation to environment activities and has the right to a good and healthy environment. The Indonesian Territorial Waters Act no. 6/1996, article 16 has stated that every foreign ship with nuclear power or carry toxic or nuclear substances has an obligation to purchase a document and obey precautionary action according to international treaties.

<sup>43</sup> See the Academic Draft on Coastal Resources & Small Islands Management prepared for developing a national coastal law

national, provincial and local levels—vertical and horizontal approaches to achieve integrated coastal resource management in the context of decentralization.

It should be clear from this brief overview that decentralization, and the national response to it, will be extremely important to the future of Indonesia and sustainable coastal resource use. Yet it is still in its early years. Action is needed quickly for many reasons, including political pressures, local economic demands, and the unrelenting pressures on resource and environmental conditions.

## **Global and Regional Trends in Ocean and Coastal Management**

Since the Rio Earth Summit well over 100 countries have revised statutes and management approaches to take a more integrated approach towards coastal management.<sup>44</sup> Chapter 17 of Agenda 21 provided guidance. In addition, there has been progress towards developing an ecosystem-based approach to fisheries and ocean management and towards application of the precautionary principle, for example in the FAO Code of Conduct for Fisheries. There is now much more attention to sustainability concerns being expressed through market-based approaches such as certification systems for food fish and for trade in aquarium species. The 1995 Jakarta Conference of the Parties set out an important agenda for Marine Biodiversity Conservation under the global Biodiversity Convention. And UNEP coordinated voluntary arrangements to reduce Land-Based Sources of Marine Pollution. Taken together, these initiatives and others produced a dramatically different perspective on marine and coastal resource use at the beginning of the new century compared to the situation a decade before.

At the World Summit on Sustainable Development (WSSD) this transformative thinking continued; several new global commitments involving marine and coastal resources were agreed upon, with target dates for full implementation.<sup>45</sup> These include:

- 2001            Application of ecosystems approach for integrated marine and coastal use
- 2002-2006    Implementation of GPA for reducing land-based sources of marine pollution
- 2004            Process for global assessment and reporting on oceans
- 2004            Community-based initiatives for marine sustainable tourism
- 2004-2005    Implementation of FAO plan of action for management of fishery capacity and for IUU (illegal, unregulated and unreported fishing)
- 2015            Restoration of fisheries to MSY levels

These and many other WSSD marine and coastal commitments (most others without fixed implementation dates) provide a very major agenda for all coastal states, including Indonesia, and for the global community.

---

<sup>44</sup> See Coastal Zone Canada Association website (<http://www.czca-azcc.org>), especially Sorenson, J. 2002. Baseline 2000 Background Report. The Status of Integrated Coastal Management as an International Practice.

<sup>45</sup> <http://www.udel.edu/CMS/csmg/globaloceans>

One problem for Indonesia is that the major forum of Small Island Developing States (SIDS) more or less ignores the situation of large archipelagic states such as the Philippines and Indonesia. Another is the growing role of the Climate Change Convention. The implications for an archipelagic state are complex and poorly worked out, for example in relation to marine aspects of the Clean Development Mechanism (CDM) and carbon trading. Finally, in the overall transformation of thinking about innovative financing and investment, there is still more talk than action within Indonesia on concepts such as debt-for-nature swaps, and on other ways to address the problems of alternative approaches to funding sustainable development.

Indonesia has a long history of participating in ocean management initiatives with neighboring countries, for example in the development of navigational aids and oil spill contingency planning in the Straits of Malacca, and within regional organizations including ASEAN and APEC, and within regional programs such as PEMSEA. These activities have never fully captured the attention of Indonesian decision-makers, despite the valuable contributions they provide. They account for only a tiny fraction of the investment made in support of coastal resource management by the Indonesian national government. As well, these regional activities tend to be grafted onto other initiatives rather than becoming a core element. However, it is apparent that within Southeast Asia, as elsewhere, integrated approaches to marine and coastal uses will become ever more common. Therefore, considerable pressure for improvements can be expected from regional neighbors.

### **Donors Active in Marine and Coastal Programs**

The earliest efforts for integrated marine and coastal management in Indonesia coincided with the interest of the Indonesian Institute of Sciences (LIPI) and others in the development of environmental analysis, oceanography and other scientific approaches to marine and coastal studies. This work was carried out in cooperation with universities and government departments. There was no shortage of project areas, since the coastal zone was of considerable interest for land and water development, such as tidally irrigated rice production transmigration schemes in Kalimantan and Sumatra, offshore and coastal oil and gas development, proposed reclamation of Segara Anakan estuary in Java, and the development of the Nusa Dua tourism complex on Bali. Many of these developments were the subject of environmental impact assessments. Early capacity building was supported through the Ford Foundation, including the first integrated coastal resource management efforts in an 18-month project in the Musi-Banyuasin coastal zone of South Sumatra. Unfortunately, the results from many of these studies were ignored, or poorly implemented, by government agencies anxious to move ahead with sectoral activities.

During the 1980s much of the donor supported coastal support was for development of fisheries and aquaculture activities, shipping and port infrastructure, and other sectoral initiatives. Few of these sectoral activities could be said to be truly sustainable. There

were major investments made for environmental management institutional capacity building, including the major EMDI project of CIDA, and the beginnings of the USAID first phase NRM. In 1986 CIDA also sponsored development of the first major proposed national Action Plan for Marine and Coastal Management under supervision of BAPPENAS. This plan was not implemented—sectoral interests prevailed.

It was really during the early to mid-1990s that substantive investments began to be made in marine and coastal sustainable development and conservation. The amounts invested by foreign donors now total well over a quarter billion dollars. There is no consolidated review of how much value has been obtained for this investment. Nor is there a strong sense of either ownership within Indonesia, or by donors. In other words, there has been a distinctive lack of leadership and championing on the part of any particular institution—at least until recently. With the emergence of DKP, and the concerted efforts of a few donors, notably the World Bank and ADB, this situation is changing. USAID has been able to play a considerable role with a relatively limited amount of funding since the CRMP has been able to operate with flexibility to address the growing demand for increased attention to integrated marine and coastal management.

Of the various donor initiatives, the two largest current investments are COREMAP, a multi-donor activity coordinated through the World Bank, to improve the condition of coral reefs via community-based management, and the MCRMP of the Asian Development Bank, intended to establish sustainable use of coastal resources in a number of regions within Indonesia. A list covering many, but not all, initiatives in the 1990s is provided in Annex G.

### **Hope for the Future**

While Indonesia faces challenges that might seem overwhelming, it would be wrong to convey a sense of hopelessness. Indeed, there is a strong sense of determination, excitement over the potential for reform, and the glimmer of success in many of the initiatives started for sustainable coastal management. The context is one of serious difficulties, but also of an unprecedented window of opportunity to create an institutional capacity that is dramatically different from the past. Coupled with this willingness to experiment is a level of technical capability that, while still limited, especially at district and provincial levels, is far better than a decade ago. Thus, within government, industry, and universities there are the skills to address ecological, economic, administrative and technological issues.

Marshalling these skills is another matter. For it is clear that decentralization will only be successful if the aspirations of local people can be met in ways that do not lead to further corruption, or to well-meaning but misplaced solutions to problems. At the moment Indonesia is more or less muddling along in this context. In coming years, as decentralization processes and needs are better understood, the opportunity exists to do much better. A prime concern is to build operative systems that deliver well locally and recognize appropriate roles for national and provincial levels of government.

The coastal zone may well be the ideal location for the early successes. The activities of rural communities in particular are well defined by their relationship to the surrounding marine ecosystems. And these ecosystems may be more responsive to management improvements. Reef fishes, for example, can be expected to increase in abundance if fishing pressures are reduced within marine sanctuaries, and use of explosives halted. And big industries, highly vulnerable to public opinion in an era of political reform, are demonstrating corporate citizenship. Indeed, in some cases they already see strong advantages in sustainable development to reduce the risk to their operations, for example in places such as the Mahakam Delta and Bintuni Bay.

Thus, despite current rates of ecological decline coupled with on-going economic crisis, the Assessment Team believes it is important to give full credit to initiatives that hold long-term promise for changing the situation.

## CHAPTER 3      CRMP ASSESSMENT

### Overview

The main purpose of this chapter is to present the results of the assessment of the CRMP.

For each program area the assessment results are organized as follows:

- Project goals and intended results,
- Assessment of each program element,
- Assessment of the project's contributions toward institutionalization, decentralization, sustainable development and gender,
- Key issues and threats related to project implementation and the current sociopolitical environment, and
- General conclusions resulting from the assessment.

Detailed tables concerning the results are provided, with key findings summarized in the text. The detailed tables represent consensus views of the assessment team. General and detailed recommendations are provided in the summary and recommendations section at the front of this report. Here, only brief summaries of detailed recommendations are provided as text boxes.

Project goals, and the monitoring of results are discussed first. It needs to be noted up front that the indicators used by USAID in its Indonesian NRM initiative are not well suited for the project. This has created some stress and difficulties for both USAID field staff and the CRC CRMP staff. A number of general conclusions can be reached concerning project implementation, and these are summarized at the end of the chapter.

### Project Goals and Intended Results

The CRMP was initiated by CRC/URI in October 1996 following an extensive design phase. Over the 6 plus years of the project there have been shifts in emphasis. After three years of implementation, a Life of Project Strategy (1999) was developed to guide project activities through 2003. Detailed Annual Work Plans, especially the latest<sup>46</sup>, which includes a great deal of summary information on achievements to date, articulate planned activities very well. These documents have provided the benchmarks for examining progress in achieving CRMP objectives.

The project explicitly took an adaptive management approach. This proved to be a very useful strategy, but it means that clear articulation of overall goals and more detailed objectives must be carefully spelled out so that there is no misunderstanding of what the

---

<sup>46</sup> Workplan Year 6-7 April 2002-September 2003 Proyek Pesisir AR-02/01-E

project is trying to achieve. After our examination of documents, the Assessment Team concluded that the following written statements drawn from the documents mentioned above capture the intent of current work.

***CRMP Mission:*** “*To achieve measurable progress towards realization of the NRMII strategic objective...[i.e.] To decentralize and strengthen natural resources management in Indonesia*”

***CRMP Approach and Objective:*** “*CRMP is attempting to shift from project-driven activities towards government and non-governmental institutional support. The CRMP objective is to ensure that a wider program (inter-departmental, inter-organizational) is created to manage pollution, mitigate impacts caused by overfishing and habitat destruction, and appropriately control development in the coastal zone.*”

***“Most Important Overall Outcomes”:***

- *Codified institutional and legal mandates*
- *Allocated budgets for CRMP locations*
- *Awareness of ICM importance for food security, conflict management, economic development and democracy*
- *Repertoire of demonstrated ICM best practices available for replication*
- *Identified group of ICM practitioners, policy advisors, academicians, bureaucrats and public supporters*

***“Ultimate Indicator of Success”:*** *Institutionalized programs that exist within a legal and organizational framework, supported through allocation of government resources, and implemented in line with accepted principles of participatory and open governance*

In short, what started as a project largely conducted at the most decentralized level, with a major focus on a limited number of communities within three provinces, has morphed into an initiative with considerable penetration at national and local (provincial and district) policy levels—along with an effort that now seeks to continue implementation and scaling up of activities operating at the village (*desa*) and sub-district (*kecamatan* and *kelurahan*) levels. In particular, the establishment of a new Ministry of Marine Affairs and Fisheries (MMAF; *DKP*) and enactment of the national laws on regional autonomy opened new opportunities for the project to respond to new responsibilities of both local government and national coastal resource management institutional development.

Key project elements and goals articulated in the Life of Project Strategy and expected results articulated in the project design document (1995) are summarized in Table 3.1 for each of the six main programs (work in Papua will be considered as a seventh, although still at a very early stage). Project elements and goals changed or refocused from the design in the implementation strategy include:

- Increased emphasis on national activities and on new coastal law and regulation at all levels, local to national,
- Increased emphasis on coastal management in the context of decentralization policy,
- Decreased emphasis on widespread dissemination and broad recognition of CRMP-developed ICM experiences, and
- Change in terminology from ICM to CRM.

**Table 3.1 Comparison of coastal resource management project elements and goals from the Project Design Document and Life of Project Strategy.**

<b>Project Design Document (1995)</b>	<b>Life of Project Strategy (1999)</b>
<b><i>Project Elements</i></b>	
<ul style="list-style-type: none"> <li>▪ Support for up to three Special Area Management (SAM) sites</li> <li>▪ Promote national policy dialogue and policy/strategy development based on lessons learned from the (SAM) sites and from broader Indonesian, Asian, and international experience</li> </ul>	<ol style="list-style-type: none"> <li>(1) North Sulawesi Field Program</li> <li>(2) East Kalimantan Field Program</li> <li>(3) Lampung Field Program</li> <li>(4) Outreach Program</li> <li>(5) National Program</li> <li>(6) Global Program</li> </ol>
<b><i>Project Goals</i></b>	
<ul style="list-style-type: none"> <li>▪ Broad recognition, lesson drawing, and documentation from the USAID NRM I and NRM II SAM sites and other on-going ICM initiatives in Indonesia</li> <li>▪ Rapid and widespread dissemination of lessons concerning approaches to ICM</li> <li>▪ A broader cadre of ICM professionals, including women, with the skills and ability to implement decentralized, participatory ICM programs in locations outside the SAM sites</li> <li>▪ An established ICM monitoring and evaluation capacity at the national level with linkages to local institutions</li> <li>▪ Improved policies supporting ICM and decentralized approaches adopted at the national level</li> </ul>	<ul style="list-style-type: none"> <li>▪ Demonstrate CRM good practice examples for community-based coastal resources management in resource dependent villages</li> <li>▪ IPB becomes CRMP’s learning partner and nationally recognized repository of information, expertise, and extension services</li> <li>▪ Extend the impact of CRMP beyond the project’s immediate partners and sites (to facilitate replication/uptake of CRMP-derived best practices)</li> <li>▪ Integrated land and water management through locally-tailored CRM partnerships</li> <li>▪ CCMRS-IPB (via CRMP partners) develops and demonstrates CRM good practices at Provincial level linked to tangible actions at village level</li> <li>▪ CRMP positively contributes to the emergence of coherent and effective decentralized coastal and marine development and management in Indonesia</li> <li>▪ CRMP experience contributes to and benefits from the global CRM practice</li> </ul>



## Performance Indicators

The CRMP reports results under two sets of indicators: (1) NRM II Results Framework for USAID Indonesia and (2) USAID Global Bureau Results Framework for URI/CRC's Cooperative Agreement. This second results framework tracks progress of URI/CRC's initiatives in Mexico, Tanzania, Kenya, and Indonesia. CRMP's contribution to this global results framework draws on indicators from the NRM II framework. Therefore, this assessment focuses on indicators reported under the NRM II Results Framework to USAID Indonesia.<sup>47</sup>

The NRM II Results Framework highlights biodiversity conservation through the strategic objective of decentralized and strengthened natural resources management. It is not ideal by any stretch. First, there is no link to economic achievement. And, second, while the strategic objective indicators track a quantitative target (area in hectares where USAID-assisted sites are implementing or replicating best practices in natural resources management), this target is open to considerable interpretation. And any site can only be counted once, whereas any project of this type should be seeking progressive improvement at locations over time. This problem is entrenched, since the same the indicators will continue to be used by NRM for the next several years.

Bearing in mind that CRMP has articulated the ultimate indicator of project success as: *“Institutionalized programs that exist within a legal and organizational framework, supported through allocation of government resources, and implemented in line with accepted principals of participation and open governance,”* it is clear that a disconnect exists with the NRM II area-based strategic objective indicators. These indicators could well be a very long-term guide to success, but it is not particularly helpful over the relatively short life of project.

Quantitatively, the project's overall impact is difficult to grasp from the results framework. It is amazingly difficult to determine if CRMP has achieved the Life of Project targets using this framework. Furthermore, not a single table could be found in any report that provides a cumulative summary of the results compared to the Life of Project targets.

The results framework needs serious and thoughtful review and revision. Indicators noted in Table 3.2 measure outputs rather than more direct measures of outcome or impact. Intermediate results indicators do not clearly contribute to the strategic objective. A system for performance monitoring is not articulated in the project's work plans or implementation reports. Explanatory notes provide inadequate description of the indicators, especially, for indices used to document output of policy initiatives. It is not clear how the area of CRMP sites, measured in hectares, where best practices are being implemented, is determined. Finally, the Life of Project Strategy, work plans and implementation reports do not consistently or explicitly link the projects activities to the achievement of targets provided in Table 3.2.

---

<sup>47</sup> Overview of NRM Program Reporting to USAID 2001. USAID, Jakarta.

**Table 3.2 Performance indicators, results, and targets for CRMP under USAID’s NRM II Results Framework\*.**

<b>Indicator</b>	<b>Result FY 00</b>	<b>Result FY 02</b>	<b>Target FY 02</b>
Strategic Objective Indicator 1: Area (hectares) of USAID assisted sites where condition of targeted natural resources is stable/improving as a result of best practices being implemented (cumulative)	325,613	835,379(?)	1,000,000
Strategic Objective Indicator 2: Area where best practices are being replicated by others (cumulative)	0	274,970,422(?)	450,000
Number of targeted institutions exceeding 2.5 on institutional development index (non-cumulative)	1	Unknown	4 (+INCUNE)
Number of advances along policy and enabling conditions index (non-cumulative)	36	Unknown	25
Area of USAID-assisted sites in which targeted resource practices are being tested (hectares, cumulative)	3.14 million	Unknown	7.25 million
Number of site specific management plans/agreements amongst stakeholders that are GoI recognized and implemented (non-cumulative)	6	Unknown	5
Number of publications, articles, and audio-visual materials documenting NRM lessons learned that promote replication of NRM best practices (non-cumulative?)	137	325?	241
Number of individuals participating in USAID-assisted training and workshops (gender disaggregated) (non-cumulative?)	10,010 (2,511 female)	14,548(?) (3,561female)	8,690 (2,176 female)

\*Note: This table most likely contains erroneous data. Targets and results reported in this table were obtained from discussions with and reports provided by CRMP staff. Data gaps, inconsistencies, and different reporting systems made it impossible to develop a simple summary table showing the projects accomplishments over time. References consulted in the development of this table include the following:

1. CRC/URI. 1995. Design for the Integrated Coastal Management Project, Natural Resources Management Program, USAID/Indonesia. A Technical Report, December 1995, Prepared for the Office of Rural Environmental Management, USAID Indonesia, 107pp.
2. CRMP. 1999. Life of Project Strategy: 2000-2003.
3. CRC/URI. 2002. PMP FY 2002 – Results Report, October 01-September 02: Indonesia Data, Indicators 1 – 12.
4. CRMP. 2003. Strategic Objective and Intermediate Results Tables for FY 2002
5. CRMP. 2002. Year 5 Work Plan, AR-01/01-E, April 2001-March 2002.
6. CRMP. Year 6-7 Work Plan. AR-02/01-E. April 2002-September 2003.

Despite the many limitations of the results framework, indicators, and difficulties with performance monitoring, interviews with project staff and partners and document reviews provide a good sense of CRMP accomplishments, which are considerable, as noted in later sections of this chapter.

### **Summary of Detailed Goals and Indicators**

- Review and revise the mission statement and program goals to capture new or modified project directions and intended results.
- Review and revise the NRM Results Framework and indicators.
- Develop social and environmental indicators to show impact in these areas.
- Place more emphasis on institutional and policy development intermediate indicators since these are key areas for project achievement.
- Identify several key indicators that can be used jointly by USAID, national government agencies, and local governments to measure progress in Indonesia's marine and coastal management.

### **Individual Program Performance**

The CRMP is organized into six programs, plus activities in Papua. Field programs are located in four provinces (Figure 3.1). Cross-cutting activities are implemented through national and global programs. These programs are as follows:

- North Sulawesi Field Program,
- Lampung Field Program,
- East Kalimantan Field Program,
- Other Field Programs (Papua),
- Outreach Program,
- National Program,
- Global Program.

The assessment team reviewed documents and conducted interviews with project partners and beneficiaries. All project field program sites were visited except the Lampung and Papua Field Programs.

The assessment of CRMP's programs were guided by focus questions on:

- Program performance in achieving the life of project goal and developing good practices.
- Institutionalization of coastal resource management by the program's partners and overall in the country.
- Decentralization in relation to the program's activities and coastal resources management in general.
- Issues and threats related to the program's goals, interventions and externalities.
- Opportunities for future program initiatives.

### *Program Summaries*

The next few pages provide a short overview about each program area and key accomplishments and a summary of the detailed recommendations on each. This short section provides an introduction to more in-depth findings concerning the programs.

**Figure 3.1** Map showing locations of CRMP field programs.



*North Sulawesi Field Program*

This program includes the most significant investment during the entire life of the project at the village level, establishing four Anchor Sites for sustainable coastal resource management in three widely separated areas of Minahasa District, North Sulawesi. Some 24 additional sites were started recently in the Sub-district of Likupang as a “scaling-up” effort designed to move beyond the initial Anchor Sites that are now “graduating” from the program. A major focus has been on the establishment of small marine sanctuaries where habitat use, including fishing is controlled. This sets a pattern of local control, including village ordinances, that is leading to reduction in bomb fishing and other early signs of improved resource use practices. Other activities, including village conservation information centers, provision of water and sanitation facilities, and eco-tourism have been less successful. Some sites, especially Blongko, are now well known and treated as a potential national model for improving coral reef dependent communities.

The project has worked with law makers, government officials, university and non-governmental community bodies to produce the country’s first district level (Kabupaten Minahasa) comprehensive regulation on coastal resource management, and is in the process of completing a law for the Province of North Sulawesi on this subject. This initiative has already engendered interest throughout the country and is an essential component for decentralization. Accompanying this policy and institutional development effort has been a great deal of relationship-building among units of government that is important for shaping, planning, public finance and operational programs. A recently completed Coastal Resource Atlas covering Minahasa and local cities is intended to build awareness and provide some decision support.

### **North Sulawesi Summary of Detailed Recommendations**

- Facilitate mechanisms for vertical and horizontal linkages to create a functional management system from village to provincial levels.
- Develop functional relationships with MCRMP and other donor-funded projects for replication.
- Build the capacity of local government to provide technical and financial support to village-led initiatives in CRM in partnership with academic institutions through the Sea Partnership Program.
- Create the demand for village-led CRM through local outreach activities planned and implemented with NGO, academic institutions, and private sector partners.
- Develop a cross-learning experience on coastal governance for a provincial delegation via a study tour to the Province of Bohol in the Philippines.

### *Lampung Field Program*

Work in Lampung has been conducted by the Coastal Resource Center at the Bogor Agricultural University (IPB) in cooperation with the provincial government in Lampung, local university and villages. While two villages have been supported by the project, including development of a marine sanctuary and of best practices for coastal aquaculture, the prime accomplishment was the development of Indonesia's first coastal atlas and a comprehensive provincial coastal resource plan (*Renstra*), with funding targets that apparently have been acted upon through major budget allocations. Within CRMP the Lampung atlas became the model for the North Sulawesi atlas and a similar product now being produced for Bintuni Bay. More, generally, it set a standard for more than a dozen atlas initiatives commissioned by other provinces.

The Lampung program needs better follow-up over the coming years by IPB and CRMP in order to learn what is and is not actually happening as a consequence of the project's investment. As well, problems have emerged in terms of quality and value to decision-makers of the atlases, including those being produced without CRMP input. This appears to be on track to become a nationally-significant activity, and therefore its usefulness needs to be carefully considered.

### **Lampung Summary of Detailed Recommendations**

- Work with IPB to develop a robust framework for improving future coastal atlases and in particular their quality, electronic versions that can be periodically upgraded, and their value to users.
- Carry out a low cost survey in cooperation with IPB to track implementation performance of the Lampung coastal strategic plan and, if appropriate, consider limited follow-up activities via IPB.

### *East Kalimantan Field Program*

A recent addition to CRMP, the purpose of this program is to examine how to bring about an integrated approach to managing a watershed-bay system. The area selected, Balikpapan Bay and its watersheds, is complex in terms of activities, including oil and gas, coal washing, mining, fisheries, forestry, industrial development, tourism, and urban development. It is equally complex in terms of institutions and jurisdictions. And it includes various coastal ecosystem types—coral reefs, mangroves, and various estuarine and freshwater conditions. The work has included formation of a new Balikpapan Bay Council that will become functional later this year, support mechanisms including a science and technology committee with strong ties to the local university, inputs from a similar bay situation in the USA, creation of a “Save the Bay” NGO body, and inputs to some local communities that have resulted, for example, in replanting of fringing mangrove forest along part of the bay. The major task to be accomplished is to produce a Balikpapan Bay Management Plan.

The work in Balikpapan has generated strong interest in other parts of this resource rich but heavily exploited and ecologically damaged province. Unlike some other regions such as North Sulawesi, where local funding is scarce, East Kalimantan, under new decentralization laws, is likely to be significantly better off financially. Therefore, the concern is not so much finding the funding for sustainability efforts, but locating workable approaches. The Balikpapan Bay Council is therefore a model being followed with interest for possible application of the approach elsewhere in the Province, for example in the Mahakam River Delta. CRMP has built useful links with the private sector, for example, the oil company UNOCAL has provided USD 150,000 in support of community-based activities.

#### **East Kalimantan Summary of Detailed Recommendations**

- Aim to have the Balikpapan Bay Council fully functional, with necessary funding for the initial action plan in place within the current calendar year and with an operational secretariat.
- Build the capacity of the STAC to assist the province, districts and city implement the Balikpapan Bay Management Plan (BBMP.)
- Continue leveraging public-private partnerships for BBMP implementation.
- Conduct additional outreach activities with concerned stakeholders for BBMP implementation.
- Develop mechanisms for those concerned about other parts of East Kalimantan such as in the Mahakam Delta to learn from the BBMP but without committing CRMP to undertake the work directly.
- Continue to foster relationships with one or more bay management programs in the USA in order to develop a longer-term twinning program that could persist well after CRMP has completed its inputs.

### *Other Field Programs (Papua)*

With financial support from BP, which is planning a very large gas facility in Bintuni Bay, CRMP has started to prepare a coastal resource atlas. This area faces important planning decisions about its very rich mangrove and other estuarine resources. It is also an entry point for CRMP into a remote, culturally complex part of Indonesia. The future

directions that might be taken in Papua will depend very much on the success of this initiative over the coming year.

#### **Papua Summary of Detailed Recommendations**

- Develop the Bintuni Bay Atlas into a product of genuine use to the full range of stakeholders active in the Bay.
- Consider expanding activities in Papua once the Atlas is well along.

#### *Outreach Program*

CRMP has produced a mountain of documentation in the form of technical reports, a national coastal journal, internationally refereed journal articles, best practices and lessons learned materials, video and CD-ROM material, and popularized materials including the atlases noted above plus calendars and posters. By comparison to other larger donor-supported projects, CRMP is remarkably productive in terms of publications. In addition, CRMP has produced a national survey of attitudes towards the marine and coastal zone and has had prepared under contract with Johns Hopkins University a proposed Communications Strategy.

The outreach activities, however, have not been as successful as might be hoped for a project that depends vitally upon such activities for dissemination and replication of important findings and models. There appears to be limited understanding on how to create behavioral change on a large scale. This is the nub of the problem for developing sustainable coastal resource use in Indonesia and elsewhere. It is not a problem faced only by CRMP, but a general issue nationally that needs to be addressed by the Ministry of Marine Affairs and Fisheries, and also by the provinces and local government. While some of the pieces for successful outreach are in place, they do not add up to an effective system anywhere.

#### **Communications Strategy Summary of Detailed Recommendations**

- Develop and implement an integrated communication strategy to guide the Outreach Program: review and apply the results of the National Attitudinal Survey, where appropriate to the communication strategy; standardize and consistently use appropriate technology; build networks of national and local partners to implement the communications strategy.
- Build the capacity of government, NGOs, and media to articulate CRM problems and solutions.
- Popularize CRM technical materials for local guidance.
- Identify and foster a critical mass of national and local leaders for CRM: identify strategic opportunities to promote interagency and local and national government linkages and coordination; build the capacity of a communications unit with the Ministry of Marine Affairs and Fisheries.

#### *National Program*

The general approach of CRC has been to take a “two-track approach” with effort at the national level as well as locally. In Indonesia most of the work at the national level of

government started in the post-Suharto years and after local activities were initiated. However activities with the Coastal Center at IPB began early on, with the Center's founding Director, who now serves as Minister of Marine Affairs and Fisheries. This has permitted a great deal of continuity and generates on-going demand at the national level. The results have been rewarding. National Law and regulations are under preparation that, when enacted, should establish the enabling framework in which decentralized coastal management can flourish.

Of particular interest are emerging mechanisms for funding support to provinces, universities and communities. Several are likely. CRMP has been working with the Ministry on development of the Sea Partnership Program, based on the U.S. Sea Grant Program. It would provide for capacity building to improve technical capacities, using local universities. This assistance would lead to extension services and abilities to provide scientific and monitoring needs that do not exist or are poorly developed at present.

The national program also maintains contact with a variety of government departments active in coastal issues, and with international donors and NGOs funding activities in Indonesia's coastal zone. There is considerable awareness of CRMP as a result, but more contact is needed to promote best practices and national models arising from the project.

#### **National Program Summary of Detailed Recommendations**

- The Sea Partnership Program should be strengthened, perhaps becoming the primary mechanism for technical and financial support for local CRM.
- Interagency coordination mechanisms should be strengthened through efforts by the National Program.
- The National Program should maintain limited support for a national legal reform agenda.

#### *Global Program*

There have been several study tours, visits of U.S. and other experts to Indonesia and other types of cross-learning experiences carried out under CRMP. This is of strong interest to Indonesians involved in the project. The expertise of the University of Rhode Island, and its Coastal Resource Center spans four continents. Many of the lessons learned elsewhere are quite applicable to Indonesia. However, there is dismay expressed by some Indonesians that more was not learned about international directions and activities in some other countries.

#### **Global Program Summary of Detailed Recommendations**

- Revamp the Global Program to incorporate some existing activities within the Outreach Program and operate via university twinning arrangements where appropriate.
- Target local government officials for learning experiences in decentralization mechanisms for CRM, drawing particularly on experience in the Philippines.



## North Sulawesi Field Program

The North Sulawesi Field Program was initiated in 1997. The Life of Project goal for the North Sulawesi Field Program is “to demonstrate CRM good practice examples for community-based coastal resources management in resource dependent villages.” To address this goal, the North Sulawesi Field Program supports activities at village, district and provincial levels. Major elements of the North Sulawesi Field Program include:

- Technical and financial assistance to villages for the development of functional community-based CRM model sites implementing best practices for management plans, management committees, information centers, and monitoring systems
- Technical and financial assistance to villages for priority, small, social infrastructure or livelihood activities that can be implemented while longer-term planning processes for CRM were on-going
- Technical assistance for the establishment of local laws and CRM advisory bodies at village, district, and provincial levels
- Preparation of a Coastal Resource Atlas for Minahasa-Manado-Bitung.

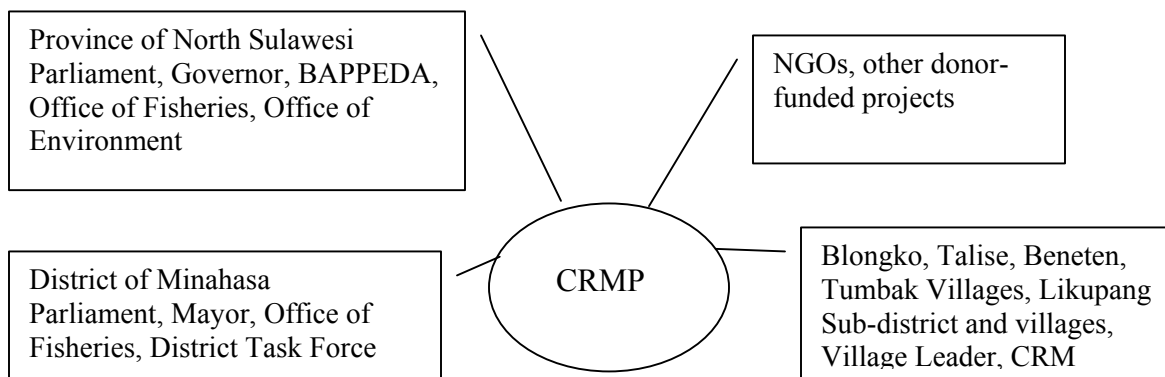
**Figure 3.2 Location of village-level field sites, Minahasa District, North Sulawesi Province.**



The village-level field sites at Blongko, Bentenan-Tumbak, and Talise were selected in the district of Minahasa (Figure 3.2) and a field extension worker was placed in each village in 1997. These village sites are considered anchor sites in which to develop community-based coastal resources management models. In 2002, field efforts were scaled-up through the addition of 24 village sites in the sub-district of Likupang, Minahasa. By early 2003, some communities such as Blongko were at a point where they were to “graduate” from the project.

Key project partners and beneficiaries of the North Sulawesi Program are illustrated in Figure 3.3. For the first five years, CRMP’s focus was primarily at the village level. CRMP has broadened its working relationships in recent years, especially with the Kabupaten of Minahasa and with the North Sulawesi Provincial Government.

**Figure 3.3. Key partners and beneficiaries of CRMP’s North Sulawesi Field Program.**



On the following pages is a matrix outlining the detailed findings of the team.

<b>Coastal Resources Management Project: North Sulawesi Field Program</b>	
<b>Life of Project Goal:</b> <i>Demonstrate CRM good practice examples for community-based coastal resources management in resource dependent villages</i>	
<b>Good practice examples to be developed:</b> community-based marine sanctuaries; village-level issue-oriented ordinances; village-level integrated management plans; monitoring and evaluating impacts of community-based programs	
<b>Guide Questions</b>	<b>Assessment</b>
<b>Project Performance</b> <ul style="list-style-type: none"> <li>• <i>What are key accomplishments of this program?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Community-based CRM was successfully modeled in four village sites (Blongko, Bentenan, Tumbak, and Talise) with functional examples of good practices, including marine sanctuaries, ordinances, management plans, management bodies and monitoring systems</li> </ul>

**Coastal Resources Management Project: North Sulawesi Field Program**

**Life of Project Goal:** *Demonstrate CRM good practice examples for community-based coastal resources management in resource dependent villages*

**Good practice examples to be developed:** community-based marine sanctuaries; village-level issue-oriented ordinances; village-level integrated management plans; monitoring and evaluating impacts of community-based programs

Guide Questions	Assessment
<ul style="list-style-type: none"> <li>• <i>Were the LOP goal and performance targets achieved?</i></li> <li>• <i>How have the program activities addressed gender?</i></li> <li>• <i>What are the specific benefits derived for beneficiaries from the program activities?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Empowered villagers were able to identify and solve issues concerning their resource base, demonstrating the power of decentralized CRM to the villagers and local and national government officials</li> <li>• Villagers in Blongko and Bentenan have internalized the CRM process and have the confidence to assist interested neighboring villages to implement their own CRM programs, as well as serve as technical resources for expanding CRM in the District of Minahasa.</li> <li>• LOP goals and performance targets have been achieved in that the project has demonstrated good practices for community-based coastal resource management. Blongko and Bentenan may provide the most successful examples of good coastal resource management practices.</li> <li>• Benefits of the program derived from village beneficiaries include increased fish catch in areas surrounding the marine sanctuary and small social infrastructure activities designed to address priority issues such as flood control and sanitation.</li> <li>• Program activities fail to address gender directly or consistently. The program has achieved significant involvement of women in many of the village management bodies and field extension staff. However, little has been done to ensure their effective and meaningful participation particularly in Talise and Tumbak. Women also appear to be concentrated in administrative and secretarial capacities.</li> </ul>

**Coastal Resources Management Project: North Sulawesi Field Program**

**Life of Project Goal:** *Demonstrate CRM good practice examples for community-based coastal resources management in resource dependent villages*

**Good practice examples to be developed:** community-based marine sanctuaries; village-level issue-oriented ordinances; village-level integrated management plans; monitoring and evaluating impacts of community-based programs

Guide Questions	Assessment
<p><b><i>Institutionalization</i></b></p> <ul style="list-style-type: none"> <li>• <i>What is the technical and financial capacity of relevant organizations/institutions to sustain CRM?</i></li> <li>• <i>What legal/policy instruments have been adopted by organizations/institutions to institutionalize CRM?</i></li> <li>• <i>What is the extent of vertical and horizontal linkages between organizations/institutions that will sustain CRM?</i></li> <li>• <i>What are the prospects that CRMP developed models of good practices and policies will be sustained, adapted, and adopted more broadly after the project terminates?</i></li> </ul>	<ul style="list-style-type: none"> <li>• The technical and financial capacity of the different coastal resource management committees varies and appear to be stronger in Blongko and Bentenan than in Tumbak and Talise.</li> <li>• Village ordinances have been developed and implemented at all sites regulating no-take zones, and the marine sanctuaries. In some cases, such as Bentenan, other ordinances have been passed with relevance for marine and coastal resource management. In particular, Bentenan has adopted a zoning ordinance that will provide a framework for zoning marine activities. In Blongko the marine sanctuary management plan and ordinance were used as a model to develop a coastal resources development plan.</li> <li>• The potential for horizontal linkages to sustain CRM within the community exists. A number of the management committee staff are also active in other community organizations providing opportunities for cross-linking of projects and increasing the extent to which the marine sanctuary is embraced by existing village government structures and bodies (PKK, KSM, KPL).</li> <li>• The marine sanctuaries are functioning at all sites and there have been no violations since the ordinances were passed. Bomb fishing, largely by fishers from other villages, may have been displaced outside the marine sanctuaries.</li> <li>• CRMP models and good practices will more likely be sustained if villages are able to capture livelihood benefits in the form of fisheries and eco-tourism revenues. The prospects currently appear better for fisheries benefits in Blongko and Bentenan. Eco-tourism potential is also quite high in Blongko, Bentenan and Tumbak. It is unclear, however, the extent to which Talise can compete with surrounding communities and capture some of the tourism revenues from the Gangga Island resort and Paradise Hotel in Likupang.</li> <li>• CRMP models and practices are also more likely to be sustained if the Information Centers can act as hubs for advocacy activities within the village promoting school visits and influencing the curriculum, disseminating posters, organizing events and linking to other villages structures and institutions.</li> <li>• CRMP models and practices are also more likely to be sustained if Information Centers and Management Committees can access small funds (through Dinas Perikanan and BPMD) to facilitate linking across anchor sites and to other villages to socialize experiences and exchange ideas and</li> </ul>

**Coastal Resources Management Project: North Sulawesi Field Program**

**Life of Project Goal:** *Demonstrate CRM good practice examples for community-based coastal resources management in resource dependent villages*

**Good practice examples to be developed:** community-based marine sanctuaries; village-level issue-oriented ordinances; village-level integrated management plans; monitoring and evaluating impacts of community-based programs

<b>Guide Questions</b>	<b>Assessment</b>
	expertise. <ul style="list-style-type: none"><li>• The technical and financial capacity of sub district, district, and provincial levels for CRM is limited.</li><li>• Vertical linkages may need to be more carefully developed and sustained between the community-based management committees and relevant local district and provincial government as well as local NGOs. To date the vertical linkages appear weak and partial -- this may be a function of the decentralization program which has created substantial confusion among government offices, agencies, NGOs and communities alike.</li></ul>

**Coastal Resources Management Project: North Sulawesi Field Program**

**Life of Project Goal:** *Demonstrate CRM good practice examples for community-based coastal resources management in resource dependent villages*

**Good practice examples to be developed:** community-based marine sanctuaries; village-level issue-oriented ordinances; village-level integrated management plans; monitoring and evaluating impacts of community-based programs

Guide Questions	Assessment
<p><b>Decentralization</b></p> <ul style="list-style-type: none"> <li>• <i>What levels of local government (province, district, communities) were reached by this program?</i></li> <li>• <i>What were key program accomplishments in building capacity at the local government level?</i></li> <li>• <i>What have been the contributions and outcomes of this program to more effective participatory and decentralized CRM in Indonesia?</i></li> </ul>	<ul style="list-style-type: none"> <li>• A number of levels of local government have been reached by the CRMP program in North Sulawesi, both in the villages and at the provincial and district levels</li> <li>• The village governance structures appear to have embraced the marine and mangrove sanctuaries at all sites.</li> <li>• Committees and sub-committees are functioning. Tasks have been divided up and allotted to different members. Some committees and sub-committee appear to be more dynamic and have potential for greater success particularly in Blongko and Bentenan.</li> <li>• The Minahasa District CRM Ordinance is viewed as a landmark piece of local legislation that has been disseminated to other districts as a model</li> <li>• New links are being forged to provincial and district government offices, yet there is room for greater effort to be expended by CRMP to broker and reinforce these links.</li> <li>• Vertical links to Dinas Perikanan and to BPMD are being forged, but there is clearly need for more investment in building these relationships and exposing district and provincial government offices to CRM.</li> <li>• Relationships have been established between anchor sites, but a network of anchor sites may need to be maintained to build on these relationships and foster cross-site capacity among the coastal management committees.</li> <li>• Links to local law enforcement appear to be good in Bentenan, but need to be nurtured to enable effective enforcement beyond the use of community sanctions. At Bentenan, the local police also use the Information Center as a base, increasing their exposure to and knowledge of marine conservation activities and forging greater links between enforcement apparatus and the marine sanctuary. This arrangement appears to be functioning well and the management committee report that they are very satisfied with the police involvement to date. The Bentenan model may need to be replicated at other sites.</li> <li>• Further training and capacity building will need to be undertaken to enable community management committees to develop proposals for funding to submit to district and provincial government.</li> <li>• The CRMP program is widely known among donors and agencies working on CRM in Indonesia. Blongko is a success story that many of these agencies refer to and highlight as a model for good community-based coastal resource management.</li> </ul>

Key observations resulting from the assessment suggest the following:

- Community-based CRM anchor sites developed at the village level are considered as one of the most significant contributions to knowledge and best practices within the region and, in the case of Blongko, well-known nationally.
- Local CRM ordinances at the village, district, and, soon, at the provincial level are considered landmark legislation in setting the directions for villages and local governments throughout the country.
- The villages of Blongko and Bentenan appear more advanced than Tumbak and Talise, in terms of overall understanding of the need for and benefits of CRM. Participation levels of villagers at these sites appeared greater and may be responsible for the high levels of commitment to CRM.
- The capacity of district and provincial levels to provide the type of technical and financial support to sustain and expand CRM throughout the province is low. Local government involvement in village level activities was fairly limited.
- Vertical and horizontal coordination and integration mechanisms to sustain and expand CRM in the Minahasa District are beginning to emerge; however these would require substantial assistance to develop to productive levels. The level of coordination between the CRM-related donor funded projects is not evident.
- Grants given to the community for social infrastructure and other activities by the project as early actions may have jeopardized the quality of community participation and ownership.
- The Atlas has been produced in a quite technically-sophisticated and attractive format and presented in the Indonesian language. Although a substantial number of partners were involved in its production, its actual use by decision-makers and planners is limited. The Atlas is a static product and is considered to be at the wrong scale for supporting detailed planning decisions. People within government are seeking GIS-based coastal planning tools. The Atlas receives high praise as an awareness-building document, with many people suggesting that it be available to all schools and other educational institutions. It does not appear to be a useful tool for village communities.

For time reasons it was not possible to visit the scaling up sites in Likupang. However, there are significant issues to be addressed about any such efforts. These are noted in Chapter 4. In the box below a description of the scaling up approach is provided. This description was provided by CRC at the request of the CRMP Assessment Team.

### **The Likupang Scaling-Up Model – Brian Crawford CRC. (Submitted to Assessment Team, February, 2003)**

CRMP is involved in an ongoing community based planning effort in 25 coastal villages in the Likupang sub-district of North Sulawesi Indonesia. Activities started in early 2002 with meetings and trainings of sub-district and district officials as well as village leaders in January 2002. Villages were given the option to voluntarily participate in the program or not and were required to submit a letter of interest in order to be involved in the project. Twenty-four of the twenty-five villages are participating in the program. One village did not submit a letter of interest but are invited to participate in sub-district meetings and training events. Project activities at the village level started in March of 2002.

The model used in these “scaling-up” sites is different than the approach used in the original pilot project sites. The intent at the scaling-up sites is to use a simpler and less costly approach that would have more likelihood of adoption by local governments. The concept was to concentrate in only one sub-district in order to obtain economies of scale. Officials at the sub-district level and staff of the Fisheries Office have been more involved in the effort as well. The community-based planning and development process is similar to the pilot sites. However, more emphasis is being placed on early training of community members in a number of areas including CRM, facilitation, conflict resolution, gender, etc. The development of the training modules and their implementation in the villages has been done in cooperation with a consortium of local NGOs. In addition, communities are being trained by the Village Community Development Board in how to prepare annual village development plans that include coastal management initiatives. These annual plans can be funded by the sub-districts and district government through the standard bottom up and top down village development planning process.

Another important difference in the Likupang scaling-up sites is in the use of field extension officers and community organizers. In the pilot sites, one full time field extension officer was assigned to the site for a period of one to two years and they were assisted by a part time field assistant from the community. In the scaling up sites the project has hired a team of field extension agents (FEOs), however, they are each responsible for managing community organizing and planning efforts in several villages. The FEOs are assisted by a group of community organizers (COs) appointed by the village (from two to six individuals) to work with the project. The COs are all residents of their villages and were nominated by village government to organize efforts in the village. The FEOs are all fairly young and are recent graduates from the local university. They do not live in the villages but work out of a provincial office in Manado.

The communities have developed simple issue based profiles similar to the Blongko profile example. Most communities have decided to develop community-based marine protected areas (reef and mangrove environments) as a cornerstone of their early implementation activities. However, the villages are now in the process of developing integrated management plans as well. The pace of progress in the villages varies considerably. Some have already established marine sanctuaries complete with sign board and boundary markers. One has completed their management plan. Others are still in the process of establishing sanctuaries and have not yet started the development. As of the end of January 2003, there have been five marine sanctuaries, one mangrove sanctuary and one management plan that have been formally adopted by the communities.

### **Lampung Field Program**

The Lampung, Sumatra (Figure 3.4) activities were started in cooperation with the Coastal Center at IPB. This approach was different than other field programs. The Life of Project goal is “*CCMRS-IPB (via CRMP partners) develops and demonstrates CRM good practices at Provincial level linked to tangible actions at village level.*” The intent



was to create Indonesia’s first regional coastal atlas that could serve as a participatory resource assessment and issue identification tool; engage in participatory provincial-level coastal strategic planning that would lead to budget commitments in support of coastal community development over a period of at least five years; sustainable mariculture (at community level); universities (IPB and UNILA) as catalysts and facilitators of CRM.

**Figure 3.4. Lampung Province.**



Major elements of the Lampung Field Program include:

- Development of the *Atlas Sumberdaya Pesisir Lampung*,
- Preparation of a Provincial Coastal Strategic Plan (*Renstra*) with detailed budgets that are to be acted upon by the Lampung Provincial Government over a five year period, and
- Sustainable development and conservation activities at two community pilot including Pematang Pasir Village (“good practices in community-based aquaculture”) and Sebesi Island (community-based marine sanctuary).

Because of the limited time available for the Assessment Team it was not possible to make a field trip to speak directly with members of local communities, or with district and provincial government officials and university faculty members in Lampung. The

Lampung CRMP project office closed some time ago. Activities were carried out via IPB's coastal center; therefore interviews were conducted with IPB staff directly involved in the Lampung activities, and a variety of analytical reports and products were made available for review. This included graduate thesis work by IPB students.

The activities at the two local locations are well described in project documents, and according to IPB and CRC interviewees. However it is difficult to be certain of their effectiveness in the absence of field visits. The village level work, patterned after anchor models in North Sulawesi, has not had the same follow-through and seems isolated from other CRMP activities at this point in time. A box, prepared by Assessment Team member Dr. A. Fauzi, provides useful insights into the main elements undertaken in Lampung.

The main focus covered in this report is the Lampung Coastal Atlas, which was a pioneering effort within Indonesia, and which has spawned a number of other similar publications. Much is claimed of its role in stimulating provincial planning and budget allocation for coastal management within Lampung Province.

The publication of *Atlas Sumberdaya Wilayah Pesisir Lampung* (Lampung Coastal Resources Atlas) was praised by all relevant parties as one of the milestones in presenting coastal and marine resources information in a readable format. For decades, data for coastal resources at provincial as well as district levels were scattered among various institutions such as the Provincial Fisheries Agency, the Provincial Statistical Office, Regional Development Offices (BAPPEDA) and others. With the publication of the Atlas, some of the data now can be accessed and read in a single, relatively cohesive document. Even having the data identified is an achievement, and the participatory process, which involved a significant number of agencies is, in its own right, a useful capacity-building effort. Such an effort had not happened before. The data are maintained in a fashion that permits updating.

The Lampung Atlas is an interpretive document, providing a classical "western" resource mapping perspective on basic characteristics of the coastal zone and existing uses. It is background suitable for educational purposes, for providing a holistic overview to district and provincial decision-makers and managers, and, for those involved with industry, it sets out a context for some of the issues that might affect environmental management. The Atlas also may prove to be valuable at a national level, not only for content, but also for what it has stimulated in follow-up, as noted below.

## Observations on Lampung CRMP Activities

### (Notes prepared by Akhmad Fauzi, Assessment Team Member)

Lampung Province activities were started in August 1998 with 5 main activities: (1) Research and development, (2) Education and training, (3) Institutional strengthening, (4) Policy and enabling conditions, and (5) Dissemination of lessons learned using a two-track approach both at province and village levels.

At the village level, the project addressed environmental-friendly aquaculture and marine sanctuary establishment. “Sustainable aquaculture” was established in Pematang Pasir village, and a marine sanctuary was established at Sebesi Island in early 2000. At the provincial level, the project’s aim was to strengthen the capacity building. To do this the project developed the “Coastal Resources Atlas of Lampung”, considered to be the first of such an atlas in Indonesia. The process of making the atlas involved participation of more than 300 stakeholders and 60 organizations. The effort was considered as an important step of increasing public awareness on coastal and marine resources issues and problems. With the completion of Atlas, which becomes the key source for development planning over coastal and marine resources, the project then launched the Strategic Plan of Marine and Coastal Management (*Rencana Strategis Pengelolaan Sumberdaya Pesisir dan Lautan*).

In terms of the Strategic Plan of MAC (*Renstra*), it was acknowledged that, even though the strategic plan had been approved by the Provincial Government of Lampung, the document, however, was a *non-binding document*, for which there was no legal basis to be strictly implemented. The implementation of the *Renstra* was developed on a voluntary basis, i.e., there was no compulsory order for every agency at the provincial level as well as at the Kabupaten/Kota level to use the *Renstra* as a reference document to develop their own strategic plan. In the future, there is a consideration to legalize the *Renstra* by incorporating it into a *Perda* (Provincial Regulation).

The Strategic Plan of MAC Lampung was also disseminated to stakeholders throughout Lampung Province as well as to six coastal Kabupaten/Kota offices within the Province. This dissemination process was facilitated by the office of regional planning (Bappeda).

In order to implement the strategic plan, the government of Lampung formed a steering committee with its main duty being to provide coordination among sectors involved in the management of coastal and marine resources management. Specific tasks of this committee among other things are: (1) advising on the implementation and the creation of working program for the strategic plan, (2) advising on the issue of strategy and development scenarios in order to achieve sustainable development of marine and coastal resources, and (3) carrying out evaluation and monitoring activities over the coastal and marine projects within Lampung Province.

To implement the Strategic Plan of MAC Lampung, the government of Lampung, in FY 00-01 had allocated a budget of more than Rp 4 billion to fund 24 development programs in coastal areas. The funds were drawn from the regional budget (APBD), state budget through DAU (*Dana Alokasi Umum*—General Allocation Fund), and grant funds. Implementation of programs derived from *Rensta* was also facilitated by DPK through the coastal and small islands directorate, specifically for: (1) Ecosystem rehabilitation and community empowerment in Tegal and Puhawang Islands; 2) Community Economic Empowerment program in South Lampung and East Lampung; and 3) formulation of Coastal Spatial Planning in Lampung Bay. Total budget allocated for these programs amounts to Rp 1.27 billion. In addition to two source of funding for the implementation of *Renstra*, there were also programs funded by CRMP amounting to Rp 800 million for the development of environmental-friendly aquaculture and mangrove rehabilitation in Pematang Pasir. Overall, the implementation of programs derived from the coastal and marine strategic plan has been 70% achieved in FY 01-02.

What the Atlas does not do is provide the detail required for spatial planning decisions, or even clearly fit into such processes, except in a very general way. This is an important issue since it is very clear that the demand for such spatial planning is high, coupled with a desire to use adaptive tools such as GIS in order to build custom tailored information bases at a scale appropriate for specific needs. As well, it is not very clear how the Atlas can be used by local communities, although it probably has value for the sub-district (*kecamatan*) level.

The follow-up to the Lampung Atlas was the development of a Lampung Provincial Marine and Coastal Strategic Plan that detailed expenditures required over a five year period.<sup>48</sup> It is said that the Plan has led to a very substantial provincial budget commitment already. It is very difficult to verify this outcome, either in terms of actual amounts, or effectiveness in their use. Part of the problem is that it is early days. And, secondly, there is not a good tracking system on the implementation of the strategic plan. This is a job well-suited for IPB, but at the moment follow-up appears casual and not systematized. Relationships with the local university do not appear to have continued once the project office closed down. It is unfortunate that follow-up so far is limited, since much could be gained by learning how a province chooses to invest, and whether investment leads to better coastal use.

Soon after publication of the Lampung Atlas, other provinces and local regions in the country began producing their own coastal atlases based on the Lampung model. And the CRMP followed up with an Atlas for North Sulawesi and, more recently, Bintuni Bay in Papua. Clearly the concept of the Atlas is attractive and it is quite likely that it will stimulate a national effort so that within a period of several years most of the country's coastal zone may be covered. In terms of the rate of duplication, this could be seen as spreading the success of what the Lampung had been achieved. Some of the provinces which already have published their own atlas are: North Sumatera, Riau, Jambi, West Java, Bali and West Nusa Tenggara (NTB). The production of the atlas of these provinces was assisted by the Center for Coastal and Marine Resources (*PKSPL-IPB*) with funding support from provincial budget.

Other atlases were also produced with different scales of geographical coverage. These include Atlas of *Teluk Kendari* (Atlas of Kendari Bay), Atlas of *Sumberdaya Pesisir Minahasa* (*Kabupaten* level coverage) and, as noted, an Atlas of Bintuni Bay (in progress).

The duplication of these similar atlases, however, have not all been as praised as the Lampung Atlas. An interview with one source who had been involved in the Atlas project reveals that several complaints have arisen with regard to some of the Atlases. The concerns include the following:

---

<sup>48</sup> Lampung Provincial Government. 2000. *Rencana Strategis Pengelolaan Wilayah Pesisir Lampung*. [Strategic Plan for Coastal Area Management in Lampung].

- The atlases did not address issues related to the concerned provinces. Issues of coastal resources in the provinces mentioned above were geographically and culturally different than those of Lampung. Yet the atlases seemed to follow the Lampung outline.
- During the process of preparing the atlas in provinces other than Lampung (especially Riau and NTB), some related agencies and institutions were not being asked to participate. The project seemed solely at the hand of Regional Offices. In NTB, staff from the local University of Mataram (UNRAM) criticized the quality of the Atlas and indicated that they never been asked to participate in the process. Similarly, some local NGOs were also being left out in the process as well as in the dissemination of the Atlas. To some extent, this set of problems can be attributed to the difference in timing framework between Lampung atlas and other provinces. The Lampung atlas was a product from a fairly lengthy process. Other atlases were produced over a relatively short period of time (an average of four months) so that there was not enough room to have a better consultative process among stakeholders. This problem occurs because funds are distributed late in the budget year and must be spent before the end of it.
- While the emphasis of the Lampung Atlas was on natural resources, other provinces believe that the emphasis of the Atlas in their own province should be in terms of human resources and social aspects of the coastal resources.
- The use of atlases seems to vary from province to province. After the Atlas was produced, people didn't know what to do with it. Some sources say the atlas is merely nothing than a crash program by the provincial government to spend the budget. The link of atlas and other strategic plans is also considered somewhat tenuous.

### **East Kalimantan Field Program**

The East Kalimantan Field Program was initiated in 2001 and therefore is relatively young, compared to the other field programs. The Life of Project goal for the East Kalimantan Field Program is “*integrated land and water management through locally-tailored CRM partnerships.*” To address this goal, the East Kalimantan Field Program supports activities primarily at the municipal, district and provincial levels. Major elements of the East Kalimantan Field Program include:

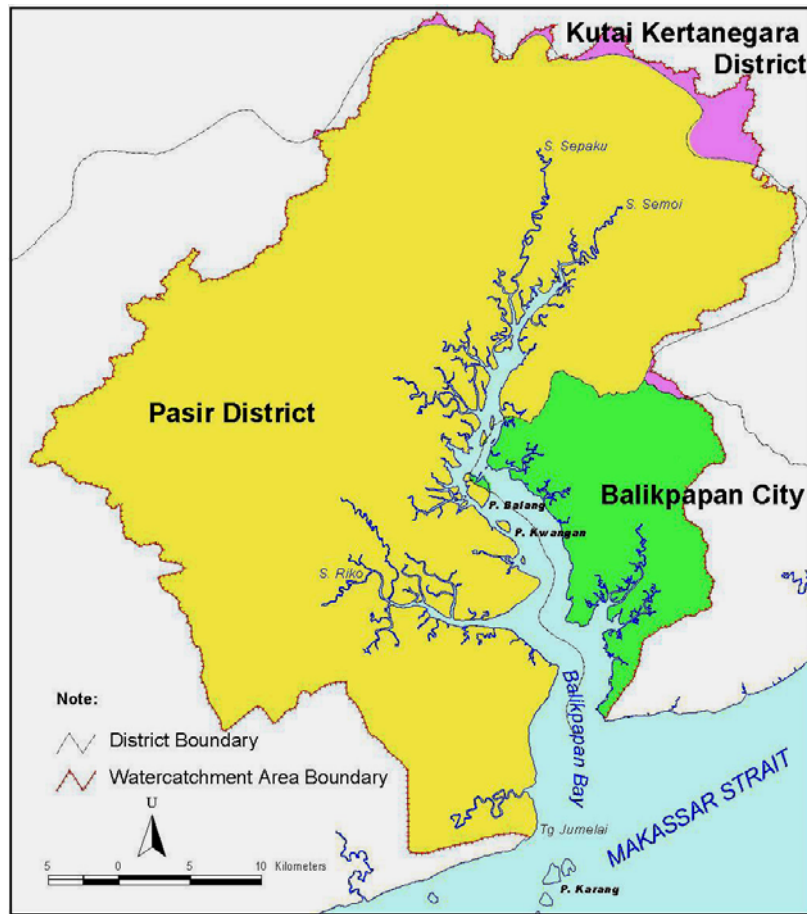
- Technical assistance to establish a Balikpapan Bay Council, development of the Balikpapan Bay Management Plan (BBMP), and the establishment of a Scientific and Technical Advisory Committee (STAC).
- Training on integrated watershed-bay management planning for local government, NGO, and private sector partners, and assistance in the establishment of an NGO oriented to the needs of the Bay and local communities.
- Outreach activities and training for local media and NGOs in natural resources management to generate overall awareness of problems in Balikpapan Bay.
- Limited initiatives supporting local communities surrounding the Bay.

The East Kalimantan Field Program is focused primarily on Balikpapan Bay bounded by Pasir District, Kutai Kertanegara District, and Balikpapan City (Figure 3.5). Key project partners and beneficiaries of the East Kalimantan Program are illustrated in Figure 3.6.

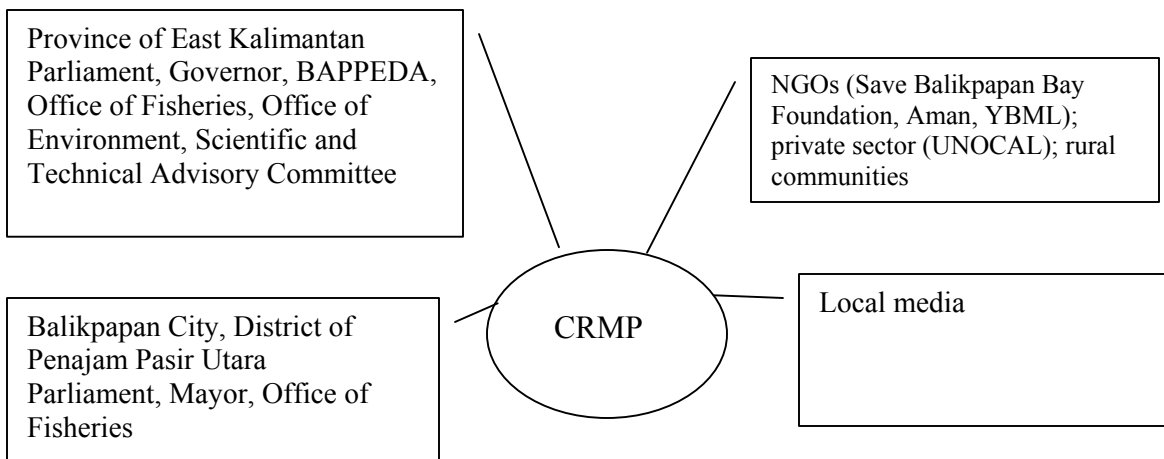
A matrix of activities and results, as observed by the Assessment Team is provided below, with a summary of key findings noted in the text that follows:

- Although initiated much later than the other field programs of the project, the East Kalimantan Field Program has quickly generated awareness, interest, and action toward the development and implementation of what is likely the first integrated watershed-bay management program in the country.
- A high level of demand for technical assistance in integrated watershed-bay management planning has been created by the project's activities resulting in interest in similar assistance from neighboring areas with similar geomorphology and natural resource management problems.
- The cause of the bay's problems is complex. Some issues, such as mercury contamination of sediments is related to major industry (coal washing). Others are caused by many, small scale activities, such as dumping of oil waste by small vessels as opposed to large oil and gas industry that is accused of creating problems. As well, activities in surrounding watersheds create substantial sedimentation and other problems. Hence the strategy of focusing attention via specific working groups seems very sensible.
- The opportunity exists to work with large private sector players in various resource sectors and the CRMP staff have begun to develop these connections in order to tap technical capacity and funding. The private firms look to the CRMP for fostering appropriate environmental management frameworks in the coastal zone, leading to improved conditions and reduced risk, for example, from oil spills.
- Institutional development is proceeding at a rapid rate, with interest on legislation, practical planning applications, especially on the part of Balikpapan City which would like to see an extension beyond the Bay so that the entire urban coastline is covered, and the new *Kabupaten* of Penajam Pasir Utara, which comprises a large part of the watershed and bay shoreline.
- For this field program locally-matched funding is not a problem. East Kalimantan is a wealthy province, and there is growing recognition that investments must be for sustainable forms of development.
- Efforts for village-based ecological restoration of mangroves are still nascent; this does not appear to be the real strength of the CRMP in this field program. It is difficult to determine how successful the local NGO, *Yayasan Selamatkan Teluk Balikpapan* (Foundation to Save Balikpapan Bay) is likely to be in its efforts to work with local communities. Meetings with fishing and community representatives brought out their strong desire to ensure that CRMP activities are driven very strongly by the needs of poor people.

**Figure 3.5** Map showing location of East Kalimantan Field Program.



**Figure 3.6** Partners and beneficiaries of CRMP's East Kalimantan Field Program.



**Coastal Resources Management Project: East Kalimantan Field Program**

**Life of Project Goal:** *Integrated land and water management through locally-tailored CRM partnerships*

**Good practice examples to be developed:** *bay management plan; government, private sector, NGO management partnership; Provincial CRMP policy*

Guide Questions	Assessment
<p><b>Program Performance</b></p> <ul style="list-style-type: none"> <li>• <i>What are key accomplishments of this program?</i></li> <li>• <i>Were the LOP goal and performance targets achieved?</i></li> <li>• <i>How have the program activities addressed gender?</i></li> <li>• <i>What are the specific benefits derived for beneficiaries from the program activities?</i></li> </ul>	<ul style="list-style-type: none"> <li>• The East Kalimantan Program, focused on Balikpapan Bay, is in its early stage of implementation (less than 2 years of project implementation). Nevertheless, it is achieving its life of project goals and has generated widespread awareness of CRM problems and recognition of the need for an integrated planning and management framework among local government (Province, District, and City), local NGOs, private sector, mass media, and universities</li> <li>• Demand for CRM has been created, leading to the development of the Balikpapan Bay Strategic Management Plan (BBSMP), an integrated and interlinked watershed-bay management plan, and a Government/Stakeholder Council backed up by an ad-hoc Scientific and Technical Advisory Committee (STAC) with considerable potential to address the range of urgent issues in Balikpapan Bay</li> <li>• Budget allocations proposals for 2003 in the framework of BBSMP have been presented to the local parliament and government of the Balikpapan Municipality, District of Penajam Pasir Utara, and East Kalimantan Province, and are in the process of budget assessment.</li> <li>• The development of the BBSMP highlighted the need for the policy and legal instruments (e.g. <i>PERDA, SK, Peraturan Desa</i>)</li> <li>• A stakeholders Round Table Discussion identified and agreed on the coastal areas of East Kalimantan which have the potential to become replication areas where the watershed based Balikpapan Bay Integrated Coastal Management model could be replicated, e.g. the Mahakam watershed and deltaic area, Sangkurilang Bay and the coastal area of Bontang District</li> <li>• Establishment of the Save Balikpapan Bay Foundation (YSTB) with the assistance of the project, received a private sector grant of US\$152,000 to fund coastal community empowerment and development activities for villages around Balikpapan Bay in 2003, in cooperation with other NGOs (such as AMAN, YBML, and others)</li> <li>• Through the assistance of three local working groups, the project completed the following activities: (a) Posted nameplates at the mouths of 52 rivers and creeks entering Balikpapan Bay, (b) The biodiversity group in an effort to improve available information on biodiversity within Balikpapan Bay and its surroundings undertook a preliminary study on coral reefs and its associated biota, (c) The mangrove-fishpond working group in cooperation with the community completed planting 2,500 mangrove seedlings on 1.5 ha of tidal area in Kariangau Village</li> </ul>



**Coastal Resources Management Project: East Kalimantan Field Program**

**Life of Project Goal:** *Integrated land and water management through locally-tailored CRM partnerships*

**Good practice examples to be developed:** *bay management plan; government, private sector, NGO management partnership; Provincial CRMP policy*

Guide Questions	Assessment
	<p>(Kehurahan), Balikpapan Municipality, and (d) The erosion and sedimentation working group completed a field study where samples were taken from the outlets into Balikpapan Bay of the Wain, Semoi, Sepaku, and Riko Rivers, which were analyzed for the concentration of suspended sediments, volume of discharged water, discharge of suspended sediments, distribution of land units, weighted erosivity index, universal soil loss equation, and erosion threat index. Aside from this, Proyek Pesisir reviewed the TOR for the AMDAL (Environmental Impact Analysis) of the Kariangau Industrial Estate, in connection with the implementation of BBSMP and the production of a map of delineated marine borders for East Kalimantan Province marine areas.</p> <ul style="list-style-type: none"> <li>• The program activities have not addressed gender, except if one considers that by appointing a woman as team leader of the mangrove-fishpond working group that undertook the planting of mangrove seedlings, matters concerning gender have been addressed.</li> <li>• The CRMP training programs and outreach and dissemination activities were participated in by journalists from the Samarinda TV Station, Kaltim Post, Radio Republic Indonesia, Paras Samarinda Private Radio station, and Smart FM Balikpapan Private Radio Station resulted in an heightened awareness and better understanding of Integrated Coastal Management and the BBSMP by the participants and eventually by the general public, but also to the acceptance of the BBSMP by the general public. In the framework of dissemination of information, CRMP produced 14 fact sheets on numerous themes, including a.o. biodiversity, coastal conditions relative to the potential of Balikpapan Bay, and a profile of Balikpapan Bay, and press releases on potable water and water resource management.</li> </ul>

**Coastal Resources Management Project: East Kalimantan Field Program**

**Life of Project Goal:** *Integrated land and water management through locally-tailored CRM partnerships*

**Good practice examples to be developed:** *bay management plan; government, private sector, NGO management partnership; Provincial CRMP policy*

Guide Questions	Assessment
<p><b><i>Institutionalization</i></b></p> <ul style="list-style-type: none"> <li>• <i>What is the technical and financial capacity of relevant organizations/institutions to sustain CRM?</i></li> <li>• <i>What legal/policy instruments have been adopted by organizations/institutions to institutionalize CRM?</i></li> <li>• <i>What is the extent of vertical and horizontal linkages between organizations/institutions that will sustain CRM?</i></li> <li>• <i>What are the prospects that CRMP developed models of good practices and policies will be sustained, adapted, and adopted more broadly after the project terminates?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Reviewed the Terms of Reference of the AMDAL (Environmental Impact Analysis) of Kariangau Industrial Estate), in connection with the initial implementation of BBMP</li> <li>• <i>Tirta Pela</i> Team completed outline of December issue of <i>Tirta Pela</i></li> <li>• <i>Tirta Pela</i> Team in collaboration with the Center for the Study and Management of Water Resources (PPPSA), School of Forestry (Fahutan), and School of Fisheries and Marine Sciences (FPIK) of Mulawarman University (UNMUL) revised the structure and membership of the management team of <i>Tirta Pela</i></li> <li>• Proyek Pesisir produced 14 factsheets on numerous themes, including biodiversity, coastal conditions relative to the potential of Balikpapan Bay, and a profile of Balikpapan Bay, and press releases on potable water and water resource management</li> <li>• Implemented a seminar on governance issues and identifying models of authorized marine borders in conjunction with Law No. 22/1999</li> <li>• Establishment of institutional arrangements for BBMP implementation</li> <li>• Conducted seminar on good governance issues and identifying models of authorized marine borders in conjunction with Law No 22/1999</li> <li>• Scientific and Technical Advisory Committee (STAC) successfully selected 8 members of STAC Core Committee, Balikpapan Bay Management Council, who came from universities, private sector/business groups, and Proyek Pesisir</li> <li>• Ad-hoc Committee formed to back-up Core Committee in handling micro-level issues including clean water, pollution, mangrove management, erosion and sedimentation, legal and institutional issues, conflict resolution and landownership, public education and participation, and tourism</li> </ul>
<p><b><i>Decentralization</i></b></p> <ul style="list-style-type: none"> <li>• <i>What levels of local government (province, district, communities) were reached by this program</i></li> <li>• <i>What were key program accomplishments in building capacity at the local government level?</i></li> <li>• <i>What have been the contributions and outcomes of this program to more effective participatory and decentralized CRM in Indonesia?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Provincial, district, municipality, level reached</li> <li>• Assisted the provincial government together with relevant district and municipal government to formulate the BBMP</li> <li>• Raised level of interest for similar integrated coastal management approach in other areas</li> </ul>

## **Other Field Programs (Papua)**

Activities in Papua have started only over the past year, and are focused on the production of a coastal atlas for Bintuni Bay, working with the local university (UNIPA), a member of INCUNE. This effort will include a mentoring component, drawing upon skills at the Coastal Center in IPB and CRMP affiliates in North Sulawesi. A very important link has been made with the private sector (BP's Indonesian company) that is planning a multibillion dollar gas production facility at this location. The Atlas is a vehicle also for CRMP to explore possible expansion of activities within Papua, a region of increasing interest to USAID.

It is too early in the process to provide a full assessment of accomplishments in Papua. Visits are expensive and building the local trust and connections to truly develop a participatory approach is a challenge. The problems of producing an atlas that will be effectively used to improve decisions need to be recognized. But there is also considerable opportunity. The relationship with BP staff is good. Accumulated experience of CRMP will be valuable in refining the nature of both process and product. And there is certainly a need for bringing together information.

The Bintuni Bay area includes one of the most significant remaining mangrove ecosystems anywhere in the world. There are many competing uses already underway or planned by various sectoral agencies. A massive amount of information has already been accumulated, for example through environmental assessment and regional development studies. Not all of this information is currently available to the Atlas team, and it is important that all possible channels be used in order to get access.

## **Outreach Program**

Rapid and widespread dissemination of CRM approaches, best practices, and lessons learned were highlighted as critical success factors to expand the impact of the CRMP. The original project design called for rapid and widespread dissemination of ICM lessons arising from the local initiatives. The Life of Project goal of the Outreach Program de-emphasized this somewhat by restating it as follows: "to extend the impact of CRMP beyond the project's immediate partners and sites (to facilitate replication/uptake of CRMP-derived best practices)." To address this goal, the Outreach Program supports activities at both national and local levels. Major elements of the Program<sup>49</sup> include:

---

<sup>49</sup> A number of key references informed this section, including: CRMP. 1999. Life of Project Strategy 2000 – 2003, 15 pp.; CRMP. Monthly Implementation Reports: August 2002; September 2002; October 2002; November-December 2002; CRMP. Workplan Implementation Reports: Report # 7, April –September 2000; Report # 8, October 2000 – March 2001; Report # 9, April 2001 – September 2001; John Hopkins University. 2002. Proposed Communication Strategy 2002 – 2003, 48 pp.; Loke-Ming Chou. Indonesian Coastal Universities Network Strategy, 10 pp.; Bogor Agricultural University (IPB). 2002. Institution Profile. Institute for Tropical Coastal and Ocean. 38 pp.; CRMP. Draft Lessons Learned from Roundtable Discussions: MBL. 2000. National Benchmark Study. Exploration & Measurement of Public Attitude to Conservation & Use of Marine Resources [also referred to as the National Attitudinal Survey] 110 pp.

- Documentation and dissemination of best practices and lessons learned as technical reports and peer-reviewed articles,
- Awareness raising activities using print and radio media,
- Capacity building for Bogor Agricultural University (IPB) as a national partner for documentation of best practices and lessons learned,
- Development of the Indonesian Coastal Universities Network (INCUNE), a network of academic institutions, as the vehicle for disseminating best practices and lessons learned, and
- Preparation of a communication strategy proposal by Johns Hopkins University.

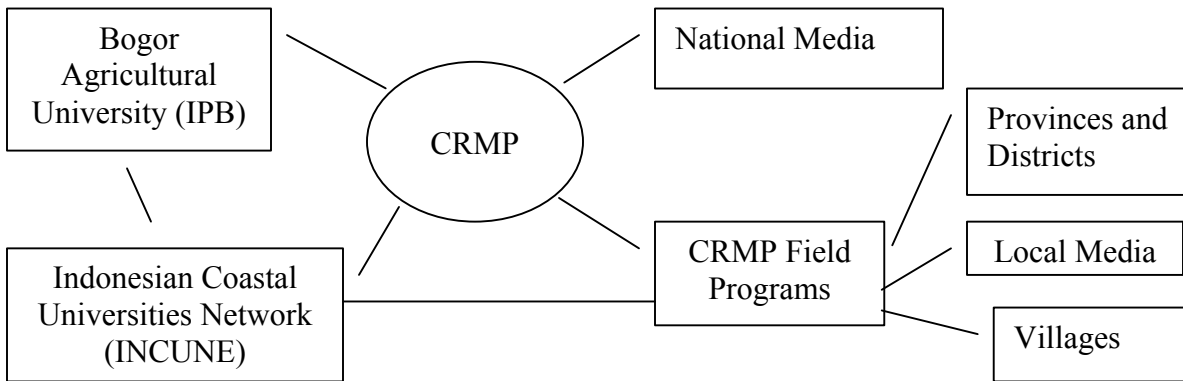
A national attitudinal survey was conducted in 2000 to benchmark CRM knowledge, attitudes and practices. The intended use of the survey results was to gauge the level of awareness of the general public on marine and coastal resource problems and solutions and to develop strategic communication strategies. A total of 1,200 people participated in the survey covering urban, rural, and coastal areas of Jakarta, Lampung, North Sulawesi, and East Kalimantan. Illustrative survey results include:

- 80% of survey respondents consider marine resources as very important, mentioning fish, salt, shrimp, shells, and squid as the most important marine foods.
- Over 80% of survey respondents claim to have seen a coral reef and over half say they saw it on television.
- Living cost and household income were considered by survey respondents as the most pressing problems, followed by education cost, unemployment, and security.
- Blast fishing and catching fish with cyanide were considered by survey respondents as major threats to the environment.
- 50% of survey respondents consider that the sea condition is getting worse and see industrial waste, rubbish and using poison to catch fish as the major causes of the deteriorating sea condition.

These results are encouraging in that they indicate at least some level of knowledge about marine and coastal environmental degradation.

Key project partners and beneficiaries of the Outreach Program are illustrated in Figure 3.7. IPB, through CCRMP, has served as one of the primary outreach arms of CRMP. IPB's focus has been to document CRM best practices and lessons learned. The Lampung Field Program served as IPB's training ground to build the capacity for documentation. Dissemination of best practices and lessons learned has been enhanced through the development of INCUNE. The Sea Partnership Program (see National Program section), developed after a CRMP-supported study tour to learn about the workings of the U.S. Sea Grant Program, has the potential to enhance applied research and extension of CRM at the provincial level. CRMP has also worked to a limited extent with national and local media to promote awareness in coastal resource issues.

**Figure 3.7 Partners and beneficiaries of CRMP's Outreach Program.**



Key observations resulting from the assessment findings in the matrix below suggest the following:

- CRMP's Outreach Program has been focused primarily on very extensive technical documentation of the project's activities, socioeconomic and biophysical surveys, best practices, and lessons learned.
- Some popularized materials were developed (e.g. posters and calendars). However, technical information and much of the learning's from the project were not popularized or disseminated through communication strategies at the local government or village levels.
- Information centers, established at the village level, contain largely generic information about types of marine life (posters show manatees, beluga whales etc, rather than marine life found in Indonesia), and few project-developed materials or Indonesian-specific references.
- Strategic partnerships with NGOs and national and local media were limited to specific project needs and were not developed within the context of a participatory and integrated communication strategy.
- The National Attitudinal Survey results provide many interesting and useful findings; however, there is no evidence that the results were applied to focus outreach activities.
- Overall, the Outreach Program activities have had a limited and confined contribution to the Life of Project goal. For instance, replication of village-based CRM programs in expansion sites in North Sulawesi are proceeding through intensive, field extension programs—not facilitated with strategic communication tools or mechanisms that could enhance spread beyond the initial project village sites.

In 2002, CRMP commissioned the Johns Hopkins University Center for Communications Programs to develop a Communication Strategy to provide a framework and strategic directions for CRMP's Outreach Program. The proposed Communication Strategy

adopts a much needed integrated communication framework for social change to achieve the broader project goals. The strategy defines both national and provincial/district programs to extend CRMP's reach and impact. This strategy has not been implemented as yet by the project due to funding constraints and other factors, especially overall concern for its value; however, it may serve as input for future communication activities.

<b>Coastal Resources Management Project: Outreach Program</b>	
<b>Life of Project Goal:</b> <i>Extend the impact of CRMP beyond the project's immediate partners and sites (to facilitate replication/uptake of CRMP-derived best practices)</i>	
<b>Good practice examples to be developed:</b> innovative communication programs/materials/methods; university networks as an agent for improved CRM	
<b>Guide Questions</b>	<b>Assessment</b>
<p><b><i>Institutionalization</i></b></p> <ul style="list-style-type: none"> <li>• <i>What is the technical and financial capacity of relevant organizations/institutions to sustain CRM?</i></li> <li>• <i>What legal/policy instruments have been adopted by organizations/institutions to institutionalize CRM?</i></li> <li>• <i>What is the extent of vertical and horizontal linkages between organizations/institutions that will sustain CRM?</i></li> <li>• <i>What are the prospects that CRMP developed models of good practices and policies will be sustained, adapted, and adopted more broadly after the project terminates?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Strengthened capacity of IPB as primary agent of CRMP's Outreach Program</li> <li>• Established publications unit at IPB for document layout and production</li> <li>• Established INCUNE as a network for information dissemination and sharing lessons learned</li> <li>• Initiated Sea Partnership Program modeled after U.S. Sea Grant University system to institutionalize applied research, extension, and outreach programs for coastal resources management</li> <li>• Adoption of a learning approach to coastal resource management, through extension services, documentation, and dissemination of lessons learned and best practices is viewed as significant accomplishment that will be sustained by INCUNE beyond the life of the project</li> </ul>
<p><b><i>Program Performance</i></b></p> <ul style="list-style-type: none"> <li>• <i>What are key accomplishments of this program?</i></li> <li>• <i>Were the LOP goal and performance targets achieved?</i></li> <li>• <i>How have the program activities addressed gender?</i></li> <li>• <i>What are the specific benefits derived for beneficiaries from the program activities?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Lessons learned and best practices from national and field programs, extensively documented by IPB and the project staff, have captured the breadth and depth of the CRM experience of the project</li> <li>• Capacity to document the CRM experience was developed and institutionalized as a special unit within IPB</li> <li>• The INCUNE network provided for the first time, a much needed mechanism to disseminate and share lessons learned and best practices in CRM through bi-annual coastal management conferences and a peer-reviewed coastal management journal; however the ability of this network to effect</li> <li>• Standard types of communication programs, materials and methods (videos, television spots, posters) used with little evidence of innovation</li> <li>• No deliberate strategies to address gender in communication activities</li> <li>• National Attitudinal Survey provided valuable baseline data on public knowledge, attitudes, and practices in CRM; however the results were not applied to enhance the Outreach Program</li> <li>• Limited and confined contribution of the program to the LOP goal due to the paucity of communication tools and mechanisms for strategically extending CRMP's impact</li> </ul>

<b>Coastal Resources Management Project: Outreach Program</b>	
<b>Life of Project Goal:</b> <i>Extend the impact of CRMP beyond the project's immediate partners and sites (to facilitate replication/uptake of CRMP-derived best practices)</i>	
<b>Good practice examples to be developed:</b> innovative communication programs/materials/methods; university networks as an agent for improved CRM	
<b>Guide Questions</b>	<b>Assessment</b>
<p><b>Decentralization</b></p> <ul style="list-style-type: none"> <li>• <i>What levels of local government (province, district, communities) were reached by this program</i></li> <li>• <i>What were key program accomplishments in building capacity at the local government level?</i></li> <li>• <i>What have been the contributions and outcomes of this program to more effective participatory and decentralized CRM in Indonesia?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Communication activities conducted at all levels, village, district and community within project field sites</li> <li>• Increased awareness of local government and communities of the importance of managing coastal resources within the limited areas of CRMP field sites</li> <li>• Based on surveys conducted under this program in non-CRMP sites, coastal communities view local government officials and staff as the primary source of information on coastal resources management</li> <li>• Venue for introducing participation, transparency, and accountability at local level provided through the establishment of village-level marine protected areas and development of local ordinances at village and district levels for coastal resource management</li> </ul>
<p><b>Issues and Threats</b></p> <ul style="list-style-type: none"> <li>• <i>What issues, policies, or plans threaten progress in improved management of coastal resources for this program?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Outreach program fairly limited in scope to document production and dissemination, although some other communication modes (e.g. video) were employed</li> <li>• Outreach program could have been tasked more effectively to spread coastal resources management best practices to a wider audience through strategic interventions</li> <li>• Communications strategy for the project developed by John Hopkins provided an overall framework for future activities; however this proposed strategy did not describe specific or strategic communication activities that could catalyze replication and spread of CRMP best practices and lessons learned</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• <i>Should the program (or elements of it) be continued, discontinued, or modified in a new initiative?</i></li> <li>• <i>Should the program expand or transition to other geographic areas within or outside of USAID geographic priority areas and how could this be accomplished?</i></li> <li>• <i>Should the program address additional coastal resource management concerns?</i></li> <li>• <i>What meaningful and realistic performance indicators could be used for a new initiative?</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ Outreach Program must graduate from primarily a documentation and dissemination of materials approach to an integrated strategy that incorporates a two-track approach at the national (social marketing) and local level (social mobilization) to create the demand for, and popularize coastal resource management</li> <li>▪ Economic development and food security benefits from improved management of coastal resources, especially focusing on existing significant losses from lack of management (illegal and overfishing) should be articulated and highlighted in the Outreach program</li> <li>▪ Increased and substantive participation by NGOs in national and local outreach activities needs to be fostered. They can serve as equal partners in advocacy campaigns beginning with development of communication strategies, methods and materials in order to broaden the reach and impact of the project</li> <li>▪ The Association of Local Government could serve as a strategic group to create the demand for CRMP-developed products and services at the local level</li> <li>▪ The Sea Partnership Program could provide applied research and extension opportunities for graduate students in coastal management degree programs; this should be funded by national government</li> </ul>

## **National Program**

The adoption of a two-track approach in development programs continues to prove essential to sustaining and broadening gains made at the community level. CRMP's declared mission, to decentralize and strengthen coastal resources management in Indonesia, is certainly appropriate, and the caution expressed in the initial design document about working too closely with the national government was appropriate at the time. New impetus to this mission materialized in 1999, when, two years after the project was initiated, the Regional Autonomy Act No. 22 and Fiscal Decentralization Act No. 25 provided jurisdiction and responsibility for coastal management to local government.

Now, with a new national ministry, a dynamic minister, and a dedicated effort underway to build a local to national system for sustainable coastal use, there is a major opportunity to shape policies and align the various elements of the system. There is not likely to be such an opportunity again. Success will mean a gradual return of ecological health along with improved economic opportunities for coastal dwellers.

A strong National Program is needed to provide mechanisms to support the transition towards this functional local to national management system. It should include opportunities to learn from community-based initiatives. The national goals have to encompass activities focused on creating enabling frameworks, technical support, conflict resolution, and facilitation of local efforts. There also are significant international issues concerning marine and coastal areas that can best be addressed through national action.

The changes in orientation of the former National Fisheries Agency to become a Department of Marine Affairs and Fisheries presented a very significant opportunity for transformative action at the national level. The new Directorate General for Coasts and Small Islands provides better national "ownership" of CRMP. The attention of a committed minister, combined with the ability to help shape a national system of marine and coastal resource management, has placed the project in an unprecedented position for providing support and guidance.

No other coastal or marine project within Indonesia has an equivalent opportunity. The reasons for this statement are somewhat complex. In a nutshell, CRMP has the right contacts and field experience. It also has the flexibility to respond in ways that have been more difficult for some of the larger, highly focused projects such as COREMAP. The CRMP project leadership has responded in a productive and timely adaptive manner to the need for a national program. The national activities continue to evolve in response to demands and have well exceeded those set out in the 1999 Life of Project goals.

The Life of Project goals of the National Program are two-fold: *“(1) CRMP positively contributes to the emergence of coherent and effective decentralized coastal and marine development and management in Indonesia, and (2) IPB becomes CRMP's learning partner and nationally recognized repository of information, expertise, and extension*

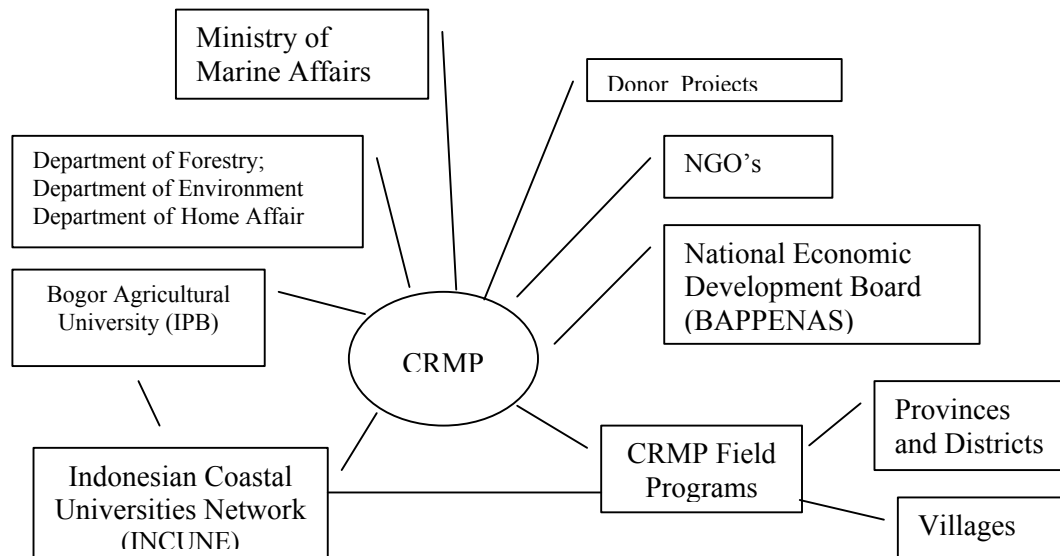


services.” To address these goals, the National Program supports activities at both national and local levels. Major elements of the National Program include:

- National policy development support to the Ministry of Marine Affairs and Fisheries,
- Assistance on legal reform at all levels,
- Local policy development support to provincial, district, and village levels, and
- Capacity building for IPB (Bogor Agricultural University).

Key project partners and beneficiaries of the National Program are illustrated in Figure 3.8.

**Figure 3.8 Partners and beneficiaries of CRMP’s National Program.**



The assessment matrix prepared for this program is in two parts—relating to the broad range of national policy activities and to the specific responsibilities of the Bogor Agricultural University (IPB). Key observations resulting from the assessment matrix suggest the following:

*National Policy*

- National policy support from the project to the Ministry of Marine Affairs and Fisheries was both timely and relevant. CRMP is viewed as providing state of the art technical assistance in CRM and as such has a comparative advantage over other donor-funding projects in promoting national and local CRM policy reforms to strengthen decentralized CRM in Indonesia.
- Groundwork laid for the Sea Partnership Program.
- The assistance with legal reform at each level (Minahasa District, North Sulawesi Province, and National) is leading to significant legislative models that are important

for the development of a future legal and management system extending from local administrative levels to the national level. There has been considerable interest and participation by parliamentarians in each case, and thoughtful work accomplished through the comprehensive academic draft document prepared as background for new legislation.

- Functional mechanisms for coordination within the Ministry of Marine Affairs and Fisheries, and between the Ministry and other relevant national government entities (Forestry, Environment, Home Affairs, BAPPENAS, Finance) are limited. CRMP has not helped very much to address such mechanisms. BAPPENAS officials complain that to some extent CRMP activities have been driven by international rather than national interests, and Bangda, the original project partner within Home Affairs, no longer seems to be a significant player with CRMP. Undoubtedly the transition to a decentralized system of governance has affected what could be done with some of the centralized agencies over the past several years.

*Bogor Agricultural University (IPB)*

- Partially through CRMP support and partnership, IPB's Center for Marine and Coastal Studies has emerged as a focal point of expertise and a leading center for knowledge generation and dissemination. This center has successfully bridged international, national and local interests pertinent to Indonesia's coastal problems. It aspires to be recognized as a policy center in addition to research and teaching roles.
- A learning team within the Center has produced a considerable volume of material analyzing CRMP field program experience. This output, while helpful, is of variable quality and relevance.
- IPB produces the national academic journal on marine and coastal management issues. This peer reviewed journal (*Jurnal Pesisir*), supported by CRMP, has become an important professional communications tool and an outlet that helps document and disseminate important findings from Proyek Pesisir and other major coastal initiatives. It should have a better readership outside of Indonesia, and will need to broaden its funding and subscription base within and outside the country in order to be sustainable. It should be a candidate for Internet-based subscription.
- The Indonesian Coastal Universities Network (INCUNE), fostered by the IPB Center, is at an early stage still. Its full potential will be defined by the willingness of the individual institutions and staff to devote effort towards defining and acting upon common goals. A major success has been the biannual conferences that bring together practitioners, academics and government administrators to examine current experience with coastal management. It is proving difficult to develop joint research and training initiatives. The stimulus of the Sea Partnership Program may help to focus INCUNE members on key objectives, if the government decides to use this network.

**Coastal Resources Management Project: National Program-Policy**

**Life of Project Goal:** *CRMP positively contributes to the emergence of coherent and effective decentralized coastal and marine development and management in Indonesia*

**Good practice examples to be developed:** participatory policy processes; improved intergovernmental coordination; effective project management

Guide Questions	Assessment
<p><b>Project Performance</b></p> <ul style="list-style-type: none"> <li>• <i>What are key accomplishments of this program?</i></li> <li>• <i>Were the LOP goal and performance targets achieved?</i></li> <li>• <i>How have the program activities addressed gender?</i></li> <li>• <i>What are the specific benefits derived for beneficiaries from the program activities?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Two-pronged project approach (national and local levels) enabled adaptive learning between national and local activities and experiences</li> <li>• Ministry of Marine Affairs and Fisheries strengthened to support marine and coastal management in the context of decentralization</li> <li>• Village-based and local government experiences provided models for developing national policies on coastal and marine management</li> <li>• Academic Draft for the National Coastal Resources Management and Small Islands Act completed and viewed as landmark document because of its technical quality and comprehensiveness</li> <li>• National Coastal Management bill drafted informed through local experience and best practices, and revised through multisectoral consultations</li> <li>• National guidance documents on coastal tourism; spatial planning; and integrated coastal management for local government published and disseminated</li> <li>• Strategic plan for Directorate General for Coasts and Small Island Affairs completed</li> <li>• CRMP’s approach of working directly at the local level (initiated before the passage of the national law on regional autonomy) is seen as ahead of its time and contributing greatly to decentralization of coastal and marine management in Indonesia</li> <li>• LOP goal was achieved although many years will be required for decentralized governance to mature. Passage of national laws on decentralization provided additional impetus for project interventions and approach</li> <li>•</li> </ul>

**Coastal Resources Management Project: National Program-Policy**

**Life of Project Goal:** *CRMP positively contributes to the emergence of coherent and effective decentralized coastal and marine development and management in Indonesia*

**Good practice examples to be developed:** participatory policy processes; improved intergovernmental coordination; effective project management

Guide Questions	Assessment
<p><b><i>Institutionalization</i></b></p> <ul style="list-style-type: none"> <li>• <i>What is the technical and financial capacity of relevant organizations/institutions to sustain CRM?</i></li> <li>• <i>What legal/policy instruments have been adopted by organizations/institutions to institutionalize CRM?</i></li> <li>• <i>What is the extent of vertical and horizontal linkages between organizations/institutions that will sustain CRM?</i></li> <li>• <i>What are the prospects that CRMP developed models of good practices and policies will be sustained, adapted, and adopted more broadly after the project terminates?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Technical capacity of Ministry of Marine Affairs and Fisheries strengthened to reform national policies and provide technical assistance in marine and coastal management</li> <li>• Financial capacity for national programs available with an annual budget for the Ministry of Marine Affairs and Fisheries at around Rp1 trillion; however, policies are needed to effectively and strategically allocated funds to support decentralized CRM</li> <li>• Ministry provides annual funding on the order Rp120 billion directly to Provincial/District levels under the Coastal Community Economic Empowerment Program in 2003. Approximately 120 districts availed of funding under this program; however performance-based incentives have not been incorporated to ensure effective use of funds by local government</li> <li>• Financial support allocated by the Ministry of Marine Affairs and Fisheries to support the Sea Partnership Program.</li> <li>• Numerous and large coastal resource management related projects funded by foreign donors (see Annex H) are managed through the Ministry of Marine Affairs and Fisheries including: Marine and Coastal Resource Management Project (MCRMP; ADB); Coral Reef Management Project (COREMAP; ADB/WB/OECF/GEF); and Coastal Community Development and Fisheries Resource Management Project (COFISH; ADB) with follow on projects in the ADB pipeline for COREMAP II, MCRMP II, and COFISH II</li> <li>• Coastal resource management related projects funded by foreign donors managed through the Ministry of Environment include: PEMSEA (UNDP/GEF); Small Island Development Project (Norwegian Government)</li> <li>• Serious lack of coordination mechanisms within the Ministry and with other national government agencies to direct, harmonize, and oversee the implementation of CRM-related projects and programs, although initial efforts to improve inter-ministerial (horizontal) coordination has been made through meetings and workshops</li> <li>• Assisted in the development of national, regional, and local legal and policy instruments to sustain CRM</li> </ul>

**Coastal Resources Management Project: National Program-Policy**

**Life of Project Goal:** *CRMP positively contributes to the emergence of coherent and effective decentralized coastal and marine development and management in Indonesia*

**Good practice examples to be developed:** participatory policy processes; improved intergovernmental coordination; effective project management

Guide Questions	Assessment
<p><b>Decentralization</b></p> <ul style="list-style-type: none"> <li>• <i>What levels of local government (province, district, communities) were reached by this program?</i></li> <li>• <i>What were key program accomplishments in building capacity at the local government level?</i></li> <li>• <i>What have been the contributions and outcomes of this program to more effective participatory and decentralized CRM in Indonesia?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Consultation process used to develop the draft National Coastal Resources Management and Small Islands bill provided new opportunities for public participation in law making</li> <li>• Modeled transparency and participation as good governance practices through the dissemination of data and information (atlases) and documenting and sharing lessons learned</li> <li>• Provision of consultation and participation mechanisms at national and local levels effective in promoting CRM in the context of decentralization</li> </ul>
<p><b>Potential Threats</b></p> <ul style="list-style-type: none"> <li>• <i>What issues, policies, or plans threaten progress in improved management of coastal resources for this program?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Lack of coordination from the national down to the local level poses a major problem in advancing marine and coastal management efficiently and effectively in the country</li> <li>• Project viewed as developing a few, site-focused models; spread of CRMP-developed models and processes was limited</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• <i>Should the program (or elements of it) be continued, discontinued, or modified in a new initiative?</i></li> <li>• <i>Should the program expand or transition to other geographic areas within or outside of USAID geographic priority areas and how could this be accomplished?</i></li> <li>• <i>Should the program address additional coastal resource management concerns?</i></li> <li>• <i>What meaningful and realistic performance indicators could be used for a new initiative?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Some form of the National Program should be continued—a major part of CRMP’s success is attributed to employing a two-track approach</li> <li>• The National Program should focus on building the capacity and mechanisms for national government to assist and support the development and implementation of CRM plans and programs of local government, drawing upon the extensive field program experience</li> <li>• A benchmarking system for local CRM initiatives should be developed along with incentive packages to recognize local government performance and catalyze adoption of CRM</li> <li>• The Sea Partnership Program is an important mechanism to integrate policy and practice</li> <li>• Public financing programs are needed using a combination of national and local funding</li> </ul>

**Coastal Resources Management Project: National Program-IPB**

**Life of Project Goal:** *IPB becomes CRMP's learning partner and nationally recognized repository of information, expertise, and extension services*

**Good practice examples to be developed:** learning program to promote replication; information availability for policy formulation; expansion of CRM practitioner capacity/professionalism

Guide Questions	Assessment
<p><b>Program Performance</b></p> <ul style="list-style-type: none"> <li>• <i>What are key accomplishments of this program?</i></li> <li>• <i>Were the LOP goal and performance targets achieved?</i></li> <li>• <i>How have the program activities addressed gender?</i></li> <li>• <i>What are the specific benefits derived for beneficiaries from the program activities?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Developed capacity of IPB to serve as a learning partner for CRMP, to document lessons learned from project activities, and to formulate good practices from lessons learned</li> <li>• IPB provided extension services for site implementation in Lampung</li> <li>• Transferred documentation skills from IPB to partners and staff in field sites</li> <li>• Established learning network of universities (INCUNE) through IPB</li> <li>• Creation and maintenance of national marine and coastal policy journal, <i>Jurnal Pesisir</i>.</li> <li>• Outreach activities to popularize CRM targeted at a range of potential audiences. School program has exposed over 20,000 students to CRM.</li> <li>• Established most comprehensive coastal management library in the country</li> <li>• Conducted highly successful, biannual coastal management conferences to share lessons learned and disseminate good CRM practices</li> <li>• Limited capacity, in terms of number of individuals and sustaining financing mechanisms to provide extension services in all aspects of the CRM planning cycle</li> <li>• Performance targets were met; IPB is capable of providing extension services beyond specific CRMP project but driven by nature of funded projects</li> <li>• Performance indicators track outputs not outcomes or impacts</li> <li>• Few/limited gender activities and focus</li> </ul>

**Coastal Resources Management Project: National Program-IPB**

**Life of Project Goal:** *IPB becomes CRMP's learning partner and nationally recognized repository of information, expertise, and extension services*

**Good practice examples to be developed:** learning program to promote replication; information availability for policy formulation; expansion of CRM practitioner capacity/professionalism

<b>Guide Questions</b>	<b>Assessment</b>
<p><b><i>Institutionalization</i></b></p> <ul style="list-style-type: none"> <li>• <i>What is the technical and financial capacity of relevant organizations/institutions to sustain CRM?</i></li> <li>• <i>What legal/policy instruments have been adopted by organizations/institutions to institutionalize CRM?</i></li> <li>• <i>What is the extent of vertical and horizontal linkages between organizations/institutions that will sustain CRM?</i></li> <li>• <i>What are the prospects that CRMP developed models of good practices and policies will be sustained, adapted, or adopted more broadly after the project terminates?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Established a reputable peer reviewed coastal management journal to publish studies on coastal management</li> <li>• Technical capacity developed through project largely concentrated in five individuals of the IPB Learning Team</li> <li>• IPB has allocated an annual budget to sustain Learning Team activities</li> <li>• Horizontal linkages are mainly with INCUNE, a network of IPB with other universities; INCUNE increases likelihood that CRMP-developed capacity will be sustained and expanded</li> <li>• Degree programs in coastal management established at IPB and other universities in INCUNE</li> <li>• Exploring co-financing activities with the private sector for bio-prospecting under strict property rights controls that ensure communities derive benefits and do not lose access rights as a result of pharmacological development of flora and fauna</li> <li>• IPB is in the process of being devolved from national government funding this will increase financial and intellectual independence and their ability to act as a viable policy center (CCMRS)</li> </ul>
<p><b><i>Potential Threats</i></b></p> <ul style="list-style-type: none"> <li>• <i>What issues, policies, or plans threaten progress in improved management of coastal resources for this program?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Need to find sufficient funds to maintain the Center for Coastal and Marine Resource Studies (CCMRS) and some of its key outputs (journal, papers, seminars). Cost-recovery for the flagship journal may be difficult</li> <li>• IPB is breaking off from government-funded programs and seeking full funding elsewhere (grants, private sector, tuition)</li> <li>• Many CCMRS staff hold multiple positions as well as teach. Effort could be made to increase the number of non-teaching staff to reduce demands on teaching staff's time</li> <li>• Relatively weak linkages to other national NGOs and other allies</li> </ul>
<p><b><i>Opportunities</i></b></p> <ul style="list-style-type: none"> <li>• <i>Should the program (or elements of it) be continued, discontinued, or modified in a new initiative?</i></li> <li>• <i>Should the program expand or transition to other geographic areas within or outside of USAID</i></li> </ul>	<ul style="list-style-type: none"> <li>• Continued investment of USAID in documentation of the CRM process and good practices is essential to building the base of experience from which to strengthen, deepen and sustain CRM</li> <li>• Represents a competitive advantage for USAID as other donors have not placed a premium on promoting an adaptive learning cycle essential for improving natural resource management in a rapidly evolving decentralization environment</li> <li>• Biannual conferences provide a regular and relevant multiagency, multisectoral forum for dissemination and exchange of ideas on CRM</li> </ul>

**Coastal Resources Management Project: National Program-IPB**

**Life of Project Goal:** *IPB becomes CRMP's learning partner and nationally recognized repository of information, expertise, and extension services*

**Good practice examples to be developed:** learning program to promote replication; information availability for policy formulation; expansion of CRM practitioner capacity/professionalism

Guide Questions	Assessment
<p><i>geographic priority areas and how could this be accomplished?</i></p> <ul style="list-style-type: none"> <li>• <i>Should the program address additional coastal resource management concerns?</i></li> <li>• <i>What meaningful and realistic performance indicators could be used for a new initiative?</i></li> </ul>	<ul style="list-style-type: none"> <li>• IPB unit will become a Policy Center whose central objective is to influence policy through creation and dissemination of key articles, seminars, media and outreach.</li> <li>• The Center for Coastal and Marine Resource Studies will have as its focus integrated coastal zone and reef basin management offering the potential for more integrated watershed analysis of CRM.</li> <li>• Draw on professional connections to develop <i>Jurnal Pesisir dan Lautan</i> into peer-reviewed journal with inter-national and national multidisciplinary editorial board. This journal can then be sold internationally via the Internet to keep printing costs low and begin to recover costs.</li> <li>• Encourage <i>Jurnal Pesisir</i> to call for papers and publish gender and valuation articles as special editions.</li> <li>• Continue to strengthen linkages between IPB/INCUNE and DKP to enhance sharing and dissemination of information, lessons learned and good practices within DKP, donor funded projects, local government and NGOs</li> <li>• Performance indicators could measure dissemination of good practices by INCUNE/DKP partnership as <i>number of local governments (percent of provinces/regencies) receiving information/guidelines on CRM good practices</i></li> </ul>

**Global Program**

URI/CRC's Cooperative of Agreement with USAID has provided a unique opportunity to share and learn from CRM experiences around the world. In addition to Indonesia, URI/CRC is implementing CRM projects in Mexico, Kenya, and Tanzania. The Life of Project goal of the Global Program is "*CRMP experience contributes to and benefits from the global CRM practice.*" To address this goal, the Global Program provides international learning experiences. Major elements of the Global Program include:

- Facilitating cross-learning between CRM projects around the world through study tours and information sharing
- Providing opportunities for individual development through participation in international training programs and conferences.



The assessment matrix of the Global Program is provided below. Key observations resulting from the assessment suggest the following:

- Sharing and cross-learning from the CRM experiences of other countries provides valuable experiences that can catalyze action at home. An example is the understanding of the U.S. Sea Grant Program that is now translating into the Indonesian Sea Partnership Program.
- The experiences gained through international experiences are usually confined to a limited number of individuals, therefore, the selection of participants and design of the experience is vital in achieving the greatest impact from the experience once the individuals return to their country.

<b>Coastal Resources Management Project: <i>Global Program</i></b>	
<b>Life of Project Goal:</b> <i>CRMP experience contributes to and benefits from the global CRM practice</i>	
<b>Good practice examples to be developed:</b> cross-project learning; effective strategies for decentralized CRM; adaptation of global models to Indonesia context	
Guide Questions	Assessment
<p><b>Program Performance</b></p> <ul style="list-style-type: none"> <li>• <i>What are key accomplishments of this program?</i></li> <li>• <i>Were the LOP goal and performance targets achieved?</i></li> <li>• <i>How have the program activities addressed gender?</i></li> <li>• <i>What are the specific benefits derived for beneficiaries from the program activities?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Study tours to the Philippines and U.S. represented pivotal experiences for selected project beneficiaries. Community members experiencing a well-developed CBCRM experience in the Philippines (Apo Island) catalyzed the adoption of community-based CRM initiatives in their villages. National government officials study tour to the U.S catalyzed the development of the Sea Partnership Program, patterned after the U.S. Sea Grant Program.</li> <li>• Coastal resource management-related books, guidance documents, and other materials developed in the U.S., Philippines, and other countries and translated into the Indonesian language jumpstarted the capacity building process among project partners and provided a multitude of models that could be adapted to Indonesian conditions</li> <li>• Enabled participation of predominately URI/CRC and CRMP staff at international conferences such as PACON, International Coral Reef Symposium, and other related activities</li> <li>• Overall, LOP goals and good practices were achieved. Community members highlight especially the Philippine study tour to Apo Island and process of socialization of the observations of the participants back in the villages as vital to obtaining community interest in initiating similar activities in Indonesia; however, cross-project learning to provide experiences for local government officials in decentralized CRM was absent</li> <li>• No specific strategy for addressing gender; however, a woman participated in study tour to the Philippines, and several Indonesians participated in a gender workshop held at CRC in February 2003</li> </ul>

**Coastal Resources Management Project: Global Program**

**Life of Project Goal:** *CRMP experience contributes to and benefits from the global CRM practice*

**Good practice examples to be developed:** cross-project learning; effective strategies for decentralized CRM; adaptation of global models to Indonesia context

Guide Questions	Assessment
<p><b><i>Institutionalization</i></b></p> <ul style="list-style-type: none"> <li>• <i>What is the technical and financial capacity of relevant organizations/institutions to sustain CRM?</i></li> <li>• <i>What legal/policy instruments have been adopted by organizations/institutions to institutionalize CRM?</i></li> <li>• <i>What is the extent of vertical and horizontal linkages between organizations/institutions that will sustain CRM?</i></li> <li>• <i>What are the prospects that CRMP developed models of good practices and policies will be sustained, adapted, and adopted more broadly after the project terminates?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Activities conducted under this program provided opportunities to develop individual capacity and not necessarily institutional capacity for CRM</li> <li>• National and local legal and policy instruments from other countries provided models that could be studied to catalyze the development of similar instruments to Indonesia</li> </ul>
<p><b><i>Decentralization</i></b></p> <ul style="list-style-type: none"> <li>• <i>What levels of local government (province, district, communities) were reached by this program?</i></li> <li>• <i>What were key program accomplishments in building capacity at the local government level?</i></li> <li>• <i>What have been the contributions and outcomes of this program to more effective participatory and decentralized CRM in Indonesia?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Study tours to the Philippines involved community members from project villages in North Sulawesi</li> <li>• Program activities did not provide opportunities to build local government capacity or expose local government officials to different models of decentralized CRM</li> </ul>
<p><b><i>Issues and Threats</i></b></p> <ul style="list-style-type: none"> <li>• <i>What issues, policies, or plans threaten progress in improved management of coastal resources for this program?</i></li> </ul>	<ul style="list-style-type: none"> <li>• Results of USAID assessment of NRMP suggested global program activities were costly, especially those supporting only URI/CRC or CRMP staff</li> <li>• Capacity building focused on individual development as opposed to institutional development</li> </ul>
<p><b><i>Opportunities</i></b></p> <ul style="list-style-type: none"> <li>• <i>Should the program (or elements of it) be continued, discontinued, or modified in a new initiative?</i></li> <li>• <i>Should the program expand or transition to other geographic areas within or outside of USAID geographic priority areas, and how could this be accomplished?</i></li> <li>• <i>Should the program address additional coastal resource management concerns?</i></li> <li>• <i>What meaningful and realistic performance indicators could be used for a new initiative?</i></li> </ul>	<ul style="list-style-type: none"> <li>• A few, strategic study tours should be maintained to catalyze specific project initiatives. In particular, a study tour for local government officials from provincial and district levels, with local academic and NGO partners to a model province in the Philippines (Bohol) would provide a valuable experiences the role of local government, provincial and municipal levels in CRM</li> <li>• Continuation of a global program could be done on a broader basis of university-to-university twinning, and possibly through independent marine institutions within the USA. Ideally several funding sources might be tapped, including foundations and from universities (e.g. student fellowships, research funds of professors).</li> </ul>

## **Future Project Ideas**

Planning discussions with stakeholders in the various regions have been underway for some time and have produced a range of ideas about future directions for potential follow-up activities to the current project. An outline of the ideas arising from these forums was consolidated by Proyek Pesisir senior management and forwarded in early April as input to this assessment.<sup>50</sup> The outline is described below in somewhat abridged form, along with comments prepared by the CRMP Assessment Team Leader for each proposed activity.

### ***North Sulawesi Province***

#### **Activity: Implement Kabupaten-wide *Perda Minahasa* on Community-based Coastal Resource Management (CB-CRM)**

Provide mentoring assistance to leading NGOs (YLLI and other relevant NGOs and NGOs network) to scale-up and replicate community-based integrated coastal resources management program in Minahasa and the new kabupatens.

#### **Targeted Outputs/Results:**

- *Perda Minahasa* implemented and enforced kabupatens-wide
- Management bodies formally established and functioning
- Field activities on-going and benefiting local communities in coastal areas
- Law enforcers trained and equipped with facilities

#### **COMMENTS**

It is appropriate for CRMP to provide mentoring assistance, but not actually to engage in the implementation effort outlined above. It is not clear why assistance would be provided only to NGOs, since local government and the communities have to be deeply engaged. The overall range of activities is large, and there is no mention of the financing aspects involved. There is a need to identify the public financing requirements and sources. This is an area for potential intervention by a renewed CRMP.

#### **Activity: Replicate CB-CRM and *Perda* Development Process**

Provide mentoring assistance to provincial and kabupaten-level partners to: (1) Replicate CB-CRM (CRMP good practices) in Kabupaten Sangihe Talaud through the Sea Grant [Partnership] mechanism. As appropriate, expand CB-CRM to cover the wider watershed areas; (2) Initiate development of coastal management *Perdas* in Kabupaten Sangihe Talaud, including a legal study on coastal conservation area management.

---

<sup>50</sup> The preliminary results of the forums were contained in a November 2002 draft document, Lessons from Roundtable Discussions Jakarta, Balikpapan, Manado. Sustaining CRMP Achievements, Inputs for Follow-on Programs. 17 pp. M. Knight on 1 April, 2003 provided by e-mail a consolidated list of the activities proposed during stakeholder discussions which is further abridged here for use in preparing these comments.

**Targeted Outputs/Results:**

- CB-CRM in Kabupaten Sangihe
- Integration between watershed and coastal resource management
- Coastal atlas of Kabupaten Sangihe Talaud
- ICM Perda and the necessary institutional arrangements in Kabupaten Sangihe Talaud

**COMMENTS**

While there is value in this replication effort, it should not fall to a renewed CRMP to provide the level of funding or human resources to carry out the work. This should be the job of government and the Sea Partnership mechanism might be appropriate. There is a need for definition here and elsewhere concerning the bounds on mentoring. The line between mentoring and implementation needs to be set and observed. The integration between watershed and coastal resource management is ultimately a necessity here and elsewhere in the country. But it may make more sense to further develop the model in just a few areas initially, perhaps East Kalimantan and Bintuni Bay.

**Activity: Strengthen FORPELLA (Marine and Coastal Monitors Forum)**

Provide mentoring assistance to FORPELLA and its members to continue and expand their stakeholders monitoring program.

**Targeted Outputs/Results:**

- Updated Manado-Minahasa-Bitung coastal atlas
- Independent multidisciplinary coastal resource study center

**COMMENTS**

Clearly there are major data gaps and a great need for quality scientific and other information pertaining to this coastal zone. The concept of a coastal resource study center is worthwhile, especially if it can be tied to initiatives such as the Sea Partnership Program. The existing community-based information centers are uninspiring, and it is not very clear at what level the proposed one would operate. As well, there are important unanswered questions about the value of the atlas in decision-making. Especially, whether the atlas concept in North Sulawesi could be turned into a useful spatial planning tool.

***East Kalimantan*****Activity: Implement BBMP (Balikpapan Bay Management Plan)**

Strengthen institutional capacity: (1) Operationalize Bay Management Council (BMC) and associated bodies; (2) Building capacity in inter and intra-governmental planning and budgeting; (3) Improve capacity of STB Forum and STB Foundation; (4) Increase capacity of Provincial Government to facilitate kotas and kabupatens.

**Targeted Outputs/Results:**

- *Surat Keputusan* (SK) of Governor concerning structure and composition of BMC
- STB active with community meetings

**COMMENTS**

The institutional capacity approach noted here is very modest in terms of targeted results. A major value of the work undertaken so far has been the development of working relationships and development of a basically new (to the region) type of institution. The future results should be clearer in terms of identified decision pathways that will be strengthened as a consequence of the Council's presence and the BBMP.

Assist local stakeholders to undertake legal reform (kabupaten and kota Perdas, joint local government policies (SKB), village ordinances) in collaboration with appropriate Indonesian institutions.

**Targeted Outputs/Results:**

- Perda on mangrove, on coastal zoning, on ICM
- Review of SK Governor concerning land ownership

**COMMENTS**

While these results are important, they may not be the most critical elements of legal reform. For example, it is not clear where practical concerns of hazardous chemical handling, watershed use, and other subjects for regulation fit in. Most of the activities noted below also have legal reform needs and it is not clear how some would fit into the three Perdas noted above.

Assist local stakeholders to implement field activities including: (1) Integrated coastal and marine planning of the Balikpapan Bay area; (2) Environmentally-friendly community empowerment and economic development activities; (3) coastal resource management activities (e.g. erosion and sedimentation, mangrove management, pollution control, development of marine sanctuaries).

**Targeted Outputs/Results**

- Spatial plan of Balikpapan Bay
- Demarcated administrative borders
- Environmentally friendly income generation, increased production, stock management
- Erosion and sedimentation control
- Improved mangrove ecosystem management
- Improved clean water supply
- Community-based sanctuaries

## COMMENTS

This list covers priority topics for the Bay and should be the key focal point for defining future activities under the BBMP. The issue of livelihoods and income generation is a welcome addition that requires attention here and in other sites.

### **Activity: Facilitate Replication of BBMP Process**

Facilitate stakeholders to develop management plans: (1) Kabupaten Pasir – for Adang Bay and Apar Bay; (2) Kabupaten Mahakam – for Mahakam Delta and watershed.

#### **Targeted Outputs/Results:**

##### ***(Adang and Apar Bays)***

- Management plan
- Review of land status (protection area)
- Review of existing laws and regulations

##### ***(Mahakam Delta and watershed)***

- Management plan
- Stakeholder interests accommodated
- Mangrove management
- Profiles updated

## COMMENTS

While these are areas where there is a strong interest for replication, and in serious need of attention, the amount of effort that can be devoted to each is limited. This work should be undertaken only to the extent that it not detract from the key on-going objective of demonstrating that the BBMP can produce substantial benefits if well implemented.

### ***Other Field Programs (Papua, Aceh)***

#### ***Papua***

#### **Activity: Continue work in Bintuni Bay**

Assist and strengthen the capacity of local stakeholders to: (1) Develop a management plan for Bintuni Bay; (2) Undertake spatial integrated marine and coastal planning in Bintuni Bay, initiating work on customary *adat/ulayat* laws and their area of coverage; (3) Initiate development of a CB-CRM Perda for the new kabupatens; (4) Assist stakeholders with community empowerment activities (fish culture and capture, skills training, marketing of community products, marine and mangrove sanctuary development).

#### **Targeted Outputs/Results:**

- Bintuni Bay Management Plan
- Marine and coastal integrated spatial plan

- CB-CRM Perda for Kabupaten Bintuni
- Increased skills and incomes for communities
- Improved community management

#### **COMMENTS**

This proposed extension of work beyond, but drawing upon, the investment in the Bintuni Bay Atlas makes sense and could be done incrementally. There is a huge range of activities proposed and experience during the current project suggests that community empowerment activities will take a huge effort in order to be effective. Perhaps the next step should be limited to development of a management plan that can be linked to proper spatial planning and respect for customary laws. Continued cooperation with private sector and the broadening of funding sources should be encouraged.

#### **Activity: Develop small island management in Cenderawasih Bay.**

Assist local stakeholders in Kabupaten Biak Numfor to develop and implement a small island management plan for selected small islands in the Bay.

#### **Targeted Outputs/Results:**

- Small island management plan completed and implementation started

#### **COMMENTS**

This area is noted for its marine biological diversity and could be an interesting site to explore the problems of designing small island management plans. The issue is whether the renewed project would be spread too thin by working in more than one area of Papua. This activity should be given a lower priority until it is clear that capacity exists to do the work without endangering the success of other activities in Papua or elsewhere.

#### ***Aceh***

#### **Activity:**

Assist partners in Kabupaten Aceh Utara to develop a small island management plan for Pulau Weh and the surrounding small islands.

#### **Targeted Outputs/Results**

- Management plan for Pulau Weh and surrounding smaller islands

#### **COMMENTS**

Undertaking this activity should be contingent on having the capacity within the project to add a major area that is far from the other project components. It may be possible to assist partners by providing learning activities associated with existing CRMP activities. This could be started at any time—without a commitment to immediate field efforts.

## ***National Program***

### **Activity:**

Provide assistance to BAPPENAS to coordinate all coastal resource management programs at the national level.

### **Targeted Outputs/Results:**

- Coordinated coastal resource management programs at the national level

### **COMMENTS**

The role of BAPPENAS as a coordinator of such programs is not very clear, given the role of DKP and of local government. It would have to be a light touch on the part of BAPPENAS in order to be both acceptable and effective. Presumably the role of a coordinating body will be clarified in proposed new national legislation on marine and coastal use. Assistance from a renewed project should await this clarification. The really important matter is to develop a level of understanding of public finance at all levels, covering local to national sources. This would be an appropriate area for a new activity. And BAPPENAS could well be an important actor in such an effort.

Assist stakeholders to undertake legal reform (central government to village level) in collaboration with appropriate Indonesian institutions.

### **Targeted Outputs/Results**

- National coastal management law and the *Penjelasan*
- Government regulations
- Various ministerial decrees or guidance

### **COMMENTS**

This is a very broad-brush activity that could be worthwhile if well-targeted. It provides an umbrella under which virtually all of the legal reform suggestions brought forward under the range of proposed programs could fit. There is a definite possibility of placing too much emphasis on law and regulation instead of proceeding with both economic and management implementation processes. The danger is that a complex body of new law will develop—far beyond the capacity of it ever being implemented. Thus, while the assessment team agrees on the need for a continued refinement and interlocking of local and national laws, this aspect of the project should not dominate efforts.

Provide support to the Sea Partnership Program initially in Jakarta and two provinces (North Sulawesi and East Kalimantan).

### **Targeted Outputs/Results:**

- National Sea Partnership Program supporting East Kalimantan, North Sulawesi, Papua and Aceh



## COMMENTS

The Sea Partnership Program should be a major focus for a renewed project (see Chapter 4).

Provide service support to other program components including (1) communication and outreach, and (2) Indonesian capacity development.

### Targeted Outputs/Results:

- Effective communication and outreach program implemented
- Training sessions and other capacity development activities undertaken

## COMMENTS

These components are important and should be an important feature of on-going project work. However, it is difficult to comment on the very sketchy outline noted here. It is also unclear about how these components would operate, and the role of organizations such as IPB and INCUNE that have been involved up till now. The opportunity to draw upon the substantive experience gained from the project so far is clear to almost everyone interviewed during the assessment. But there is a need for a well thought-out plan to do so. Developing this plan should be a high priority.

## SOME GENERAL COMMENTS

Overall, the future project ideas forwarded from the stakeholder discussions reflect continuity with existing activities, and a movement away from the high cost “hands-on” approach currently in place, for example in North Sulawesi towards a facilitating and catalytic role that is consistent with the view of the CRMP Assessment Team.

There are three major points to consider based on the outline of ideas:

1. The interplay between laws and regulations, environment and economy. The need to refine the legal system is clear, but could absorb great amounts of effort with only marginal gains for the environment and the economy, especially in the short and medium-term. Therefore less attention should be paid to replication of laws and more to developing critical new pieces, and particularly those legal elements that tie together the different levels of the system. If the law is performing well, others almost certainly will want to replicate success within their districts or provinces without the need for CRMP intervention. And more attention is needed to designing laws that will actually foster sustainable economic development in the coastal zone, possibly with greater use of economic instruments that can act as incentives for behavioral change rather than almost total reliance on command and control approaches that are difficult to administer effectively and efficiently.
2. The actual performance of management plans. There is a heavy emphasis on the development of a broader range of management plans, covering more ecosystem

conditions, including the interlocked watershed and coastal zone. But there is precious little experience with performance from the existing management plans since activities such as the BBMP are at an early stage, and some other activities do not have fully worked out monitoring programs. It would be a shame if a plethora of management plans are in place a few years from now, and flaws in their design or implementation emerge. Thus a need exists to put into place rigorous monitoring, learning and adaptive management for each site where a management plan is developed. This need may prove to be the limiting factor on the number of sites for which plans can reasonably be developed.

3. National policy requirements are likely to become more complex, and reflect a blend of initiatives focused on public finance, economic development needs, ecological concerns, intergovernmental coordination, etc. There is a need for a responsive, flexible approach that can deliver useful advice at senior levels within DKP and other institutions such as BAPPENAS or line ministries that have a stake in marine and coastal concerns. This demand is likely to grow and should be included in future project plans, even if it is not always possible to predict the exact nature of the needs well in advance.

Overall, the outlined directions are a helpful start to planning for the future. In Chapter 4 and in the overall recommendations, the CRMP Assessment Team provides our perspectives on opportunities that might guide both the immediate future and longer term activities. There is considerable consistency with the stakeholder proposals for future activities; but the stakeholder list also has important omissions, especially a lack of focus on economic incentives and on gender issues.

### **General Conclusions about CRMP Performance**

In the summary accompanying this main report several general conclusions are provided. These will not be repeated fully here, but should be considered an integral part of this chapter. Using the list of “*Most Important Overall Outcomes*” as defined in the latest CRMP Annual Work Plan, the CRMP Assessment Team has provided observations on how well these outcomes will be achieved by the June 2003 project end. These are described in the box below.

It is clear that the CRMP has turned out to be the right type of project at the right time. Therefore it has been influential, with visibility nationally and in several regions. The most valuable innovation of CRMP has been to serve as an incubator—to present and test new ways for coastal resource management. It has contributed useful experience that has helped shape both local and national response to decentralization. It is consistent in its approach with a number of the elements arising from Agenda 21 and the marine and coastal outcomes of WSSD. The project has been implemented at a time of rising interest in coastal issues on the part of several major donors. Results from CRMP should prove to be of both direct and indirect value to these other initiatives, although more effort is needed to maximize the synergies.

The key issue that has not been adequately addressed by the project is the link between poverty reduction and conservation. This relationship, and the accompanying concern about the economic incentives required to address sustainable livelihoods has not been adequately dealt with in the project. Indeed this aspect has been ignored in favor of an approach heavily weighted towards physical planning, law and regulations, and demonstration sites. The absence of socio-economic benefits and policy indicators from the NRM indicators works against incorporation of such factors in the design. It is also clear that the national government as well as local government and communities want more focus on revenue and local income generation. And this need will only continue to increase—the dilemma is whether it will be achieved sustainably.

### **CRMP Assessment Team Observations on Proyek Pesisir Achievements**

- **(Based on “Most Important Overall Outcomes” as Identified by Project Management) Codified institutional and legal mandates in place** – Partially achieved, with model legislation in place in one province and district that can be adapted for many other locations, and several new institutions such as the Balikpapan Bay Council; national regulations, draft law, and a transformed ocean and coastal administrative structure. In summary, elements of a marine and coastal management regime, but not the full system, have been developed. Allocated budgets for CRMP locations – Limited Indonesian financial commitment exists currently, and it is hard to verify either level or effectiveness. Promising future funding mechanisms are emerging in some locations and nationally. The full impact of recent CRMP efforts to secure appropriate levels of Indonesian funding support may still be two or more years away.
- ***Awareness of ICM importance for food security, conflict management, economic development and democracy*** – This list of outcomes, while comprehensive is very general. It is very difficult to assess project results in relation to any one of these topics, and to attribute Indonesian awareness specifically to the CRMP. However, with recognition that the project has provided considerable policy advice, contributed reports and scientific knowledge and papers, and created a dialogue at many levels, some credit should be given. For there is certainly a greater awareness and interest in coastal sustainability compared to even three years ago.
- ***A repertoire of demonstrated ICM best practices available for replication*** – Yes, there is well documented experience, including anchor sites and demonstration activities plus a considerable investment in learning from other parts of the world. But there also is debate among project staff and partners about the judgmental nature of the term “best practice” since it is not always desirable to transfer practices from one place to another in the same form. The learning team approach, implemented by IPB’s Coastal Center, has been somewhat successful, although more needs to be done to ensure that maximum value is extracted from these efforts both technically and in terms of useful diffusion and use of the knowledge.
- ***Identified group of ICM practitioners, policy advisors, academicians, bureaucrats and public supporters*** – Yes, there is a proliferation of informed individuals and institutions, but they are not yet performing very well as a group or network that could contribute in a well coordinated way. And there is not yet a fully developed coastal management system in which to make their contributions.

What has made CRMP a success, as defined by its influence and visibility, is the adaptive design. There have been many tensions as the project continues to re-define itself in relation to emerging needs. Particularly, the pace of change has been influenced by the combination of decentralization, reformist legislators, and a new and dynamic national ministry. Overall, CRMP appears to have addressed changing circumstances while being productive in most activities in which it engages.

It is clear that governments at various levels within Indonesia are not yet well equipped to assume full ownership, including sufficient funding, for most CRMP initiatives. This is not from lack of interest. The evolution in governance and decentralization is still at an early stage with built in lag phases for even the most basic efforts. It may be two years or more before new governmental programs are capable of backstopping new legislation and management initiatives with funding and other inputs. The coming year will be an important test for North Sulawesi in particular. It does not appear to be such a major concern in East Kalimantan, where the problem is much more to maintain focus, given emerging demands. These concerns about human resource and financial capacity become especially important for the subjects of replication, scaling up and diffusion.

CRMP is definitely at a stage where more attention needs to be paid to consolidation, and this point is recognized by project staff. There are three matters that should be considered. The first is careful analysis of gaps within the overall system of coastal management—a system that has been crafted in a very piecemeal fashion—and then determining where and how CRMP can help to address the gaps. The second is taking a more considered look at national and local public finance and alternative funding mechanisms that might be employed more effectively in strategic support for the directions already established, and for diffusion, replication and scaling up where appropriate. A corollary to this is to define a performance-based incentive system that can be administered at the national level to catalyze the development and implementation of CRM plans and programs. The third is creating synergy with other donor supported initiatives, including USAID efforts (not only NRM but also governance, for example) and the various major initiatives for ocean, coastal and watershed management.

The overall performance of CRMP is sufficiently strong that it should continue. The project should continue to evolve, ideally over another five year period, with defined activities for the coming two years, guided by several key considerations:

- Strengthen catalytic, brokering and facilitation roles,
- Ensure practical results,
- Explicitly incorporate economic benefits and incentives, along with poverty reduction incentives,
- Concentrate on institutionalizing the shift towards integrated coastal management, especially the role of a governance system that possesses coherence from local to national levels,
- Strengthen collaboration with other USAID projects, and
- Use successful CRMP experience to influence other donor projects.

Excellent options do exist for the future, as described in Chapter 4 and the Summary and Recommendations.

## CHAPTER 4. FUTURE OPPORTUNITIES

In this concluding chapter several important opportunities have been identified for the future directions of the project. The opportunity truly is to set a new path for coastal resource management based on sustainability criteria and on a new working relationship between people and government at all levels. It would be wrong to think that such change could be fully implemented in only a few years—it will take decades. But the directions can be set, perhaps quickly.

CRMP can continue to take advantage of the decentralization process to reinforce and mobilize interest and build local and regional capacity to address coastal and marine resources management. At the same time the project is extremely well positioned to provide policy advice to central government agencies such as the Ministry of Marine Affairs and Fisheries. It is an opportune moment that, if not taken now when a number of critical elements are well aligned, may well not be available in the years ahead. The critical need is to make the whole system work well—from villages and cities to the national level; and with good participation by private sector and civil society organizations as well as government.

On a note of caution, the opportunities for CRMP to stay at the cutting edge of coastal resource management in Indonesia will certainly exceed the capacity and available funding over the next several years. Therefore choices will be important, and with these choices comes the responsibility of serving multiple levels of need within government and building stronger linkages with private sector and community/civil society interests. This chapter explores what the Assessment Team believes to be some of the most important opportunities. It does not mean that the Team expects all of these to be fully covered, especially in the coming two years.

The overarching opportunity and need at the present time is to help make the whole system work well. This means continuing to focus effort on some existing “flagship activities” and to add a few new ones. The intent should be to ensure that enabling frameworks are in place nationally, and that full value of current investments is obtained at local and regional levels. There is an important need to bring a stronger public finance focus to the overall effort, and to ensure that more economics is injected into the mix.

At present there are two regional “flagships”, the work in North Sulawesi and East Kalimantan. At a national level, the proposed Sea Partnership Program promises to be a third.

The nine categories discussed below are not prioritized; the Assessment Team believes that it is a mix that is needed. Otherwise, development directions cannot be optimized. And there must be continued focus on building links—horizontally and vertically, so that coastal resource management will not be turned into a sectoral activity.

## Scaling Up and Leveraging

### The Opportunity

**Moving from existing pilot activities started in several provinces to a much larger number of similar activities within these same provinces, and elsewhere in the country is beyond the scope of CRMP's limited budget and approach. Demand for replication will increase, probably dramatically, and it is consistent with NRM II's overall objective of decentralized, sustainable resource management to see this happen.**

**The opportunity is to work via government programs at national and more local levels and, in some cases, via the leverage of other donor projects such as COREMAP and MCRMP to use the existing work as models for follow-up implementation by others.**

This will require a different method of operation. Specifically, a commitment is needed to promote these models, including adequate information on monitoring of their problems and successes during further implementation, and to provide support in their adaptation. Also needed is public finance expertise within CRMP that would help to ensure funding and the appropriate frameworks for action become available at all levels of government. The scaling up opportunities are obviously important for CRMP, but they also could overwhelm the capacity of the project to take on new cutting edge initiatives. Therefore a balance is needed.

## Sea Partnership Program

### The Opportunity

**Just as the Sea Grant Program in the USA has been successful in linking national funding, local technical and extension expertise, and committed state and local agencies for improved coastal development and conservation, the Sea Partnership Program that Indonesia is proposing could be a tremendously helpful mechanism for strengthening a decentralized coastal management system. CRMP has been involved in the development of this program from the start and is the key channel for brokering the contacts within the USA so that the Sea Partnership activities can be informed by three decades of US experience.**

The International Sea Grant Program and some individual US Sea Grant institutions can assist. But much of the work need for the design and early implementation of the Sea Partnership Program can be assisted by direct assistance and inputs of CRMP to DKP and INCUNE member institutions. This is an area that is ripe for a concerted effort drawing upon CRMP international staff resident in Indonesia and possibly also from one or more US Sea Grant universities.

## **Institutional and Policy Development**

### **The Opportunity**

**With the development since 1998 of so many precedent-setting activities and decisions within Indonesia that have a directed impact on the coastal zone, and others that have unintended consequences, there is a need for much follow-up policy and institutional development. This has to take place now at all levels from the community up to national government. Much of it involves horizontal relationships among organizations, and the development of better relationships among government, business and civil society.**

**It is a rare opportunity to have alignment among various elements that can permit rapid and productive shifts in institutions and a great interest in better policies. CRMP has developed the trust and working relationships at all levels to take a leadership role not possible by others.**

The coming two years, incorporating the period up to and past the next national election, is a particularly important time. For it is in this period that consolidation of existing directions can take place. And the ground work can be laid for an additional, longer-term round that builds on the learning so far about what is good and not so good about decentralization efforts.

There should be considerable flexibility built into the next phase of policy and institutional development assistance. The opportunity is to bring better coherence to the somewhat fragmented system that is being put together. Much of the effort has to take place at the national level. And there will be needs for policy inputs for a broad range of topics. It is important that the Minister of DKP not feel constrained about either the topics or the timing of advice on policy development. And it is also essential for CRMP to have considerable independence in its relationships with local and regional governments to explore both institutional development and policy needs.

## **Legislation and Regulation**

### **The Opportunity**

**CRMP has worked closely with all levels of government to help design model legislation for coastal management, and also some of the enabling regulations. All of this is a work in progress, but it is likely that the regional and provincial models will set a pattern for other parts of the country, and there will be on-going demand for new regulations if the national law is passed. There is an expectation that CRMP should continue to support further development of the legal system. And, as important, there is a need to monitor progress on implementation issues. At the moment it is a patchwork system, partially developed in response to decentralization. The legal system may have to be further modified to make it more consistent with incentive-based approaches.**

The normative framework for governing and enforcing regulations that shape the use of coastal and marine resources in Indonesia is currently in flux. Substantial effort is being expended by CRMP and their non-governmental and governmental partners to develop village, local government and district ordinances.<sup>51</sup> Simultaneously, the national coastal and marine law now being formulated, if passed, should help to harmonize regulations across sectors that impact upon the coastal and marine environment.

## **Economic Valuation for Coastal Sustainable Development**

### **The Opportunity**

**Introducing total economic valuation into the project will (1) improve assessment of the impact of coastal resource management on potential economic opportunities that can be derived from local resources, (2) identify the opportunity cost associated with cross-sectoral impacts and declining resource and environmental situations, and (3) provide a better sense of the considerable value of ecological services. This economic knowledge will help to build local, regional and national awareness of benefits arising from the coastal zone and help decision-makers to determine levels of investment required to acquire such benefits on a sustainable basis.**

CRMP has not utilized economic valuation as a framework for identifying or analyzing national or local benefits secured from investing in coastal resources management. Although CRMP was not designed with this as a central element, future project activities should be informed by an understanding of the benefits and costs to individuals and institutions engaged in CRM to improve the likelihood that the project's investments are sustained and expanded beyond the life of the project. It is essential to have a clear sense of economic opportunity if the marine and coastal sector is to receive on-going high profile budget attention by the Government of Indonesia and by the local governments. The challenge is to place the economic opportunities in the context of sustainable development, taking into account ecological and social considerations as well. This can be done by demonstrating not only the economic value of the resource, but the magnitude of loss caused by failure to manage.

An example of how economic valuation information can be used to demonstrate the value of ecosystem benefits and services secured under the CRMP Anchor Sites in North Sulawesi is provided in Annex F. The results suggest that benefits are on the order of USD 432,000 per year (see Table 4.1).

---

<sup>51</sup> See Patlis, Dahuri, Knight and Tulungen 2001.



**Table 4.1 Potential direct, indirect and non-use values secured annually under CRMP at the Sulawesi Anchor Sites, constant 2002 US dollars.**

Type of Habitat/Ecosystem	Area Secured Under CRMP (ha)	Valuation US \$/ha <sup>a</sup>	Total Amount US \$
Marine Protected Area <sup>b</sup>	85.7	709.7	60,821.3
Mangroves	179.5	828.1	148,644.0
Seagrass	638.3	349.5	223,085.9
<b>Total</b>			<b>432,551.2</b>

<sup>a</sup> These figures are based on parameters from JICA 2002, MOE/IPB 1999, Spurgeon 1998, Cesar 1996 and BAPPENAS 1996 and expressed in constant 2002 US dollars using the Economic Report of the President 2002 from the Council of Economic Advisors and United States Bureau of Economic Analysis to calculate seasonally adjusted constant GDP in billions of chained 2002 dollars. Recreation benefits are drawn from BAPPENAS 1996 for Bunaken National Park. No attempt was made to deduct the costs of managing and maintaining these areas—consequently, these figures express gross benefits per annum.

<sup>b</sup> The size of the Marine Protected Area was estimated in terms of coral reef at each site and summed to provide an aggregated figure across the four anchor sites. No account is taken of differences in coral cover and in the health of the ecosystem at each site.

*Source:* Authors' calculations based on data from CRMP GIS, survey and atlas sources and JICA 2002.

A strategy for promoting the internalization of externalities emerging from both market and policy failures is to develop and disseminate measures of the economic values lost to current bad practices or illegal activities. Concurrently, the failure to recognize the magnitude of the costs to the economy and to present and future generations of current destructive behaviors contributes greatly to the inability to correct these behaviors.

Throughout the field research undertaken by the Assessment Team, key informants from among the policymaker, donor and researcher community emphasized that the current profile of degradation and habitat destruction in the marine and coastal environment has stemmed largely from a failure to recognize the true opportunity costs of those resources lost as a result of pressure from destructive activities.<sup>52</sup> Certainly, research supported by the World Bank confirms that Indonesia is facing a substantial net loss from destructive fishing and extractive behaviors, one that exceeds any economic benefits generated from their use.<sup>53</sup> For example, coral mining is estimated to yield net present value benefits of US \$1,210 per hectare while causing a net loss to society of US \$93.6 per hectare in fisheries values and an estimated range from US \$120-2,600 per hectare in coastal protection, between US \$ 29-4,819 per hectare in tourism values and US \$670 per hectare

<sup>52</sup> Revealing values is a necessary but not sufficient condition to ensure ecosystem protection. Prices, property rights and incentives must also be carefully designed within the context of a legal framework that promotes accountability and transparency, and an institutional framework that defines and secures good management practices.

<sup>53</sup> Refer to Cesar 1996 and 1998.

in forest damage (incurred as a result of harvesting fuelwood to process the coral from coral mining).<sup>54</sup>

Although revealing the true opportunity cost of the loss of coastal and marine resources is not a sufficient condition to ensure their protection and conservation, it may prove to be a critical element in arming national and local government with tools to selectively management, regulate and legislate the better use of these resources. A number of key informants interviewed by the Assessment Team emphasized that there is an urgent need for an economic and ecological rationale for preventive and remedial activities to redress degradation and resource loss in the coastal zone.

In summary, economic, or ecological-economic valuation may provide a useful tool to communicate the importance of CRM activities and highlight the potential returns that regulation, enforcement and community-based management can secure. The time is ripe to educate policymakers and governmental and non-governmental actors about the importance of coastal and marine resources.

## **Economic and Financial Incentives to Stay Engaged**

### **The Opportunity**

**The issue arises—why stay engaged with coastal resource management? Of the many answers that might be given, including the critically important need for long-term conservation of coastal ecosystems, the one that has consistently eluded CRMP is that it should be strongly guided by clearly identified economic opportunities. Addressing incentives needs to be done at the community, regional (sub-district to provincial), and at the national level.**

**Incentives can help to overcome inertia and break down barriers to sustainable development. Incentives often are essential to shift behavior. Indeed, there is every possibility that without on-going incentives, much of the work started by CRMP might not be followed up by long-term action. The CRMP can complement the activities it has carried out on law and regulation and on local conservation by creating a better understanding of how public finance tools can be used to create a performing system that creates synergy among local, regional and national programs for maximum impact.**

**The need is for a range of programs to assist in development of local livelihoods, restructuring of taxation, and public finance decisions to support new coastal activities. CRMP could assist by providing guidance on directions and in identifying coherent pathways involving government at all levels. This approach is consistent with a market-**

---

<sup>54</sup> All benefits are projected across a horizon of 25 years and expressed as a present value using a discount rate of 10 percent. The study made no attempt to estimate foregone sustainable subsistence food values and existence or option values on biodiversity.

**based approach as well, since there is a need to design incentives that engage the private sector without excessive command and control regulation.**

Each of these levels—from local to national—are discussed below

### *Coastal Community Livelihoods and Opportunities*

The following statement captures a widespread view of the need to continue seeking ways to align benefits from CRMP to the needs of rural coastal dwellers—as defined by them.

*“Virtually all CRMP-assisted activities are designed to strengthen and decentralize coastal resource management that at the end are expected to deliver positive impacts on the environment. Very few activities, if any, have been undertaken with strong and conscious considerations for simultaneously improving the environment and increasing the incomes of local communities.”* (CRMP 2002, Roundtable Discussion)

The CRMP program could benefit from the inclusion of a livelihoods and incentives approach to analyze the benefits from and incentives to engage in coastal resource management.

Not only would the introduction of such a framework support USAID objectives within and beyond those of the overall NRM initiative, but it also would buttress the broader goals of the Government of Indonesia in terms of poverty reduction and economic growth, particularly in coastal zones. Furthermore, a livelihoods and incentives approach may shed light on the incentives and disincentives for individuals and communities to engage in sustainable coastal resource management, providing critical information for CRMP scaling-up activities and motivating links to other agencies and donors.

A livelihoods and incentives approach would consider the importance of coastal resource management for securing livelihoods, generating incomes and signaling the existence of potential rents available on a sustainable basis. For example, at the most basic level, CRMP must be able to quantify and communicate the impacts of marine sanctuaries in terms of increased fish catch per effort to the local community involved as well as to a much broader audience of local government, national government, policy makers, private sector, media and others.

To date none of the economic and non-economic benefits from CRMP activities have been enumerated. Moreover, there is a noticeable absence of data on livelihoods, which may in part be attributed to the focus of the USAID Natural Resource Management Program Strategic and Intermediate Objectives, which do not explicitly identify economic and livelihood security objectives.

Another impediment to such an analysis is that the newly established monitoring program fostered at the anchor sites and through the stakeholder alliance<sup>55</sup> has not yet generated consistent and comparable estimates of fish catch per effort (by type of gear), nor for fish numbers and diversity within the marine sanctuaries. These data would be essential for analyzing the potential livelihood benefits and incentives to engage in coastal resource management and resources should be expended on maintaining the alliance and data gathering activities.

The socio-economic data collected in CRMP baselines and for the atlases and project reports do, however, provide some indication of the diversity of income generating activities and the use and transformation of ecosystem goods and services. In Bentenan and Tumbak households engage in multiple productive activities including fishing, farming, fry collection, fish trading, and processing of fisheries and agricultural produce.<sup>56</sup> For instance, Fraser *et al.*, 1999 report that in Tumbak 70 percent of respondents interviewed for the socio-economic baseline declared that fishing was their primary activity and 38 percent declared that farming was their primary activity. In both of the coastal and landward sub-villages of Bentenan, 54 percent of respondents ranked fishing as their primary activity, yet 51 percent also practice farming. Many households engage in multiple productive activities either seasonally or year-round. These data should be analyzed from a livelihoods and incentives perspective and supplemented with data from secondary sources to begin to develop a profile of poverty and livelihood vulnerability at each anchor site.

Taking an incentives and livelihood approach, CRMP could analyze the distribution of benefits within and across communities engaged in CRM activities. This would require a complete accounting of environmental, economic and non-economic benefits accruing to individuals and households at each site. All benefits would need to be valued in terms of their contributions to individual and household welfare and well-being and to improved coastal resource management. Where the distribution of these benefits may be distinctly gendered (as in the case of water hauling) they should be disaggregated by sex.

A livelihoods and incentives approach could provide critical data to inform and reinforce sustainable coastal resource management. Understanding who benefits, and how, examining the distribution of these benefits, and exploring the overlapping and conflicting incentives to cooperate or violate existing agreements about the no-take zones and marine sanctuaries, may enable CRMP to prioritize future scaling-up, institution strengthening and development activities.

For instance, where incentives are aligned and communities vested in maintaining the sanctuaries and no-take zones, CRMP may focus its activities on scaling-up and brokering vertical and horizontal linkages to government and non-governmental organizations. Where incentives are incompatible, and interests governing the use and

---

<sup>55</sup> See CRMP (2003) which outlines the concept for an Integrated Coastal Monitoring System supported by multiple stakeholders in North Sulawesi.

<sup>56</sup> See the Baseline Assessment, CRMP 1997.

transformation of ecosystem goods and services at variance, then CRMP may need to work at the community level to realign incentives. This may require enhanced collaboration with bilateral and multi-lateral development agencies and community empowerment initiatives through district government and *Dinas Perikanan* in order to channel resources to communities, thus increasing the benefits derived from sustainable ecosystem management and/or alleviating pressure on the resource base.

Where incentives cannot be realigned or corrected, efforts will also need to be expended on monitoring and enforcement, implementing community-based sanctions and drawing on relationships with local law enforcement.<sup>57</sup> This may be particularly true for bomb-fishing, cyanide fishing and coral mining.

One strategy to inform a livelihoods and incentives analysis would be to commission a study on economic diversification at the four anchor sites that focuses on the potential to add value to existing resource activities and further diversify economic activity in the coastal communities. A study could be based on the four anchor sites exploring the range of activities currently undertaken and the opportunities to add value to these by analyzing the current supply chain for the sale, processing and final retail of the natural resource or other products. Emphasis should be placed on the forward and backward linkages to other economic activities in the community. A hypothetical example is provided in Annex G.

Another key element to explore for sustainable tourism development would be the extent to which potential tourism revenues are available at each of the anchor sites. For example, domestic tourists come to Bentenan beach resort but are not currently visiting the marine sanctuaries. Opportunities may exist for beach tourism activities to capture some of the potential revenues by offering snorkeling tours, access to glass bottom boats, boat trips to the mangroves, or providing some simple beach shelters and opening restaurants and snack-bars. A sustainable development study could examine this potential and provide rudimentary estimates of how the community may capture these benefits.

It is important to note that the potential to generate tourism revenue varies across sites and depends upon existing and potential infrastructure (roads, communications, potable water, tourist facilities), the capacity of the coastal management committees and competition from nearby villages and marine parks.<sup>58</sup> Attempts are being made to generate revenues from eco-tourism in Talise linking to Gangga Island Resort and Paradise Hotel, Likupang.

---

<sup>57</sup> For a discussion of the operation community based sanctions to enforce no-take zones and marine sanctuaries, refer to Crawford, Siahainenia, Rotinsulu and Sukmara 2001, and Fraser, Crawford, Siahainenia, Pua and Rotinsulu 1999.

<sup>58</sup> Currently, NRM is initiating a series of activities to explore tourism potential in a number of key areas including East Kalimantan and North Sulawesi. There may be opportunities for CRMP to link to NRM to collaborate on a development plan for the anchor sites and Balikpapan Bay. It may be possible to insert a more regional focus through such an alliance drawing on the partnerships that both NRM and CRMP have with key stakeholders, particularly in North Sulawesi.

Unfortunately, the book-keeping and records in Talise appeared to be inadequate for scaling-up these activities and there is little evidence that sufficient eco-tourism revenues can be generated, particularly if Talise Island is in competition with other community-based marine sanctuaries in Likupang and more generally in Bunaken National Park.<sup>59</sup> A sustainable tourism development study should explore opportunities and mechanisms for sharing tourist revenues across sites, for example, a flat fee for visiting the mangroves and marine sanctuaries at several different anchor sites.

Once such a study has been completed, it should be presented to the communities for feedback, comment and analysis so that they may incorporate the study into subsequent proposals for funding through the community empowerment funds operated by the BPMD and eventually through *Dinas Perikanan*. The economic diversification and value added study should also be shared with relevant district and provincial government offices and NGOs to incorporate their feedback and analysis.

### *Incentives at Regional Levels*

Analysis is needed of the incentives for provincial and district governments to engage in integrated coastal resource management planning. This is particularly important in light of the recent decentralization and implementation of Laws 22 and 25 in 1999. CRMP could commission an analysis of public sector revenues for coastal resource management under decentralization. The analysis should explore the revenues that local government will receive from central government in order to implement coastal resource management, and, additionally, the revenues that are currently generated by the fisheries sector for district and provincial government.

For instance, in the *Perda Minahasa*, a total of 1.5 percent of the total local government budget is allocated to coastal resource management in the districts.<sup>60</sup> Yet, no analysis has been undertaken of the true economic and ecological value and feasibility of this commitment. Coastal resource management under decentralization will need to be based on sound fiscal policy, bearing in mind the multiple commitments that local and regional government will have to deliver services and maintain adequate staffing levels. Review of CRMP and of supporting documents revealed that local government and coastal communities are keen to engage in activities that will stimulate economic development, mitigate poverty and generate income. The form that such development will take could negatively affect fragile coastal resources.

CRMP could provide valuable input by identifying appropriate incentives for a sustainable development strategy for the coastal zone that would diversify incomes and

---

<sup>59</sup> The Bunaken National Park Management Board (DPTNB) recently released its final figures from the 2002 park entrance fee system, posting total yearly receipts of Rp 983,750,500 (US \$109,305.61). These revenues were generated from a total of 25,697 paying guests, comprising approximately 2/3 local Indonesian guests and 1/3 international visitors. Most of the international guests (5,294) purchased one-year waterproof entrance tags, while an additional 2,968 visitors purchased single-day entrance tickets. (NRM 2003).

<sup>60</sup> See CRMP 2002. Sustaining the Achievement of CRMP and Inputs for Follow-on Programs.

promote sustainable coastal development. For maximum benefit and to reinforce scaling-up activities, CRMP could focus its efforts in East Kalimantan, Lampung and North Sulawesi. The closest effort to date has been in Lampung, where the coastal *Renstra* stimulated by the Atlas led to a series of economic and conservation-oriented budget decisions. Unfortunately follow-up on actual performance has been very limited.

### *Nationally*

Nationally, CRMP should support a policy dialogue about sustainable coastal development. Project documents and findings should be synthesized into policy briefs in collaboration with key ministries and government agencies. These documents could span a variety of topics and draw on CRMP research and outputs as well as analysis from CRMP-supported cross-sectoral working groups.

CRMP working in conjunction with DKP could support activities to convene an inter-agency governmental and non-governmental conference on incentives, livelihoods and economic development in coastal zones. The goal of the conference should be to explore opportunities for enhancing livelihoods and securing sustainable coastal resource management. The conference participants would be able to share and critique experiences in a forum that would distill the lessons learned and best-practices for enhancing livelihoods and securing compatible incentives for sustainable coastal resource management. A collection of the papers from the conference can be submitted for eventual publication in *Jurnal Pesisir dan Lautan* and distilled as policy briefs for district and provincial government, non-governmental organizations and the private sector.

The Sea Partnership Program is an important incentive-based approach. It will have monitoring and analysis needs concerning the performance and adaptive shaping of incentives.

## **Atlases, GIS and Spatial Planning at the Regional Level**

### **The Opportunity**

**There is a major demand for development of decision support tools and applications that will give local and regional decision makers the information needed to shape location-specific decisions of many types ranging from situation of infrastructure, to restoring watershed functions, pollution discharges, marine sanctuaries and other protected areas, and traffic separation zones. The CRMP atlas approach provides awareness, but inadequate information for detailed decision-making. Applications involving GIS, zoning, and boundary resolution are required. This information needs to be compiled and linked for both coastal watersheds and for marine zones. CRMP could demonstrate practical applications through its work with the science and technology committee for Balikpapan Bay, a decision-oriented approach in Bintuni Bay, and via the little-heralded but important work it has undertaken to define potential *kabupaten* and provincial sea boundaries.**

A critical component for any future coastal strategy development is for CRMP to work collaboratively with provincial and local government, non-governmental and private sector groups, investors and communities. Obviously CRMP already has considerable achievements along these lines, but there is a need to further refine the approach. A regional focus, which embraces planning, zoning, public and private sector investment strategies, infrastructure, roads and communications at the local, district and provincial level is needed. This is a tall order, and it may not be in CRMP's best interests to do all of this in any one area. For example, in North Sulawesi this is an area also of interest to JICA.

But the project's considerable investment in several regions positions CRMP to explore how to foster a participatory approach to spatial planning for the coastal zone. The overarching objective of such collaboration should be to secure coherent inter-agency and cross-sectoral planning for sustainable coastal development.

The model used so far has been to create an atlas (or technical support base in the case of Balikpapan Bay) and to use both the process and the product as part of an awareness-raising effort within the region. Development and conservation activities with selected local communities are started, concurrently or before the regional data-gathering. Within local government (district or provincial) planning units there is capacity-building to produce a strategic plan (*Renstra*) with budget implications, and also efforts with legislative bodies to produce law and regulation that broadly addresses coastal sustainable development.

This model is different in several respects from the many previous efforts by Indonesia aimed at regional development planning, carried out under Ministry of the Interior supervision via *Bangda*. These tended to be large-scale and driven by central government.

The local demand is for tools that can help in real-time decisions being made every day within the Indonesian coastal zone. For example, there is a major new industrial area being planned for Balikpapan Bay. How should it be located in order to avoid excessive ecological impacts and cross-sectoral concerns, and what social mitigation efforts are needed? What kinds of marine zoning should be put in place to protect sensitive marine life such as the dugong? What types of marine sanctuaries could enhance fisheries? How can Balikpapan City optimize use of its shoreline? These are decisions that require a strategic plan, but above and beyond that, require an adaptive approach based on a constantly updated, GIS accessible coastal and watershed data base. Such information could incorporate information such as oil fingerprints, location of all stored hazardous chemicals and identification of other factors likely to be important from an environmental risk assessment perspective. Elsewhere in the world this type of information has become invaluable not only for planning decisions and impact assessment, but also for emergency measures.

For CRMP to be active in such demand-driven, practical applications would require ongoing commitment to specific locations, and to ensure that not only are the technical tools



are accessible (and this often appears to be the case) but also that capacity is developed for understanding how the applications can be used in decision-making. And then to link the use to councils and other mechanisms for integrated management that already have been established. Both Balikpapan Bay and Bintuni Bay are excellent candidates.

Another spatially-oriented approach where CRMP is doing very useful work involves the designation of district and provincial sea boundaries, based on the 4 and 12 nautical mile zones in decentralization legislation. This is not an easy task, given the many islands and convoluted nature of Indonesia's coastline. The work is carried out by a very experienced Indonesian technical expert. But, at the moment, it is work for which the demand and "ownership" is not very clear. This effort should be given a higher profile within government circles and be subjected to a review process that will establish it as the boundary designation approach of choice. Otherwise it is possible that the work will be duplicated by other efforts. At issue is the scale of such work so that it is genuinely useful for local interests, and, more critically, the principles for resolving boundaries. Eventually some boundaries are very likely to be disputed between provinces, or between districts. CRMP may not wish to pursue this effort beyond the fundamental process in which it is currently engaged, but it should be discussing with government how to make the best use of the work now underway.

## **Incorporating Gender**

### **The Opportunity**

**Although provided with a number of good inputs into how gender might be mainstreamed into coastal development and management, CRMP has so far failed to incorporate many of these ideas into project implementation. There is receptivity on the part of various project partners to be more proactive on this issue, including USAID in its own guidelines. As it has in other ways, CRMP ought to be showing leadership on gender concerns. Given the commitment CRMP has both to local communities and to good policy development, there are a variety of entry points. It is not only an opportunity, but also an imperative that several be followed up at the beginning of the next phase, as noted in the recommendations within this section.**

Women play a key role in fisheries and marine activities and coastal resource management in Indonesia even though their activities may be less immediately visible. Women are active in fish-trading at nearly all of the sites where CRMP is currently working, they play central roles in the collection of water in water-scarce environments, gathering firewood (often from mangroves), some women fish or tend seaweed farms and many women are engaged in farming in the coastal plains<sup>61</sup>. CRMP has clearly attempted to draw women into their activities and coastal management strategies. At the project sites, many women have been engaged in the management committees and reforestation

---

<sup>61</sup> Seaweed cultivation emerged as an important activity at many CRMP sites between 1998 and 2001-- in some instance to the detriment of the marine and coastal environment. Seaweed farming declined substantially after 2001 as export prices fell, the real Rupiah exchange rate stabilized and in response to a widespread disease that attacked the seaweed.

and rehabilitation activities that these committees have undertaken to improve the marine and coastal environment. Among the technical, and administrative staff and extension officers at CRMP, approximately 30 %, 79% and 33 % respectively are women.<sup>62</sup> Furthermore, effort has been expended to ensure that much of data reported in project documents are disaggregated by sex.

Some key reports and data collection exercises have distinguished between men and women's perceptions as they relate to coastal resource management, have documented men's and women's different relationships to the resource base at the anchor sites, and have distinguished between those productive activities that are undertaken by men and women separately and jointly. Yet, gender is not a prominent topic in the majority of the CRMP materials. Indeed, those materials that distinguish between men and women show no evidence of a gender analysis that could provide direction on how gender differences may affect men's and women's incentives and opportunities to engage in CRM.

Two prominent gender assessments have been produced over the lifetime of the CRMP project. The first, by Soderstrom (1995), was developed at the outset of the project and outlines some recommendations for how CRMP could incorporate gender. The second, by Diamond *et al* (1997), reviews the initial stages of CRMP and offers some guidelines for the project to integrate and mainstream a gender approach. During the assessment field visits, gender was examined in some detail within North Sulawesi since it was possible to visit at all levels from local communities to provincial offices. Thus many of the observations and recommendations relate particularly to this region. However the topic is of significance to the entire project. What follows is a synthesis of the salient findings and observations captured in both of these documents plus assessment team observations:

#### *Women in Coastal Communities*

- Women do fish in some CRMP communities (although not in great numbers) and they are actively engaged in processing and marketing fish resources.
- Women's relationship to the resource base is governed by socio-cultural dictates and expectations about the division of labor and varies greatly between sites and communities. For example, in Minahasa, while fewer women than men fish offshore, women predominate in gathering mangrove fuelwood and hauling water in the CRMP communities.
- Knowledge, attitudes and resource management practices may differ for men and women in coastal communities.
- Although women participate and hold office in mixed sex community organizations they typically do so in subordinate positions where their ability to influence decision-making may be more marginal.
- Women have *de facto* control over household expenditures but major expenditures are negotiated with spouses and male family members. Extra-household expenditures are the domain of men.

---

<sup>62</sup> Percentages calculated using project staffing documents from 2002.

- Where women are cash-constrained they typically engage in barter to exchange fish and marine resources for agricultural products.

*Gender in CRMP*

- There were no overarching project-specific or site-specific gender goals.
- There was no overall gender strategy document that summarized the need for and expected results of implementing a gender strategy.
- There was little coordination between CRMP activities and existing women’s groups and organizations at the field sites—in particular the PKK and *Arysan*.
- CRMP staff had varied exposure to gender analysis and gender methodologies: CRMP staff had little or no field-based training in gender and participatory rural appraisal; there was little opportunity to learn about gender and CRM through ongoing seminars, workshops and conferences.
- The annual meeting for Proyek Pesisir had not included panels and presentations on gender and CRM.
- Apart from training figures and meeting attendance, CRMP had not integrated gender issues into monitoring and evaluation instruments, indicators and activities.

A summary of detailed recommendations on gender is provided in the box below.

<p><b>Gender Summary of Detailed Recommendations</b></p> <ul style="list-style-type: none"> <li>• Review existing gender appraisals and documents that have been produced for but not fully utilized by CRMP.</li> <li>• Integrate gender analysis into materials where sex disaggregated data are available and clear differences and distinctions have been observed.</li> <li>• Develop training modules and participatory methods and collaborative relationships with NGOs to enhance women’s participation in CRM.</li> <li>• Build links to women’s organizations at the project sites.</li> <li>• Analyze incentives and livelihood benefits and costs to individuals engaging in coastal resource management distinguishing between men and women.</li> <li>• Increase the gender focus in policy and outreach activities.</li> <li>• Convene a Technical Advisory Working Group on gender.</li> <li>• Identify specific intermediate results indicators that support the greater inclusion of women in coastal resource management.</li> </ul>
--

## **Communications**

### **The Opportunity**

**Moving to the next stage of sustainable coastal use will require more attention not only to broadening awareness on the part of people, government and industry, but actual behavioral changes. Needed are effective messaging, proven communications mechanisms, and design of campaigns that might involve a number of organizations. All of this is more than can be accomplished by CRMP operating on its own. However, CRMP does have a considerable amount of published and other material that provides some of the technical basis for a communications program. It also has the communications proposal prepared by Johns Hopkins University, although CRMP staff do not consider this document in its current form appropriate for implementation as a strategy.**

**At this stage there is a clear need for better definition of demand on the part of national government in particular, and also of the interest of other donor projects in cooperative efforts to meet demand. CRMP could be a catalyst in bringing together these interests to determine what would be an appropriate approach to communications for coastal management awareness-raising and behavior changes, and then determine what it might be able to accomplish either on its own, or operating with other donors.**

## ANNEXES

### ANNEX A. CRMP Assessment Terms of Reference.

#### Background

The Indonesia Coastal Resources Management Project (CRMP) is a component of the USAID-GOI Natural Resources Management Program II (NRM II). The goal of NRM II is to strengthen and decentralize natural resources management in Indonesia. The CRMP contributes to this goal through its mission to strengthen participatory and decentralized coastal resources management in Indonesia. Since 1997, the project has been developing good practice models of participatory and decentralized coastal resources management in several provincial field locations and, more recently, beginning institutionalization of these practices through formal policies, guidelines and laws at the local and national level. The CRMP started in 1997 and is expected to end in June, 2003. The CRMP is administered through a cooperative agreement on Coastal Resources Management (CRM II) between the US Agency for International Development Global Bureau and the Coastal Resources Center at the University of Rhode Island.

At the beginning of the CRMP, USAID reached agreement with the Government of Indonesia on three broad objectives for the project:

- Develop models for greater stakeholder participation in decisions about the planning, management, use and monitoring of natural resources;
- Improve policy development and implementation; and
- Strengthen institutional capacity for biodiversity conservation.(USAID)

Implementation sites were selected in Minahasa Regency in the Province of North Sulawesi, Lampung Province in South Sumatra and in the Province of East Kalimantan in Indonesian Borneo and focused on three geographic and administrative scales. Minahasa focused on developing a model for community-based coastal resources management. In East Kalimantan, the project set out to introduce watershed-based coastal and marine planning for Balikpapan Bay loosely based on the United States' National Estuary Program. In Lampung Province, the CRMP worked at the provincial scale to develop a provincial coastal atlas and coastal resources inventory followed by the development of a coastal strategic plan.

Engagement at each location was initially limited by the overall Indonesia political climate and centralized administrative structure which continued through most of the 1990s. However, in 1998 a series of political reforms were initiated that culminated with the radical decentralization of administrative authority and fiscal control starting in 2000. This coincided with the creation of a new Ministry of Marine Affairs and Fisheries that concentrated responsibility for marine and coastal management at the national level in one agency. As a result, CRMP was able to expand its focus on assisting in creating the overall framework and enabling conditions for integrated coastal resources management in Indonesia. These conditions enabled the CRMP to make considerable progress over the last three years and have featured heavily in project implementation since 2000.

#### Purpose and Scope of the Assessment

The USAID Mission in Indonesia has requested an assessment of the current CRMP initiative with the dual objective of documenting USAID contributions through CRMP to coastal resources management in Indonesia to date and assessing the potential for a follow-on initiative starting in mid-2003 and lasting for a period of approximately two years at similar or somewhat elevated funding levels compared to the current project. The major objectives of the assessment are to:

4. Articulate and document the importance of coastal and marine resources to Indonesia with respect to socio-economic development, food security and bio-diversity conservation.
5. Assess and summarize past USAID contributions through CRMP to improved coastal and marine resources management in Indonesia,
6. Provide recommendations as how USAID can continue to make contributions to improved, decentralized coastal and marine resources management in Indonesia.

The assessment and recommendations must address the following questions:

Context Related

1. What are the key environmental, socio-economic and governance issues facing the country with respect to coastal and marine resources management?
2. What are the socio-economic and environmental service values of coastal and marine resources to Indonesia, and the potential socio-economic losses of continued trends in condition and use and what is the importance of coastal and marine resources in terms of food security to the nation and impacts (health, imports, etc) of continuing trends in condition and use?
3. How does coastal resources management figure in Indonesia's current environment of decentralization and democratization and what are the economic and ecological benefits that could be obtained through improved management in the short-, mid- and long-term?

CRMP Related

1. What have been the major contributions and outcomes of the CRMP to more effective participatory and decentralized CRM in Indonesia?
2. What are the prospects that CRMP developed models of good practices and policies will be sustained after the project terminates?
3. How can current project initiatives be evolved or continued to best contribute to improved management of coastal resources in Indonesia?
4. What have other donors learn from CRMP?
5. What meaningful and realistic performance indicators could be used for a new initiative?

New Opportunities

1. What new opportunities exist for USAID marine and coastal management assistance programs within the current governmental and donor context?
2. What Indonesia marine and coastal management priorities and needs can be addressed through USAID assistance given expected resource levels?
3. What areas of the current project could be continued in a new initiative to contribute to sustainability and build on previous USAID investments?
4. Should a new initiative expand or transition to other geographic areas within or outside of USAID geographic priority areas and how could this be accomplished (e.g., Papua, Sanghir Talaud, Mahakam Delta)?
5. Should a new initiative expand or transition to new resource management areas and how could this be accomplished (marine conservation strategy, fisheries management and enforcement in the EEZ or coastal fisheries, illegal foreign fishing, deforestation, etc.)?
6. What are the specific socio-economic benefits that can be obtained from a USAID supported follow-on in coastal and marine resources management in Indonesia (e.g. food production, employment and livelihood development, reduction of losses from illegal foreign fishing, etc.)?
7. Are there ways to cooperate more fully with other USAID programs to maximize or augment current successes (agricultural development, sustainable fisheries production and marketing for economic development, democratization, local government capacity development, citizen participation in decision making, improving local government revenue generation, health, media and broadcasting transparency, etc.)?

## **Period of Performance**

January 20 – March, 2003

## **Assessment Team**

The team will consist of six persons including three expatriate members and three local members as listed below. The duration of the assignment is for a total time of approximately three person weeks each, with approximately two weeks spent in-country and the following time allocated to pre-country preparations, document review, orientation discussions and final report writing after departure from Indonesia.

- Expatriate Team Leader/Coastal Management Specialist – Dr. Arthur J. Hanson
- Expatriate Coastal Management Specialist – Dr. Catherine Courtney
- Expatriate Resource Economist – Dr. Sarah Gammage
- Indonesian Natural Resources Specialist – Koesoebiono
- Indonesian Resource Economist – Dr. Akhmad Fauzi
- Indonesian Environmental and Resource Law Specialist – Indriany Augustine

## **Tasks**

Specific tasks to be carried out to achieve the objectives stated above include but are not limited to the following:

- Review key documents published by CRMP.
- Review and assess the current political, economic, environmental and governance context with respect to coastal and marine resources management, especially in relation to the changes that have occurred since democratization?
- Analyze other USAID supported projects as well as major bilateral and multilateral donor supported initiatives in coastal and marine resources management, either planned or on going, to assess how a potential follow-on USAID supported initiative can provide additional value, establish comparative advantage or contribute to unfilled needs and priority issues not supported by other USAID project activities and by other donors.
- Assess and summarize the accomplishments and major outcomes of the CRMP between 1997–2002 (and projected through 2003) in contributing to decentralized and strengthened CRM in Indonesia, the likelihood of sustainability of those accomplishments after the project ends, and the extent to which additional USAID investments beyond the life of the current project is required to enhance sustainability of the investments already made.
- Review indicators used in the current project and provide recommendations for an improved set of practical indicators consistent with current USAID strategic objectives.
- Provide suggestions for priorities as the current project comes to completion and ways to provide for a smooth transition to a new initiative.
- Recommend a strategy and key outcome areas for a follow-on initiative in coastal and marine resources management that meets the needs of host country client institutions and fits within the framework of current USAID strategic objectives and priorities. This may include both continuation (or not) of various elements of the current CRMP, introduction of new approaches, or expansion to new geographic or issue areas.

## **Activities**

- Conduct discussions with CRC senior management prior to departure in-country and review background material provided.
- Review existing secondary literature on the project and other documents on CRM in Indonesia prior to departure as well as additional documentation obtained in-country after arrival.
- Travel to Indonesia in January.
- Conduct discussions with the following:
  - USAID and CRMP staff,

- National Partners (including the Minister for Marine Affairs and Fisheries, Director General for Coast and Small Island Affairs, Bappenas and local government & NGO partners in Balikpapan and Manado as scheduled)
- Other Donors and Donor Projects (WB, ADB, CIDA, GTZ, MCRMP, COREMAP, etc.)
- National NGOs (including Jaringan Pela, WWF Indonesia, ICEL, ISA, and others as scheduled)
- IPB/CCMRS (Center for Coastal and Marine Resources Studies at Bogor Agricultural Institute International NGOs as appropriate (including TNC, WWF, CI, WCS and others as scheduled)
- Visit field sites for discussions with CRMP field staff, local partners and communities.
- Compile, review and summarize existing information on CRM in Indonesia relevant to this effort.
- Summarize efforts of on-going and planned substantial donor supported activities in coastal and marine resources management.
- Prepare and deliver a presentation on preliminary findings and recommendations in Jakarta prior to departure.
- Prepare a report on findings and recommendations

### **Final Report**

The assessment team in consultation with CRC and CRMP staff will determine the format and outline of contents for the final report on findings and recommendations to be submitted to CRC. Prior to departure from Indonesia, the team will make a presentation of the report's preliminary findings and recommendations to CRMP and USAID. Each consultant will contribute to the final report and prepare sections as directed by the team leader. The Team Leader is responsible for delivery of the final report to CRC. The final report will serve as the final deliverable under each consultants contract. Annexes will include lists of documents reviewed and, persons interviewed, a table of information on other donor supported initiatives in coastal and marine resources management, a copy of the terms of reference, and the final in-country itinerary.



## **ANNEX B. Assessment Team Members.**

### **Indriany Augustine – Resource and Environmental Law Specialist**

Indriany Augustine is a law specialist in environmental and natural resources management. Her experience includes working on environmental law advocacy at the Indonesian Center for Environmental Law (ICEL) as a head of Case Advocacy and Alternative Dispute Resolution (ADR). She is Secretary of the Coordinator Project in Drafting and Socialization on Class Action Procedure for Supreme Court Rule; and Secretary of the Coordinator Project for the Revision of the Environment Management Act No.23/1997. She also serves as Assistant Legal Advisor of Parliament in Commission 8 on Environment and Development. In this capacity she is conducting research and prepared an academic draft for a Bill on Marine and Coastal Management.

### **Catherine A. Courtney – Coastal Resource Management Specialist**

Dr. Courtney is a marine environmental scientist with over 20 years of experience in the design, implementation, and management of coastal resource management and marine environmental research programs throughout the Pacific and Southeast Asia. She has been responsible for managing multimillion-dollar contracts with various U.S. government agencies to perform environmental and natural resources services for Tetra Tech EM Inc. since 1990. For the last 7 years, Dr. Courtney served as the Chief of Party for the \$19 million, USAID-funded, Coastal Resource Management Project Contract in the Philippines. She was responsible for the technical direction and management of this highly successful, multi-faceted project working with national and local government, nongovernmental organizations, and coastal communities to improve coastal resource management in the Philippines through national and local policy and institutional development, training and technical assistance, environmental education, and enterprise development.

### **Akhmad Fauzi – Resource Economist**

Dr Fauzi is a resource economist and lecturer at Bogor Agricultural University (IPB). He earned his Ph.D. from the Department of Economics at Simon Fraser University, British Columbia, Canada. His interests are bioeconomic modeling of coastal resources, economic assessment of competing user groups in coastal resources, as well as valuation of coastal and marine resources. He has been involved in several national and international projects on marine and coastal resources, both as a team leader and a specialist. He was the Co-Principal Investigator of the Integrated Coastal Management Sustainability project funded by Packard Foundation. He was also acting as resource economics specialist on the WWF Sulu-Sulawesi Project and the ADB funded coastal and marine resource project.

He is currently serving as the chair of the socio-economics of marine and fisheries department, Faculty of Fisheries and Marine Science, IPB, as well as head of the resource economics laboratory at IPB. He is also a member of several professional organizations such as Indonesian Fisheries Socio Economics Network, Indonesian Oceanology Association. He was also an associate member of the Institute of Fisheries Analysis, Simon Fraser University, British Columbia Canada.

### **Sarah Gammage – Economist**

Dr. Sarah Gammage is a resource economist with over 12 years experience working and in developing countries including El Salvador, Honduras, Ecuador, Peru and Nigeria. Her environmental research has focused on human-environment interactions in watersheds and coastal zones, gender and poverty analyses as they relate to environmental dependence, deforestation and fuelwood use, trade in environmental goods and services, and economic valuation. Dr. Gammage is a representative of the Center for Environmental and Social Studies for Sustainable Development in El Salvador, an affiliate of the Center for Women and Work at Rutgers University, an affiliate of the Economic Policy Institute in Washington DC and a representative on the Latin American Technical Advisory Group of the American friends Service

Committee. She has worked with and for a variety of non-governmental and multilateral agencies including the International Institute for Environment and Development, the International Center for Research on Women, the Center for Development and Population Activities and the United Nations Development Programme. She has a M.Sc. from the London School of Economics and recently successfully defended her doctorate in Environmental Economics at the Institute for Social Studies in the Netherlands.

**Arthur J. Hanson – Team Leader**

Dr. Hanson is a specialist in natural resource management and sustainable development, with over 30 years of experience working in Indonesia, Canada, the USA and several developing countries on the subject of marine and coastal management. His current responsibilities include serving as Canada's Ministerial Ambassador for Oceans, a member and Lead Expert of the China Council for International Cooperation on Environment and Development, Distinguished Fellow and Senior Scientist of the International Institute for Sustainable Development, Technical Advisory Committee Chair of the UNDP/United Nations Foundation *Equator Initiative* member of the Canada Foundation for Innovation, Board Member of the Indonesian Biodiversity Foundation (KEHATI) and a member of the Canadian Biotechnology Advisory Committee.

He is past-President of the International Institute for Sustainable Development, former Professor and Director of the School for Resource and Environmental Studies at Dalhousie University and Research Director of the Dalhousie Ocean Studies Program. He also served as Program Specialist in Indonesia with the Ford Foundation and directed several major environment and development programs in Indonesia through CIDA, World Bank and UNDP. He has served as Team Leader of several USAID assessments.

**Koesoebiono**

Koesoebiono has worked for more than three decades with the Bogor Agricultural University (IPB) where he lectured in Aquatic Ecology, Marine Biology, and Management of Marine and Coastal Natural Resources, with an emphasis on living resources. For over 20 years he served as Program Manager for the Coastal Zone Management Program of the Environmental Research Center at IPB. His research and advisory experience covers many parts of Indonesia. He retired from IPB in 1994. After retirement he became an assistant of the Center for Coastal and Marine Resource Studies. He has a graduate degree from the University of Miami.

## **ANNEX C. Schedule of Activities and Interviews**

A detailed list of those interviewed and their institutions by the Assessment Team is available electronically from the CRMP office in Jakarta. Therefore the list is not included here. In all, more than 200 people were interviewed individually or in small groups.

The Assessment Team split into subgroups for some of the interviews and for the field visits. It was possible to visit the field program sites in North Sulawesi and East Kalimantan, but not in Lampung and Papua.

### **Team Members**

IA Indriany Augustine  
CAC Catherine A. Courtney  
AF Akhmad Fauzi  
SG Sarah Gammage  
AJH Arthur J. Hanson  
K Koesoebiono

### **Schedule**

20 January	Initial meeting of Assessment Team and group meeting of team with CRMP field and management staff, and Indonesian USAID Staff, Jakarta
21 January	Interviews, Jakarta
22 January	Interviews, Jakarta
23 January	Interviews, Jakarta
24 January	Individual meetings, Jakarta including with, Minister of the Environment, Minister of Marine Affairs and Fisheries, USAID Environment and NRM staff
25 January	Meeting with Sarwono Kusumaatmadja, Advisor to the Indonesia Maritime Council and former Minister of Environment and of Marine Affairs and Fisheries; Assessment Team Meeting
26 January	Travel to Manado, meeting with CRMP senior management and with North Sulawesi project staff; Assessment team members consolidate results from individual meetings in Jakarta

- 27 January Team splits with AJH, K, CAC, IA attending meetings with North Sulawesi Provincial BAPPEDA (BAPELITBANG) staff; meeting with Dean and Staff of the Faculty of Fisheries, UNSRAT; luncheon meeting with staff from government offices and Faculty of Law, UNSRAT concerning development of provincial coastal law; AF and SG to Bentenan-Tumbak villages
- 28 January Meetings in Tondano, Minahasa Kabupaten offices BAPPEDA, Fisheries, BPMD – AJH, K, CAC; AJH to Jakarta; AF and SG in Bentenan-Tumbak; IA, CAC and K to Blongko
- 29 January AJH meetings in Jakarta at Indonesian Biodiversity Foundation (KEHATI), and with former Ministers Emil Salim and Erna Witoelar; AF and SG to Manado for NGO meetings and AF to Bogor
- 30 January AJH and K to Balikpapan; meeting with CRMP East Kalimantan staff members; group meeting with 26 government officials from Balikpapan City, Kabupaten Kartinegara, Bontar, and Pasir, provincial offices, including BAPPEDA and sectoral offices – all have an interest in Balikpapan Bay Council; meeting with 11 NGO, industry and community representatives from Balikpapan Bay and Mahakam Delta regions; dinner meeting with Kabupaten Pasir parliamentarians
- SG, IA and CAC to Talise
- 31 January AJH and K meeting with head of BAPPEDA and BAPEDALDA Balikpapan; meeting with Balikpapan Bay Council Technical Advisory Team members from UNMUL; meeting planned with national/international conservation groups in East Kalimantan – attended only by Peter H. Karsono, Executive Director, BOS Foundation; boat tour of Balikpapan Bay; return to Jakarta
- SG, IA and CAC return to Jakarta
- 1 February Assessment team meetings, review of project literature, report writing and interviews
- 2 February Assessment team meetings, review of project literature, report writing and interviews
- 3 February Assessment team meetings, review of project literature, report writing and interviews
- 4 February Preparation for Assessment Team presentation on findings to interviewees, CRMP and USAID staff

- 5 February    Assessment Team presentation 9am – 2 pm
- 6 February    Final Assessment Team meetings; AJH meeting with USAID Mission Director, Terry Myers
- 5-7 February   International Assessment Team members depart from Indonesia

In addition to the schedule in Indonesia, several meetings took place in the USA—by telephone in January and February with Jason Patlis; and in person with USAID staff in Washington DC, Richard Volk on 6 January, and Anne Patterson and Theresa Tuano on 22 February; and with Stephen Olsen and other CRC staff on 23-25 February at the University of Rhode Island.

## ANNEX D. Documents Reviewed and References

### Some Key Documents

In 2002, CRC produced a CD-ROM containing many key scientific and experiential papers and reports from Indonesia and other countries where the Center is active. It is entitled *A World of Learning in Coastal Management*. This is available from CRC on-line (<http://www/crc/uri/edu>). It contains more than a dozen papers and reports on Indonesia, plus sections of two volumes of the Indonesian Journal of Coastal and Marine Resources.

An additional, very extensive list of publications arising from CRMP along with a useful summary of each CRMP program area is presented on-line ([http://www.crc.uri.edu/comm/asia\\_pubs.html](http://www.crc.uri.edu/comm/asia_pubs.html)). Most documents are directly accessible. This list is organized into the following categories (accessed 20 January 2003): Guides (4 publications); Profiles (4); Management Plans (3); Technical Reports (19); Training Reports (3); Workshop Proceedings (6); Conference Papers and Journals (14); Fact Sheets (7); Brochures (2); Working Papers (15).

In production as part of the closing out effort of the project is a comprehensive data base covering all products from CRMP, including CD-ROMs with photographs and extensive information about village sites, maps and other material that is not ordinarily captured in reports or published articles. This data base should be available after mid-2003. The Assessment Team examined many components of this information base.

A spread sheet with information on more than 390 references related to CRMP was prepared as part of the Assessment process. This document (Publication list for Assessment Team, 6 February 2003. 71 pp) is not included here, but it is accessible upon request as an Excel document from CRC or the CRMP project office in Jakarta.

There are several reports noted below that the Assessment Team found to be particularly important. Additional reports and reference material are documented as footnotes in the text and boxes of the main report, and in the list of references noted below.

Crawford, B.R., L.Z. Hale, A.T. White, R. Dahuri, and K. Lowry. 1995. *Design for the Integrated Coastal Management Project*. Natural Resources Management II Program USAID Indonesia. Office of Rural Environmental Management, USAID, Indonesia.

Dahuri, Rokhmin. January 2003. *Paradigma Baru Pembangunan Indonesia Berbasis Kelautan. Orasi Ilmiah Guru Besar IPB*. 233 pp. [A New Paradigm of Indonesian Development Based on the Sea.]

Directorate General of Coasts and Small Islands, DKP. November 2001. *Naskah Akademik Pengelolaan Wilayah Pesisir*. [Academic Draft on Management of Coastal Areas]

Draft Law on Management of Coastal Areas [English Translation of document currently under discussion]

Proyek Pesisir. November 1999. Life of Project Strategy FY 00-02. 15 pp.

Proyek Pesisir. Workplan Year 6-7. April 2002-September 2003. 76 pp.

Proyek Pesisir. November 2002. Lessons from Roundtable Discussions Jakarta, Balikpapan, Manado. Sustaining CRMP Achievements. Inputs for Follow-on Programs.

Proyek Pesisir. January 2003. USAID's Indonesia Coastal Resources Management Project. Powerpoint presentation by Maurice Knight to Assessment Team 20 January.

Proyek Pesisir. Lampung Coastal Atlas; Kabupaten Minahasa Atlas.

Regional Regulation of Kabupaten Minahasa No. 2 Year 2002 On Integrated Community-based Management of Coastal Resources in Kabupaten Minahasa

Sondita, M.F.A. et al., (eds). 2001. Lessons from Proyek Pesisir Experience 1997-2001. IPB and CRC. 145 pp.

USAID. 2001. An Assessment of the USAID Natural Resources Management Program in Indonesia: Recommendations for the Future, 127 pp.

### **Selected References**

ABD. 2001. Key Indicators of Developing Asian and Pacific Countries. Asian Development Bank.  
[http://www.adb.org/Documents/Books/Key\\_Indicators/2001/INO.pdf](http://www.adb.org/Documents/Books/Key_Indicators/2001/INO.pdf)

BAPPENAS. 1996. Economic Value of Forest and Marine resources: Applications of Market and Non-Market Valuation Techniques to Indonesia Natural Resources, Natural Resources Management Project, ARD/USAID, BAPPENAS, Jakarta. pp 76

Brown, T. 1998. Economic Crisis, Fiscal Decentralization, and Autonomy: Prospects for Natural Resources Management. Paper presented at a University of Indonesia International Conference on The Economic Issues Facing the New Government, Jakarta, August 18-18, 1998. p 21.

Cesar, H. 1996. Economic Analysis of Indonesian Coral Reefs. Environment Department, Work in Progress, World Bank, Jakarta. pp 97.

Cesar, H. 1998. Indonesian Coral Reefs: A Precious but Threatened Resource. in M.E. Hatzios, A.J. Hooten and M. Fodor (eds) Coral Reefs: Challenges and Opportunities for

Sustainable Management. Environmentally and Socially Sustainable Development Division, World Bank, Washington, D.C. pp 224.

CIDA. 2001. Gender Profile: Indonesia. Canadian International Development Agency. [http://www.acdi-cida.gc.ca/cida\\_ind.nsf/](http://www.acdi-cida.gc.ca/cida_ind.nsf/)

Cooke, B. and U. Kothari. (eds) 2001. Participation, the New Tyranny? Zed books, London. pp 207.

Crawford, B., A. Siahainenia, C. Rotinsulu and A. Sukmara. 2001. Factors Influencing Community-Based Compliance and Enforcement of Coastal Resources in North Sulawesi, Indonesia. CRC, CRMP, Working Paper, University of Rhode Island, Narragansett. pp 22.

Crawford, B., I., Dutton, C. Rotinsulu, and L. Hale. 1998. Community-Based Coastal Resources Management in Indonesia: Examples and Initial Lessons from North Sulawesi. ITMEMS 1998 Proceedings. URI, Rhode Island. p11.

Central Statistics Agency (BPS). 2002. SUSENAS 2002 Modul Konsumsi (Social National Survey 200 Consumption Module). Central Statistics Agency. Jakarta

CRMP. 2003. Concept and Status for an Integrated Coastal Monitoring System in N. Sulawesi: Communities, Government, Private Sector and Scientists Understanding Coastal Change Together. Proyek Pesisir, Jakarta, January 2003. pp 5.

CRMP 2002. Lessons from Roundtable Discussions, Jakarta, Balikpapan, Manado. Sustaining CRMP Achievements Inputs for Follow-on Programs. Proyek Pesisir, Jakarta, November 2002. pp 17.

CRMP. 2002. CRMP Indonesian Work Plan: April 2002-September 2003, Proyek Pesisir.

CRMP II. 1995. Design for the Integrated Coastal Management Project Natural Resources Management II Program USAID/INDONESIA, A Technical Report, Prepared for the Office of Rural Environmental Management, USAID, Indonesia, CRMP II, Bureau for Global Programs, Field Support and Research, Environment Center, Jakarta. pp 125.

Dahuri, R. and I. Dutton. 2000. Integrated Coastal and Marine Management Enters a New Era in Indonesia, *Integrated Coastal Zone Management*, 1:11-16.

Diamond, N., S. Machfud, and R. Kinseng. 1997. Proyek Pesisir Gender Assessment, CRC/URI CRMP, Jakarta, pp 98.

FAO. 2001. FAO Focus: Fisheries and Food Security. Available on line from <http://www.fao.org/focus/fisheries/intro.htm>



Fauzi, A. 2001 Report of Scheme Proposal for Empowerment of Traditional Fishermen in the City of Mataram, West Nusa Tenggara Province. Report submitted to Asian Development Bank (ADB) for CMRS Small Scheme Project in Indonesia.

Fauzi, A., and Suzy Anna. 2002. Penilaian depresiasi sumberdaya perikanan sebagai bahan pertimbangan penentuan kebijakan pembangunan perikanan. *Jurnal Pesisir dan Lautan*. Vol 4. 2 pp:36-49

Fauzi, A., and Suzy Anna. 2003. *Data Envelopment Analysis (DEA) Kapasitas Perikanan Di Perairan Pesisir Dki Jakarta*. *Jurnal Pesisir dan Lautan (forthcoming)*

Fauzi, A. and E. A. Buchary. 2002. A Socioeconomic Perspective of Environmental Degradation at Kepulauan Marine Park, Indonesia, *Coastal Management* 30: 167-181.

Fauzi, A. 2001. Marine Coastal Management in Indonesia, Submitted to the Canadian Embassy for CIDA, Bogor, 2001. p 12.

Felsing, M., C. Brugere, K. Kusakabe and G. Kelkar. 2000. Women for Aquaculture or Aquaculture for Women. INFOFISH International No 3: 34-47.

Fraser, N., Crawford, B., A. Siahainenia, F. Pua, and C. Rotinsulu. 1999. Transforming Unsustainable and Destructive Coastal Resource Use Practices in the Villages of Tumbak and Bentenan, North Sulawesi, Indonesia. Phuket Marine Biological Center Special Publication, 20: 5-20.

Guijt, I. and M. Shah. 1998. The Myth of Community: Gender Issues in Participatory Development, IT Publications. London.

Heruwati, E. , A Wijono and Murniyati. 1998. Peranan Wanita Nelayan Dalam Kegiatan Perikanan. WPPI IV 4: 16-22.

Hopley, D., and Suharsono., 2000. Status of coral reefs in Eastern Indonesia. In Report for Global Coral Reef Monitoring Network (GCRMN) series ed. Australian Institute of Marine Science.

Hourihan. J. 1986. Consultants Report. Women in Development (WID): Guidelines for the Fisheries Sector. Asian Development Bank. Manila. pp 85.

ICLARM. 2001. Global Symposium on Women in Fisheries. WorldFish Center. [http://www.worldfishcenter.org/Pubs/Wif/pub\\_wifglobal.htm](http://www.worldfishcenter.org/Pubs/Wif/pub_wifglobal.htm), Accessed February 10, 2003.

JICA. 2002. The Study on the Integrated Coral Reef Management Plan in North Sulawesi in the Republic of Indonesia. Final Report. Volume II. Master Plan. Japan International Cooperation Agency, Ministry of Marine Affairs and Fisheries, Regional Planning Research and Development Agency North Sulawesi Province, Pacific Consultants International, North Sulawesi. March 2002.

Manado Post. 2003. Luas Daerah Perlindungan Laut di Sulawesi Utara in Lestari, Kamis, 30 January 2003. Manado, North Sulawesi. pp2

Mayoux, L. 1995. Beyond Naivety: Women, Gender Inequality and Participatory Development, *Development and Change*, 26: 255-58.

MOE. 1999. Economic Valuation of Marine and Coastal resources in Bareland (Batam, Rempang, Galang) and Bintan, The First Assistant Minister of the State Ministry for Environment, Republic of Indonesia and Center for Coastal and Marine resources Studies Bogor Agricultural University, Jakarta, 1999.

Machfud et al., 1996. Cited in Diamond et al., 1997.

NIBR. 2002. Integrated Coastal Zone Management in Indonesia.  
<http://www.nibr.no/article/articleview/100/>  
Accessed February 10, 2002.

NRM. 1999. Valuing Resources: Fisheries, Tourism, and Preservation Values, Bunaken National Marine Park. Teaching Case Study Summary, NRM, Jakarta. pp 9.

NRM. 2003. Bunaken National Park Doubles Yearly Entrance Fee Receipts for 2002, Jakarta. Pp 2.

Patlis, J., R. Dahuri, M. Knight, J. Tulungen. 2001. Integrated Coastal Management in A Decentralized Indonesia: How it Can Work. *Pesisir and Lautan*, 4(1): 24-39.

Pearce, D. and D. Moran. 1994. The Economic Value of Biodiversity. IUCN/Earthscan, London. pp 172.

Pollnac, R.B., F. Sondita, B. Crawford, E. Mantjoro, C. Rotinsulu and A. Saihainenia. 1997. Baseline Assessment of Socio-Economic Aspects of Resource Use in the Coastal Zone of Bentenan and Tumbak, CRMP, Draft Technical Report, Manado, 1997.

Ravicz, R. 1998. Searching for Sustainable Microfinance: A Review of Five Indonesian Initiatives. Development Economics Research Group. Rural Cluster. World Bank. Washington. Pp 103.

Rotinsulu, C. 2002. Bentenan Update. October 21-October 26, 2002. CRMP, Field Notes, Manado, 2002. p14

Rotinsulu, C. 2002. Tumbak Update. October 28-November 1, 2002. CRMP, Field Notes, Manado, 2002. p8.

Saruan, C. 2000. Studi Jender pada rumah tangga nelayan dalam pengelolaan sumberdaya pesisir dan lautan (*Gender Study on fisheries household in coastal and marine management*). Master Thesis, Marine and Coastal Study Progra, Bogor Agricultural University (IPB).

Schrijvers, J. 1995. Participation and Power: A Transformative Feminist Research Perspective, in N. Nelson and S. Wright (eds.) *Power and Participatory Development: Theory and Practice*, IT Publications, London.

Siason, I., E. Tech, K. Matics, P. Choo, M. Shariff, E. Heruwati, T. Susilowati, N. Miki, A. Shelly, K. Rajabharshi, R. Ranjit, P. Siriwardena, M. Nandeesha, M. Sunderarajan. 2001. Women in Fisheries in Asia. ICLARM. 2001. Global Symposium on Women in Fisheries. WorldFish Center. Pp 48.

[http://www.worldfishcenter.org/Pubs/Wif/pub\\_wifglobal.htm](http://www.worldfishcenter.org/Pubs/Wif/pub_wifglobal.htm),

Sitorus. F. 1995. Peranan Ekonomi Wanita Dalam Rumahtangga Nelayan Miskin di Pendesaan Indonesia. Lokakarya 'Integrasi Kepentingan Wanita Dalam Perencanaan Pembangunan, Cisarua, Desember.

Soderstrom, E. 1995. Gender Issues and Coastal Zone Management, Annex 3 in CRMP II. 1995. Design for the Integrated Coastal Management Project Natural Resources Management II Program USAID/INDONESIA, A Technical Report, Prepared for the Office of Rural Environmental Management, USAID, Indonesia, CRMP II, Bureau for Global Programs, Field Support and Research, Environment Center, Jakarta. pp 125.

Spurgeon, J. 1998. The Socio-Economic Costs and Benefits of Coastal Habitat Rehabilitation and Creation. *Marine Pollution Bulletin*, 37: 373-382.

United Nations. 2001. Human Development Report. Making New Technologies Work for Human Development.

Upton, M. amd T. Susilowati. 1991. Role of Women in Development and Poverty Alleviation in the Fisheries Sector. Report prepared for the Fisheries Forum II, Fisheries Research and Development Project, USAID, Jakarta, pp 17.

White, A. and A. Cruz-Trinidad. 1998. The Values of Philippine Coastal Resources: Why Protection and Management are Critical, CRMP, Cebu. pp 96

World Bank. 2002. World Development Indicators. World Bank, Washington DC. Pp 405.

## **ANNEX E. Fisheries in Indonesia—What is the True Potential?**

(Prepared by Dr. A. Fauzi with input from Dr. Sarah Gammage and others)

A number of explanations can be drawn upon to resolve the contradiction between the apparent economic potential of the marine resources and the well being of the coastal community. First, it is clear that fisheries resources are unevenly exploited. This imbalance reflects the coincidence of demographic pressure, property rights regimes and binding financial and capital restrictions that confine coastal fishers to certain pelagic and near-shore fisheries. In the western part of the country where the population density is quite high, fishery resources are heavily exploited. In this region, there is little room to expand fishing activities. This is particularly true for areas such as north coast of Java, the Malacca Straits and South Sulawesi. Indeed, these three areas contribute more than half of the total fish production in the country.

Conversely, the fishery of the eastern parts of the country such as Maluku and Papua is still perceived to be largely under-exploited. Here, the human population density is low, local markets absorb less catch, although there is still encroachment from illegal fishing and pressures such as shrimp trawling. This is also an area, however, where there is use of explosives and other problems of unsustainable use. Offshore, these marine areas are generally very deep and have strong currents. Therefore only vessels equipped with sophisticated technologies can exploit these deeper waters.

The inequalities in resource disposition and exploitation vary according to the type of the fishing ground. Generally, shallow inshore fishery resources are heavily overexploited, due to the fact that inshore fishermen have limited financial capability to purchase more advanced technology capable of exploring the offshore fishing grounds, and therefore, tend to concentrate in coastal areas. Some offshore fishing grounds, on the other hand, are generally underutilized, as these areas are generally at a great distance from fishing ports and marketing outlets. To reach these fishing grounds, a higher operating cost will likely be incurred by most fishermen. In addition, a higher level of investment is required to explore these fishing grounds, and not all fishermen can afford such a heavy investment without government assistance

There are several reasons why current estimates of the MSY (6.2 million metric tons) and actual fish harvests (officially estimated at about 4 million metric tons) diverge. For example, there is a substantial margin of error due to unreported catch and waste as well as from illegal fishing. An estimated 10 percent of total catch goes unreported and trawl by-catch is high. Additionally, illegal fishing reduces the potential fisheries available for harvesting. While there are no official figures estimating how much fish is taken illegally by foreign fleets, a conservative estimate can be made based on average catch of Thai fishing vessels. Investor Magazine in its 2001 edition reported that at least 3,200 Thai fishing vessels fish illegally in Indonesian waters, with an average catch of 2 million metric ton per year in total. The economic loss due to illegal fishing is clearly quite

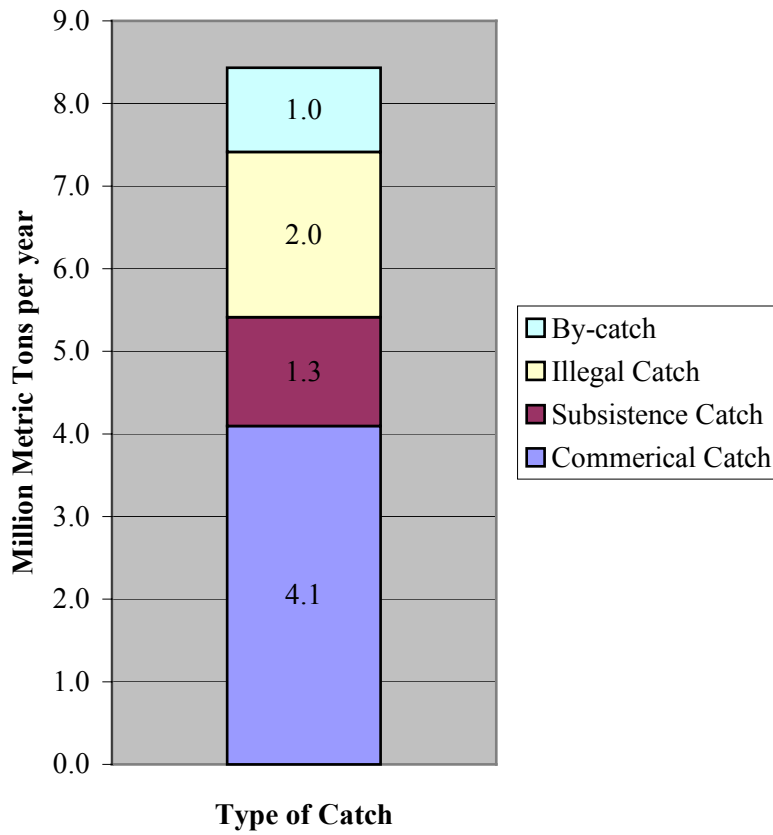
substantial. While FAO estimated that the economic loss due to illegal fishing in Indonesia is approximately US\$ 100 million, DKP estimates that illegal fishing could be as high as US\$ 4 billion (DKP's estimate includes the economic loss associated with the opportunity cost of labor). This economic loss could be seen as the loss in economic rent that could have been accrued to the fishermen in Indonesia.

The calculation of potential economic benefits generated from marine resources, especially fishery resources, does not take into account the depreciation of these resources. This means that the estimate of the MSY is likely to be flawed. As with any other asset, fishery and marine resources can be seen as capital—the value is likely to depreciate where the harvest exceeds the ability to reproduce and maintain the stock, either as a result of fisheries production (fishing) or non-production activities (dynamiting coral, oil spills, etc.) Fauzi and Anna (2002), for example, have calculated that the resource rent of the small pelagic fishery in the north coast of Java has depreciated as much as Rp 20 billion per year (approximately US\$ 2 million per year). This depreciation is equivalent to the forgone benefit that could have been reaped by the fishermen had the fishery been managed optimally.

Finally, the fishery sector is not running efficiently. Overcapacity exists in parts of the marine sector, that is, the ratio of effort exerted in the fishery compared to the sustainable production that could be generated is higher than would be technically efficient. Studies by authors in some coastal areas, for example, estimate that the fishing gear operating in coastal fisheries is frequently inefficient and overcapacity is consistently documented. If this overcapacity relative to the true MSY is being used, then the fisheries resources will be drawn down over time.

The graph reproduced in this annex and in the text of the report is a very simplified calculation estimating the total commercially viable catch per annum in Indonesia. We impute the amount of potentially commercially viable fish catch attributed to subsistence fishing and that lost through by-catch wasted, add in the previously noted estimate of illegal catch, and sum the total catch. Subsistence consumption of commercially viable catch was estimated assuming that there are approximately 4.8 million fishing families consuming 10.5 kilograms of fish per week. Approximately 50 percent of what these coastal inhabitants consume is potentially commercially viable. By-catch is estimated to be 25% of the commercially viable catch. The estimated total actual catch is on the order of 8.4 million metric tons per year, clearly in excess of the estimated MSY. These figures are rough estimates and should not guide policy. They do, however, illustrate how current fisheries resources may be being over-fished and explain the divergence between optimistic and pessimistic forecast of the health of Indonesia's fisheries stocks.

### Estimated Annual Actual Catch in Indonesia



## ANNEX F. Valuing the Benefits from Coastal Resource Management under CRMP.

(Prepared by Dr. Sarah Gammage with input from Dr. A. Fauzi and others)

This annex provides a rudimentary overview of valuation techniques and estimates some of the ecosystem benefits and services secured through CRMP activities at the four anchor sites in North Sulawesi.

Through a variety of project and program activities, CRMP ensures the continued existence of marine and coastal habitat, and consequently secures a host of use and non-use values in terms of fisheries, environmental goods and services, terrestrial and marine bio-diversity. In order to analyze these values we will draw on a theoretical framework for assessing total economic value. The framework for assessing total economic value depicted in Figure F 1 is used extensively when monetizing those benefits secured by the existence, and through the use and transformation of environmental goods and services.

**Figure F1. A schematic representation of Total Economic Value of a marine and reef fisheries.**

<i>Total Economic Value</i>				
<i>Use Values</i>		<i>Non-Use Values</i>		<i>Intrinsic Values</i>
<i>Direct Use Values</i>	<i>Indirect Use Values</i>	<i>Option Values</i>	<i>Existence Values</i>	<i>Non-Anthropocentric Values</i>
<u>Products</u> : edible, aquarium, ornamental, construction, and medicinal. <u>Recreation</u> : diving, snorkeling, sight-seeing. <u>Waste assimilation</u> : filtering, diluting, sinking and absorbing waste products. <u>Research</u> : generating knowledge about ecosystems and habitats that can secure other use and non-use values. <u>Education</u> : teaching current and future generations about environmental goods and services,	<u>Biological support</u> : for other species and habitats, nutrients and organic detritus. <u>Barrier services</u> : coastal defense against flooding. <u>Global life-support</u> : functions that help support life on earth--such as carbon sequestration, etc.	<u>Values that may be realized in the future</u> : pharmaceutical values and bio-diversity values that are not known at this juncture. <u>Quasi-option values</u> : values deriving from new information about biological functions and services.	<u>Bequest motives</u> : preservation values for future generations. <u>Stewardship</u> : preservation to ensure the continued existence of a species, habitat or ecosystem. <u>Existential</u> : the belief that organisms have intrinsic rights.	Organisms have <u>intrinsic value</u> not deriving from human perceptions of these values either functionally or existentially.

habitats and ecosystems.				
--------------------------	--	--	--	--

Adapted from White and Cruz-Trinidad 1998 and JICA 2002.

While no estimates of the use and non-use values secured under CRMP currently exist, we can draw on other studies and secondary data sources to illustrate the importance of coastal resource management activities under CRMP.

One marine area where coastal resources are being managed sustainably is Bunaken marine park. Bunaken marine park consists of 2 sections, the larger northern section (62,150 ha) that encompasses the islands of Bunaken, Manado Tua, Mantehage, Siladen and Nain and the coastline of Pisok Point to the north of Manado city. The southern section is smaller (16,906 ha) and comprises the fringing reefs and mangroves of Arakan Wawontulap peninsular south east of Manado. Approximately 80 percent of the park is open sea with depths ranging from 200 meters to over 1000 meters. A BAPPENAS and IPB report that values the fisheries resources secured in Bunaken marine park estimates the total direct fisheries value from artisanal and commercial production, seaweed farming and gleaning activities to be US \$3.8 million annually.<sup>63</sup> These benefits accrue to approximately 20,000 full and part-time fishers and households who depend on the resources secured in Bunaken Marine Park. The value of recreation to non-local and local tourists visiting the park was estimated at US \$4.5 million per year. Preservation values were estimated at US \$4.4 million per year. The valuation exercise did not assess the net benefits from sustainable mangrove management (timber, fuelwood, charcoal, woodchips), although some of these benefits may be captured by the preservation values elicited through willingness to pay. Consequently, the estimated benefits are likely to represent a lower bound on the total economic value of the marine park.

The economic valuation of marine and coastal resources in Bareleng and Bintan in Riau calculates a number of direct and indirect use values as well as option values for coral reefs, mangrove forests and seagrass.<sup>64</sup> The total use and non-use values derived for coral reefs were US \$39,682/ha<sup>65</sup>, this figure includes coral reef fisheries values, recreational benefits, physical protection from barrier services afforded by the coral reefs and carbon sequestration. Mangrove direct use values for the standing stock of timber and for fisheries as well as indirect values for coastal protection and non-use values in the form of biodiversity values<sup>66</sup> and existence values were estimated at US \$4,603/ha. Finally, seagrass values for shrimp and seagrass fisheries, erosion prevention and biodiversity values totaled US \$38,746/ha.

<sup>63</sup> These figures are drawn from a 1999 NRM report which updates a previous study by BAPPENAS undertaken in 1996 and uses a variety of production function, travel cost and willingness to pay approaches (NRM 1999; BAPPENAS 1996).

<sup>64</sup> See MOE 1999.

<sup>65</sup> This figure is quite high in comparison to other estimates of TEV of coastal and marine resources. While it is not a Net Present Value figure it does aggregate a variety of use and non-use values that are not considered in other studies.

<sup>66</sup> For a review of techniques for valuing biodiversity, see Pearce and Moran 1994.



A recent JICA report (2002) estimates the direct, indirect and non-use values associate with coral reefs, mangroves and seagrass in parts of North Sulawesi in Manado, Bitung, Minahasa, and Bolaang Mongondow. The total use and non-use value per hectare for coral reefs, seagrass and mangrove was found to be approximately US\$ 1,957.7 per hectare.<sup>67</sup>

Table F 1 compares the total multiple use and preservation benefits per hectare and per capita for these studies undertake at different sites throughout Indonesia. The economic value framework employed is that of Total Economic Value which comprises Use Values (those derived from direct use and transformation of ecosystem goods and services), Non-Use Values (values that are available to be utilized in the future or deriving from their existence, and/or aesthetic and cultural importance), and Intrinsic Values (non anthropocentric values). The range of estimates vary substantially from US \$150.7 per hectare per year to US \$71,792.6 per hectare per year.

**Table F 1. Estimates of economic values secured annually through coastal resource management at selected sites in Indonesia.**

Study	Values Estimates	Per Hectare US \$/ha/year	Per Capita US \$/capita/year	Date
Bunaken, N. Sulawesi <sup>a</sup>	Direct Use Value and some Non-Use Values <sup>b</sup>	150.7	595.6	1996 <sup>c</sup>
Barelang and Bintan, Riau <sup>d</sup>	Direct and Indirect Use Values and some Non-Use Values	71,792.6	N/A	1999 <sup>c</sup>
Manado, Bitung, Minahasa, Bolaang Mongondow, N. Sulawesi <sup>e</sup>	Direct and Indirect Use Values and some Non-Use Values	1,957.7	2,263.4	2001

<sup>a</sup> Per capita benefits are assumed to accrue directly to the population inhabiting Bunaken marine park. Clearly, some benefits accrue to the nation and globally, but estimates of the broader population benefiting from these resources lie beyond the scope of the valuation exercise undertaken in this report.

<sup>b</sup> The Bunaken study estimates direct use values from fisheries, seaweed farming and tourism. Preservation values were estimated using contingent valuation techniques deriving from visitors' average willingness to pay for preserving the reef.

<sup>c</sup> The nominal exchange rate is taken to be US \$1=2,342 in 1996 and US \$1= 10,000 in 2001.

<sup>d</sup> The Barelang and Bintan valuation estimates the total economic values secured by the sustainable management of coral reefs, mangroves and seagrass. Values such as barrier protection, and carbon sequestration are included, as well as existence values.

<sup>e</sup> The total area for the North Sulawesi site encompasses the coastal water area and the land area. This study estimates use and non-use values for coral, seagrass and mangrove.

<sup>67</sup> The JICA 2002 report calculates parameters for different use and non-use values for different ecosystem services and benefits. The overall per hectare benefit expressed here sums all values and divides this by the total area under consideration.

Source: Authors' calculations from NRM 1999, BAPPENAS 1996 and ADB 2001; JICA 2002 citing MOE 1999, Spurgeon 1998 and ROI 1996

*Calculating The Value of Ecosystem Benefits and Services Secured Under CRMP*

In order to approximate the potential values secured under coastal resource management through CRMP, we first disaggregate the type of ecosystem goods and services secured by each type of habitat. The parameters are taken from JICA (2002) the Ministry of Environment and the Center for Coastal and Marine resources Studies at Bogor Agricultural University (1999) and work by Spurgeon (1998) and BAPPENAS (1996).

**Table F 2. Parameters used for the valuation exercise: US \$/ha/year<sup>68</sup>**

Type of Habitat	Benefit	Ecosystem Goods and Services	Source	Date	US 2002 \$/ha
<b>Coral Reef</b>	Direct Use Value	Products (fish and mollusks) <sup>a</sup>	Cesar	1996	142.8
	Direct Use Value	Recreation	BAPPENAS	1996	63.7
	Indirect Use Value	Physical Protection <sup>a</sup>	Cesar	1996	209.4
	Indirect Use Value	Global Life Support (carbon sequestration)	MOE/IPB	1999	276.5
	Non-Use Value	Biodiversity	MOE/IPB	1999	17.3
<b>Total</b>					<b>709.7</b>
<b>Mangrove</b>	Direct Use Value	Products (fish production) <sup>b</sup>	MOE/IPB & Cesar	1999	42.8
	Direct Use Value	Sustainable Forestry	MOE/IPB	1999	56.2
	Direct Use Value	Fruits and Thatch	Spurgeon	1998	506.3
	Direct Use Value	Bird and Reptiles	MOE/IPB	1999	6.7
	Indirect Use Value	Physical Protection	Cesar	1996	209.4
	Non-Use Value	Biodiversity	MOE/IPB	1999	6.7
	<b>Total</b>				
Wetlands	Non-Use Value	Biodiversity	MOE/IPB	1999	17.3
<b>Total</b>					<b>17.3</b>
<b>Seagrass</b>	Direct Use Value	Products <sup>c</sup>	MOE/IPB & Cesar	1999	122.8
	Indirect Use Value	Physical Protection	Cesar	1996	209.4
	Non-Use Value	Biodiversity	MOE/IPB	1999	17.3
	<b>Total</b>				

<sup>a</sup> Parameters for fisheries and physical protection are taken from Cesar. Values for coastal protection are calculated at those afforded by coral reefs in remote and sparsely populated areas. Cesar's values are annualized from NPV figures assuming constant nominal benefits per year. The final value for coastal protection is an average of the projected benefits secured under high and low tourism potential scenarios.

<sup>b</sup> This figure applies a benefits ratio derived from MOE/IPB (1999) of 0.30 to Cesar (1996) estimates of fisheries benefits secured by mangroves relative to those secured by coral reefs.

<sup>c</sup> This figure applies a benefits ratio derived from MOE/IPB (1999) of 0.86 to Cesar (1996) estimates of fisheries benefits secured by seagrass relative to coral reefs.

Note: These estimates ignore the benefits of waste assimilation secured by mangroves and wetlands.

<sup>68</sup> We are particularly grateful to Tim Brown of NRM/EPIQ for comments on earlier versions of the valuation exercise.

*Source:* Authors' calculations from JICA 2002, MOE/IPB 1999, Spurgeon 1998 cited in JICA 2002, Cesar 1996, and BAPPENAS 1996.

Table F 3 reports the potential benefits derived from mangrove, fisheries, recreation benefits, barrier services, waste assimilation, biodiversity and existence values secured under CRMP management at the anchor sites in North Sulawesi. Taking the amount of hectares of the marine protected areas estimated to be under effective management<sup>69</sup> as a result of the CRMP program and applying an average figure for ecosystem benefits and services per hectare per type of ecosystem in constant 2002 US dollars, we can estimate that the average total economic value secured as a result of CRMP anchor site activities is on the order of US \$432,551 per year. Or a Net Present Value of US\$2.7 million over ten years.<sup>70</sup>

**Table F 3. Potential direct, indirect and non-use values secured annually under CRMP at the Anchor Sites, constant 2002 US dollars.**

Type of Habitat/Ecosystem	Area Secured Under CRMP (ha)	Valuation US \$/ha <sup>a</sup>	Total Amount US \$
Marine Protected Area <sup>b</sup>	85.7	709.7	60,821.3
Mangroves	179.5	828.1	148,644.0
Seagrass	638.3	349.5	223,085.9
<b>Total</b>			<b>432,551.2</b>

<sup>a</sup> These figures are based on parameters from JICA 2002, MOE/IPB 1999, Spurgeon 1998, Cesar 1996 and BAPPENAS 1996 and expressed in constant 2002 US dollars using the Economic Report of the President 2002 from the Council of Economic Advisors and United States Bureau of Economic Analysis to calculate seasonally adjusted constant GDP in billions of chained 2002 dollars. Recreation benefits are drawn from BAPPENAS 1996 for Bunaken National Park. No attempt was made to deduct the costs of managing and maintaining these areas—consequently, these figures express gross benefits per annum.

<sup>b</sup> The size of the Marine Protected Area was estimated in terms of coral reef at each site and summed to provide an aggregated figure across the four anchor sites. No account is taken of differences in coral cover and in the health of the ecosystem at each site.

*Source:* Authors' calculations based on data from CRMP GIS, survey and atlas sources and JICA 2002.

The figures reported in Table F 3 are substantially higher than those reported in Cesar (1996:24), largely because they incorporate a variety of non-use values. Applying Cesar's parameters for low and high yield scenarios to value the benefits foregone from destruction of the coral reef, we may conclude that CRMP secures benefits of US \$1,536 and US \$181.6 per hectare respectively. This represents a stream of annual benefits secured by the Marine Protected Areas of US \$131,635 or US \$15,563.

<sup>69</sup> See Final Report 2002, Effective Management Indicators, CRMP 2002: PMP FY 2002 Results Report. The data were calculated specifically for the anchor sites using the CRMP GIS and atlas data.

<sup>70</sup> Following Cesar (1996), this assumes a constant nominal benefit discounted over ten years at a rate of interest of 10%.

**Table F 4. Potential direct and indirect values secured annually under CRMP at the Anchor Sites, Using Cesar (1996) parameters, constant 2002 US dollars.**

Scenario	Marine Protected Area (ha)	Value Secured Annually <sup>a</sup>	Total Amount US \$
High	85.7	1,536.0	131,635.2
Low	85.7	181.6	15,563.1

<sup>a</sup> These figures are based on parameters from Cesar 1996 that are annualized using  $NPV = \sum_{i=1}^{25} \frac{B_i}{(1+r)^i}$

where  $r=10\%$  and assuming a constant nominal benefit in each year  $B_i$ . The direct and indirect values considered are those generated by fisheries, coastal protection, and tourism.

These calculations are purely illustrative and a recommendation would be to undertake a more thorough exploration of the relative costs and benefits of coastal resource management for different sectors, individuals, interest groups and regions.

*Other Non Ecosystem Benefits Secured by CRMP*

Table F 3 above summarizes the potential values available to be reaped at the four CRMP anchor sites. Clearly, CRMP has also engaged in a host of other activities at each site that have generated benefits for the community beyond those attributed to natural systems and functions. At some sites, such as in Bentenan and Tumbak, CRMP has responded to the community ranking of concerns and priorities about flooding and erosion by funding the construction of dikes and drainage channels. At other sites such as in Tumbak, North Sulawesi, where water is scarce, funds were made available through small grants to put in piped water. Where latrines and septic tanks were requested, small grants were also made available to the communities for their construction. While these benefits are not derived from the use and maintenance of marine and coastal ecosystem goods and services, they clearly have the potential to enhance the continued delivery of ecosystem goods and services, reducing erosion and flooding, minimizing the discharge of household waste and runoff, and alleviating time burdens spent gathering water. In the case of piped water, this has generated benefits available to the entire community, but may have also contributed to alleviating women's time burdens, particularly in those communities where women are engaged disproportionately in hauling water for domestic use.

A fuller understanding of the costs and benefits of coastal resource management and those benefits derived from the project, may inform the design of future activities. Where possible the costs and benefits attributed to different management scenarios should be differentiated by beneficiaries, sectors, interest groups (fishers, sea-weed farmers, policymakers, developers, etc) and gender of the recipient.

**ANNEX G. Donor-Supported and Other Marine and Coastal Initiatives in Indonesia.**

This annex provides two separate analyses of projects and programs that are relevant to CRMP. The first is a summary by Indriany Augustine based on work compiled in 2000 through CRMP. The second is based on interviews by the Assessment Team compiled by Dr. Sarah Gammage. The information is incomplete in many cases, and there are activities not included, especially on topics such as marine transportation, ports and harbors, ocean technology development, oil and gas, urban development and waste treatment, security, and some regional activities. However, the listings do provide insight about how important investment in marine and coastal management is becoming.

**Past and current projects for Indonesian coastal and marine planning and management (based on Farah Sofa. 2000. *Program Pengelolaan Sumberdaya Pesisir dan Lautan di Indonesia: Sebuah Tinjauan*. TE-00/06-I CRMP Technical Report)**

Project Title & Donor	Project Summary
Coastal Zone Environment & Resources Management Project (AusAID)	<ul style="list-style-type: none"> <li>• Cooperation: G to G agreement</li> <li>• Purpose: increasing national institution capacity in coastal management through data collection and documentation</li> <li>• Result: establish NERIC, agreement on ICM data standard, ICM software standard, training on using software and database, dissemination case study to regional level, developing networking among ASEAN countries</li> <li>• Geographic Focus: ASEAN (except Myanmar and Laos)</li> <li>• Duration: Sept'95 – June '98 for Indonesia</li> <li>• Cost of Project : AUS \$ 19 million</li> </ul>
Wakatobi Project (AusAID)	<ul style="list-style-type: none"> <li>• Cooperation: General Director on nature conservation and protection, Fisheries Western Australia, supported by Australian Industrial Department, The Australian Fisheries Management Authority, Bajo Sejahtera Foundation</li> <li>• Purpose: developing a sustainable use on marine resources in participatory of local community</li> <li>• Result: training on sea monitoring and fishermen in marine resources management in Wakatobi</li> <li>• Geographic Focus: National Park Wakatobi</li> <li>• Duration : February 99 -</li> <li>• Cost of Project: ?</li> </ul>
COREMAP (AusAID)	<ul style="list-style-type: none"> <li>• Cooperation: COREMAP &amp; Aus AID</li> <li>• Purpose: Implementing coral reefs management based on community (CBM) in Kupang Bay and COREMAP II purpose on developing institutional arrangement and training for 10 provinces that related to this project in east Nusa Tenggara and West Nusa Tenggara</li> <li>• Note : at this moment Aus AID has formulating a research document in East Nusa Tenggara for COREMAP</li> </ul>

	<ul style="list-style-type: none"> <li>• Result: contribution to COREMAP I</li> <li>• Geographic Focus: NTT (East Nusa Tenggara)</li> <li>• Duration: Completed</li> <li>• Cost of Project : US \$ 10 Million</li> </ul>
Coastal Environmental Management Planning (ADB)	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose: assisting Indonesian Government in policy reform, standard, and guidance to preventing coastal resources degradation, and investment identification that appropriate in contributing an advanced development on coastal resources management</li> <li>• Result : Technical Assistance in 3 components National Inventory on coastal degradation, Environmentally-Sound Coastal Development Planning and Policies, Guidelines, Standards and Institutional Recommendations</li> <li>• Geographic Focus</li> <li>• Duration</li> <li>• Cost of Project : US\$ 1,2 million</li> </ul>
Marine Resources Evaluation Project (MREP)	<ul style="list-style-type: none"> <li>• Cooperation :</li> <li>• Purpose: Budget preparation on marine and coastal resources in local area in the purpose to fulfill planning and managing marine and coastal resources and environment and also to increasing and developing marine and coastal information system</li> <li>• Note : constraint in coordination among the sector, unclear on budget authority, and the variety of the capacity of BAPPEDA staff in managing marine sector</li> <li>• Result:</li> <li>• Geographic Focus: MCMA: East Java, South Sumatera, South Sulawesi, North Sulawesi, Maluku, West Nusa Tenggara, East Kalimantan, East Nusa Tenggara, Bali, Papua SMA: Makassar Strait, Lombok Strait, Timor Sea</li> <li>• Duration: 1st phase: April'93 – march'98</li> <li>• Cost of Project: US\$ 35 million</li> </ul>
Marine Resources Evaluation, Management And Planning (MAREMAP) (ADB)	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose : application on modern technology on marine resources survey, developing computer technology on collecting, restoring, and processing data and conducting training in implementing the technology to spatial planning and natural resources management in Indonesian provinces</li> <li>• Target group : all coastal community in Indonesia</li> <li>• Result</li> <li>• Geographic Focus : All provinces in Indonesia except DKI Jakarta</li> <li>• Duration : start in the middle of 2000</li> <li>• Cost of Project : US\$ 55 million</li> </ul>
Mangrove Rehabilitation and Management Project	<p>Cooperation: Director General of Land Rehabilitation and , Forestry Department , coordination with other government institution, NGOs</p> <p>Purpose: assisting Indonesian Government in preserve coastal area and reducing coastal community poverty by preserve ecology function and develop economic benefit from mangrove</p> <ul style="list-style-type: none"> <li>• Result: National strategic on developing, planning, strengthening institutional and pilot project</li> <li>• Geographic Focus: Kwandang Bay in North Sulawesi, Larian plain in Central Sulawesi, Timur Luwu plain in South Sulawesi , Muna island in Southeast Sulawesi</li> <li>• Duration: 2 phases: study and inventory, the second phase hasn't started yet</li> </ul>

	<ul style="list-style-type: none"> <li>• Cost of Project: US \$8,08 million</li> </ul>
Marine Science Education Project	<ul style="list-style-type: none"> <li>• Cooperation: Director General of local project implementation unit. This directorate is established in 6 universities (Pattimura University, IPB, Sam Ratulangi University, Hasanuddin University, Diponegoro University, Sriwijaya University)</li> <li>• Purpose: establish marine program in 6 universities, capacity building on teaching and researching in marine, increasing quality on education and research ability on marine in Indonesia, modernization on marine and fisheries industry, and promoting marine resources management effectively and efficiently</li> <li>• Result:</li> <li>• Geographic Focus: Ambon (Maluku), North Sulawesi, South Sulawesi, Central Java, West Java, Riau</li> <li>• Duration: 1991-1997</li> <li>• Cost of Project: US\$ 43,25 million and US\$ 30,1 million</li> </ul>
Segara Anakan Development Project (ADB)	<ul style="list-style-type: none"> <li>• Cooperate:</li> <li>• Purpose : conducting conservation, management and development on Segara Anakan environment</li> <li>• Result:</li> <li>• Geographic Focus: West Java province - Kabupaten Ciamis, Central Java – Kabupaten Cilacap</li> <li>• Duration : April 1996 – March 2001</li> <li>• Cost of Project : US\$ 45,6 million</li> </ul>
Coastal Community Development and Fisheries Resources	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose: supporting coastal resources management and preservation and poverty eradication in coastal area</li> <li>• Result:</li> <li>• Geographic Focus:</li> <li>• Duration : April 1998 – Dec 2003</li> <li>• Cost of Project :US\$ 71 million</li> </ul>
COREMAP ADB	<ul style="list-style-type: none"> <li>• Cooperation: DKP</li> <li>• Purpose:</li> <li>• Result: establish CRITcs in Jakarta , Ambon, Kupang, Pekanbaru Makassar, CBM in Senayang-Lingga island, COREMAP II in Riau, North Sumatera and West Sumatera</li> <li>• Geographic Focus: Jakarta , Ambon, Kupang, Pekanbaru, Makassar</li> <li>• Duration : Phase 1: May'98 – Oct'01 (15 years project)</li> <li>• Cost of Project:</li> </ul>
Cendrawasih Bay Development Project (UNDP, UNEP, UNESCO, FAO)	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose:</li> <li>• Result: multidisciplinary activities that reducing poverty in Kabupaten Manokwari, Nabire, Biak Numfor and Yapen Waropen</li> <li>• Geographic Focus :Papua</li> <li>• Duration : Phase 3 (phase 1 – 89-92, phase 2, 92-95)</li> <li>• Cost of Project : US\$ 2,496,790 for 5 years (grant)</li> </ul>
Riau Coastal zone Land Use Management Project	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose: assisting local government in sustainable use of marine and coastal resources in Riau province</li> <li>• Result: 10 technical reports, training and workshop, strategy and action plan and Riau coastal zone environmental profile</li> <li>• Geographic Focus</li> </ul>

	<ul style="list-style-type: none"> <li>• Duration: 26 months</li> <li>• Cost of Project : US\$ 580 thousand</li> </ul>
The Regional Seas Programme (UNEP-GEF)	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose : assisting in protecting and managing marine and coastal environment in national and regional level through partnership among government and relevant sector</li> <li>• Result: establishment on Integrated Coastal Management National Demonstration Project I and II</li> <li>• Geographic Focus: China, Indonesia, Cambodia, Malaysia, Korea, Philippines, Thailand, Vietnam</li> <li>• Duration: 1999 -2004</li> <li>• Cost of Project:</li> </ul>
Maluku Conservation & Natural Resources Management Project (MACONAR) World Bank – GEF	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose: assisting in managing 1,200,000 ha conservation area that consist marine biodiversity, coastal, forest and high land. Developing policy that related to trade regulation and CBNRM</li> <li>• Result:</li> <li>• Geographic Focus: Maluku</li> <li>• Duration:</li> <li>• Cost of Project: US\$ 30 million</li> </ul>
COREMAP World Bank - GEF	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose: strategy and management program (national strategy, preparation on phase II), campaign in national and local level, compliance and enforcement, CBM</li> <li>• Result:</li> <li>• Geographic Focus: Takabone Rate National Park (South Sulawesi), Lease island (Maluku)</li> <li>• Duration: phase I (May 98 – Oct 01)</li> <li>• Cost of Project: US\$ 12,8 million</li> </ul>
ASEAN –USAID CRMP USAID	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose:</li> <li>• Result: constraint in implementation, difficulties in coordination, no involvement of local parties</li> <li>• Geographic Focus: 6 countries in ASEAN</li> <li>• Duration: 1986 - 1991</li> <li>• Cost of Project:</li> </ul>
NRM Project, marine Component : Bunaken National Park	<ul style="list-style-type: none"> <li>• Corporate: Forestry Department (Dirjen PHPA)</li> <li>• Purpose: assisting Forestry Dept in planning and implementing Bunaken national Park Management</li> <li>• Result: 25 year planning in Bunaken national Park Management, technical report, satellite mapping , establish Kelola (the first marine NGO in North Sulawesi)</li> <li>• Geographic Focus: Bunaken National Park</li> <li>• Duration: 1992- 1997</li> <li>• Cost of Project: US\$ 2 million in 2 years</li> </ul>
CRMP (USAID)	<ul style="list-style-type: none"> <li>• Cooperation: a part of NRM II and USAID</li> <li>• Purpose:</li> <li>• Result: 80 articles, reports and other informations</li> <li>• Geographic Focus: North Sulawesi, Lampung, East Kalimantan</li> <li>• Duration: 1996 -2001</li> <li>• Cost of Project: 7,5 million</li> </ul>



<p>Environmental Management Development in Indonesia (EMDI) Phase 1 (1983-1986) Phase 2 (1986-1989) Phase 3 (1989-1995) CIDA</p>	<ul style="list-style-type: none"> <li>• Cooperation: Ministry of Environment</li> <li>• Purpose: one component assisted Environment ministry in coordinating and formulating policies in marine and coastal sector</li> <li>• Result: Sumatra coastal management, training, env. assessment, book series on Indonesian Ecology, env. study center network, corporate and NGO env. management initiatives</li> <li>• Geographic Focus: whole country</li> <li>• Duration:</li> <li>• Cost of Project : phase 1 = C\$2,5 million, phase 2 = C\$37,4 million</li> </ul>
<p>Collaborative environmental Project in Indonesia (CEPI) (CIDA)</p>	<ul style="list-style-type: none"> <li>• Cooperation: the continuation on EMDI project with CANORA Asia Inc, BAPEDAL</li> <li>• Purpose: strengthening national institutions and provinces</li> <li>• Result: rehabilitation shoreline</li> <li>• Geographic Focus: South Sulawesi, Kapoposang island, Takabonerate national park in South Sulawesi</li> <li>• Duration: 1996 -2001</li> <li>• Cost of Project:</li> </ul>
<p>Thousand Islands National Marine Park (WWF)</p>	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose</li> <li>• Result: technical assistance in preparing field guidance and education materials in establish center of information marine conservation in thousand island, training</li> <li>• Geographic Focus: thousand island</li> <li>• Duration:</li> <li>• Cost of Project:</li> </ul>
<p>Jamursba Medi</p>	<ul style="list-style-type: none"> <li>• Corporate:</li> <li>• Purpose:</li> <li>• Result:</li> <li>• Geographic Focus: Kepala Burung in Papua</li> <li>• Duration:</li> <li>• Cost of Project:</li> </ul>
<p>Coral Fish Trading TNC (The Nature Conservancy)</p>	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose: strategy in reducing living coral fish trading</li> <li>• Result:</li> <li>• Geographic Focus:</li> <li>• Duration:</li> <li>• Cost of Project:</li> </ul>
<p>Komodo National Park TNC</p>	<ul style="list-style-type: none"> <li>• Cooperation: Forestry Dept, Ditjen PHPA</li> <li>• Purpose: 25 year plan in Komodo national park management</li> <li>• Result:</li> <li>• Geographic Focus:</li> <li>• Duration:</li> <li>• Cost of Project:</li> </ul>
<p>Togean island (Conservation International)</p>	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose: influence policy in Togean island, data collection, CBM</li> <li>• Result: establish consortium on integrated development togean area</li> <li>• Geographic Focus: Togean island (Central Sulawesi) in 3 villages : Malenge, Lembanato , Kabalutan</li> <li>• Duration: 1995 - present</li> <li>• Cost of Project:</li> </ul>
<p>Environmental Studies Centres Development in Indonesia (ESCDI) Overseas Economic Cooperation Fund (OECD)</p>	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose:</li> <li>• Result: technical assistance and training in institutional arrangement</li> <li>• Geographic Focus:</li> <li>• Duration: 1994 -1997</li> <li>• Cost of Project: US\$ 3,9 million</li> </ul>

International Coral Reef Initiative (ICRI)	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose: encourage nations to take concrete action in preventing coral reefs degradation</li> <li>• Result:</li> <li>• Geographic Focus: 70 countries</li> <li>• Duration:</li> <li>• Cost of Project:</li> </ul>
Sustainable management in coastal area of Southwest Sulawesi (Netherlands Organization for Research)	<ul style="list-style-type: none"> <li>• Cooperation:</li> <li>• Purpose:</li> <li>• Result: reporting and evaluation and emphasizing in research and model developing coastal management</li> <li>• Geographic Focus: Beting Spermonde , South Sulawesi</li> <li>• Duration: 1994 - 1999</li> <li>• Cost of Project: US\$ 1 million</li> </ul>
SEAWATCH Norwegian Agency for Development (NORAD)	<ul style="list-style-type: none"> <li>• Cooperation: BPPT, OCEANOR</li> <li>• Purpose:</li> <li>• Result: establish to install 10 buoy</li> <li>• Geographic Focus: Tanjung Kerawang, Pluit, Jepara, Bawean, Masalembo, Kelapa island (thousand island), bintan island, pemping island, galang island and Belawan</li> <li>• Duration: 1996 -1999</li> <li>• Cost of Project: US\$ 15 million</li> </ul>
Digital Marine Resource Mapping Project	<ul style="list-style-type: none"> <li>• Cooperation: Bakosurtanal, Oceanography Agency (Navy)</li> <li>• Purpose:</li> <li>• Result: atlas in scale 1: 1.000.000 for ZEE</li> <li>• Geographic Focus:</li> <li>• Duration:</li> <li>• Cost of Project: Phase 1 – US\$ 60 million from Indonesian Government, US\$ 70 million soft loan from Norway</li> </ul>
Banten Bay research program	<ul style="list-style-type: none"> <li>• Cooperation: education department</li> <li>• Purpose:</li> <li>• Result: management and monitoring information system</li> <li>• Geographic Focus:</li> <li>• Duration: 1997 - 2001</li> <li>• Cost of Project:</li> </ul>
Border Indicator Program	<ul style="list-style-type: none"> <li>• Cooperation: several government institution</li> <li>• Purpose: to preventing coral reefs degradation from ships and divers</li> <li>• Result: coordination meeting, training and management of the installation</li> <li>• Geographic Focus: 3 national park : west bali, komodo, thousand island</li> <li>• Duration:</li> <li>• Cost of Project:</li> </ul>

**Key donor and agency activities in marine and coastal management in Indonesia.**

**(Compiled by Dr. Sarah Gammage, based on interviews by CRMP Assessment Team – January/February 2003)**

Agency/Donor <sup>1</sup>	Key Informants	Key Coastal Resource Activities	Key Sites/Locations	Current Links with CRMP	Recommendations for Future CRMP Activities and Links
<b>GOI</b>					
DKP	Agus Dernawan Subandono Diposaptono Sapta Putra Ginting Irwandi Idris Anugerah Nontji Yvonne Indrajati Pattinaja Eko Rudianto Mbus Dwight Watson	<ul style="list-style-type: none"> <li>• Coastal data centers in 10 provinces</li> <li>• 15 spatial data centers</li> <li>• TA and capacity building to provinces, districts and communities as part of decentralization initiative</li> <li>• Marine and Coastal information system database</li> <li>• Marine land-based pollution control program</li> <li>• Small islands initiative</li> <li>• Artificial wetlands program</li> <li>• Community trust funds as part of the Coastal Community Empowerment Program (243 funded to date)<sup>ii</sup></li> <li>• COREMAP I, II</li> <li>• MCRMP</li> <li>• COFISH</li> </ul>	Riau Province S. and W. coasts of Java Jakarta Bay	<ul style="list-style-type: none"> <li>• Links at all sites to local district and provincial sites through Dinas offices.</li> </ul>	<ul style="list-style-type: none"> <li>• CRMP provides useful model that DKP is seeking to replicate -- particularly CRMPs experience in N. Sulawesi and East Kalimantan.</li> <li>• DKP will link to and continue activities at all CRMP sites.</li> <li>• Promote better and further use of the coastal atlases as participatory planning and management tools.</li> <li>• CRMP-DKP link to projects that are focused on poverty alleviation and livelihood security from a CRM perspective particularly through COFISH.</li> <li>• Develop step-by-step guidelines for CRM activities drawing on lessons learned to date.</li> </ul>

Agency/Donor <sup>1</sup>	Key Informants	Key Coastal Resource Activities	Key Sites/Locations	Current Links with CRMP	Recommendations for Future CRMP Activities and Links
COREMAP II <sup>iii</sup>	Anugerah Nontji Sapta Putra Ginting Yoshiharu Kobayashi Tom Walton	<ul style="list-style-type: none"> <li>• Strengthen capacity and development strategies</li> <li>• Community-based management of marine and coastal resources.</li> <li>• Strengthen capacity to undertake monitoring, control and surveillance (MCS)<sup>iv</sup></li> <li>• Coral Reef Information and Training Center (CRITC)</li> <li>• Public awareness and communication</li> <li>• Work to develop national policy for coral reefs</li> <li>• Work with national parks</li> </ul>	Riau Papua – Biak and Padaido Islands Sumatra S. Sulawesi -- Taka Bonerate Atol Timor – Tantamandrati East Kalimantan Maumere Irian Jaya Wakatobi Raja Ampat	<ul style="list-style-type: none"> <li>• Cross visits between Taleamina... and Blongko</li> <li>• Use of CRMP project materials.</li> </ul>	<ul style="list-style-type: none"> <li>• COREMAP would like to develop a national strategy plan for Development of Coasts and Small Islands could link to CRMP activities.</li> <li>• LIPI program for Integrated Coastal Management (Coastal Hinterland Integrated Program) -- CRMP could also link to this as well.</li> <li>• Link to some of COREMAP II livelihood programs (mariculture, fish culture, algae culture, revolving funds).</li> <li>• COREMAP II could benefit from links about how to undertake successful capacity building</li> </ul>
COFISH		<ul style="list-style-type: none"> <li>• Fish processing</li> <li>• Ice plants</li> <li>• Moorings and jetties</li> <li>• Water</li> </ul>			
MCRMP	Dwight Watson	<ul style="list-style-type: none"> <li>• Review of CRMP coastal resource management experiences to identify strengths and weaknesses (to date only partial review)</li> </ul>			<ul style="list-style-type: none"> <li>• Work to support a livelihoods approach using lessons learned.</li> <li>• Additional work on fisheries management.</li> <li>• Focus on carrying capacity.</li> </ul>
Ministry of Forestry, Directorate of Protection and	Widodo S. Ramono Ratria Satrini (?)	<ul style="list-style-type: none"> <li>• Marine national parks<sup>vi</sup></li> <li>• Marine conservation areas</li> <li>• Marine sanctuaries</li> </ul>	Komodo national park		<ul style="list-style-type: none"> <li>• Would like TA and support in marine conservation areas in national parks and on small islands.</li> </ul>

Agency/Donor <sup>1</sup>	Key Informants	Key Coastal Resource Activities	Key Sites/Locations	Current Links with CRMP	Recommendations for Future CRMP Activities and Links
Nature Conservation (BHPA) <sup>v</sup>		<ul style="list-style-type: none"> <li>Conservation activities in specific ecosystems in collaboration with other GOI agencies and NGOs.</li> </ul>			<ul style="list-style-type: none"> <li>Particularly interested in small recreation areas as a means to generate revenues, secure livelihoods and foster conservation.</li> </ul>
BAPPENAS	Dedi Masykur Riyadi Wahyuningsih Darajati	<ul style="list-style-type: none"> <li>Planning and TA for decentralization of local government activities in coastal zone</li> <li>Coordination between government agencies (limited and somewhat confused after Laws 22 and 25 passed)</li> </ul>			
Indonesian Maritime Council	Sarwono Kusumaatmadja	<ul style="list-style-type: none"> <li>Advise president on maritime policy matters</li> <li>Foster inter-agency communications<sup>vii</sup></li> <li>Promote conservation of small islands</li> </ul>	Nationally	Few direct links to CRMP, informal links are maintained and the Council has knowledge of CRMP activities and access to their materials.	<ul style="list-style-type: none"> <li>Target Council with strategic and synthetic policy briefs.</li> <li>Use council to gain access to some key private sector interests: shipping, association of fishermen, etc.</li> </ul>
<b>NGOs</b>					
WWF <sup>viii</sup>	Mubariq Ahmad Agus Purnomo	<ul style="list-style-type: none"> <li>Marine Eco-Region Program</li> <li>Bismark Solomon Seas eco-region</li> </ul>	Bunaken N. Sulawesi Kecamatan Sulu Sulawesi Wakatobi Mahakam Bay and the delta Sabanon	N. Sulawesi work with CRMP and NRM II Balikpapan where WWF has a focus on watersheds.	<ul style="list-style-type: none"> <li>Link to coastal and marine activities in Papua.</li> <li>Opportunity for cross-fertilization with WWF livelihoods programs and activities. (Pay close attention to the outputs from their Learning Workshop on livelihoods and conservation to be held February/March 2003)</li> </ul>
TNC	Ian Dutton	<ul style="list-style-type: none"> <li>Marine parks support</li> <li>Small islands</li> </ul>	Rajanampat Island N. Sulawesi		

Agency/Donor <sup>1</sup>	Key Informants	Key Coastal Resource Activities	Key Sites/Locations	Current Links with CRMP	Recommendations for Future CRMP Activities and Links
			Komodo National Park		
LP2S	Matulandu Supit Yopi Goliat	<ul style="list-style-type: none"> <li>A number of sites in N. Sulawesi where they have been working building capacity, training community members and facilitating consultations.</li> </ul>	Likupang	<ul style="list-style-type: none"> <li>Facilitating community consultations in Blongko, Talise, Bentenan and Tumbak and training in Tomahon.</li> </ul>	<ul style="list-style-type: none"> <li>Foster further links with NGOs supporting existing networks of NGOs and recognizing the contributions and experience that they have to offer across sectors and sites.</li> </ul>
FPK	Petrus Polii	<ul style="list-style-type: none"> <li>Link to some coastal sites through membership of the NGO Consortium.<sup>ix</sup></li> </ul>	N. Sulawesi	<ul style="list-style-type: none"> <li>Activities through NGO membership: Kelola; LP2S, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Share information with the Consortium and use the network more effectively.</li> </ul>
Kelola	Rico Ngangi Eda Repar	<ul style="list-style-type: none"> <li>Development, education and conservation activities in a number of coastal communities.</li> </ul>	Sangihe Talaud Bunaken National Park Gorontalo	<ul style="list-style-type: none"> <li>Facilitation of mapping and community input into the local ordinances and management plans.</li> </ul>	<ul style="list-style-type: none"> <li>Greater information sharing and sharing of publications and manuals.</li> <li>Place greater emphasis on advocacy activities and use the NGO sector as allies to disseminate the messages more widely.</li> </ul>
Women's Voice (Swara Parangpuan)	Lily Djenaan	<ul style="list-style-type: none"> <li>Economic empowerment, education and anti-violence activities at some coastal sites in N. Sulawesi.</li> </ul>		<ul style="list-style-type: none"> <li>Worked with CRMP to develop an education module that was not implemented.</li> </ul>	<ul style="list-style-type: none"> <li>Opportunities to link activities for greater gender training and promotion of women's involvement in CRM by working collaboratively with Women's Voice.</li> </ul>
Jaring Pela	Nina Dwisasanti	<ul style="list-style-type: none"> <li>Network of NGOs working on conservation and sustainable</li> </ul>	Membership is national. Works with groups like	Worked with CRMP in the public consultation process for the national bill on CRM (RUU).	<ul style="list-style-type: none"> <li>Place a greater emphasis on including all stakeholders. Examine which contributions are excluded and why.</li> </ul>

Agency/Donor <sup>1</sup>	Key Informants	Key Coastal Resource Activities	Key Sites/Locations	Current Links with CRMP	Recommendations for Future CRMP Activities and Links
		development in Marine and Coastal environments and communities.	Kelola in North Sulawesi.		<ul style="list-style-type: none"> <li>○ Exert more independence from the Ministry of Marine Affairs, particularly when it reflects the interests of the community.</li> <li>○ Develop more of a partnership (as opposed to a contracting relationship) with the NGOs.</li> <li>○ Focus less on outputs and more consistently on process. For instance has there been adequate follow-up on the atlases? Are they being used as educational and empowerment tools for planning locally?</li> <li>○ Invest more time and effort in understanding conflicts within communities and between communities and powerful private sector interests.</li> <li>○ Produce more synthetic, accessible and targeted documents for policymakers, NGOs, and communities.</li> <li>○ Disseminate more tools for replication and more lessons learned that can be applied elsewhere.</li> <li>○ Build capacity within district and provincial governments-- particularly through cross-sectoral exchanges and working groups. Stress a 'learning-by-doing' approach.</li> </ul>
KEHATI	Christien Ismuranty	<ul style="list-style-type: none"> <li>• A Biodiversity Conservation Foundation that also has projects and</li> </ul>	Works nationally with a number of coastal		<ul style="list-style-type: none"> <li>○ Build on the Blongko video for successful communication and develop more materials that document the process of setting up</li> </ul>

Agency/Donor <sup>1</sup>	Key Informants	Key Coastal Resource Activities	Key Sites/Locations	Current Links with CRMP	Recommendations for Future CRMP Activities and Links
		<p>technical expertise in coastal resources.</p>	<p>communities and NGOs.</p>		<p>marine sanctuaries and socializing ordinances so that these steps may be replicated by other groups and communities.</p> <ul style="list-style-type: none"> <li>○ Act as a broker and catalyst for relationships between the government (district and provincial), private sector, NGOs and the communities.</li> <li>○ Coordinate more with different stakeholders to ensure that efforts to promote CRM are harmonized.</li> </ul>
<p>Terangi, Indonesian Coral Reef Foundation</p>	<p>Silvianita Timotius</p>	<ul style="list-style-type: none"> <li>• Focus on the management of coral reef and ornamental fish.</li> </ul>		<p>Analyzed the dissemination and uptake of CRMP publications and materials.</p>	<ul style="list-style-type: none"> <li>○ Use seed moneys to leverage co-financing from communities (time, effort, small funds) the private sector and government.</li> <li>○ Focus on collaboration with NGOs and not necessarily contracting. The emphasis should be on equal partnerships and reciprocal exchange.</li> <li>○ Support existing networks of organizations: don't develop new ones.</li> <li>○ Share materials that document the process more fully to use as guidelines for replication by other agencies and organizations.</li> </ul>
<b>Private Sector</b>					
<p>IPB/CCMRS (privatizing)</p>	<p>Tridoyo</p>	<ul style="list-style-type: none"> <li>• Coordination and capacity-building role in Lampung.</li> <li>• Journal Pesisir</li> <li>• INCUNE</li> </ul>	<p>Lampung</p>	<ul style="list-style-type: none"> <li>• Management/coordination of Lampung CRM activities</li> <li>• Journal Pesisir</li> </ul>	<ul style="list-style-type: none"> <li>• Provide additional intellectual and TA resources to strengthen the journal and increase dissemination world-wide.</li> <li>• Provide additional assistance to</li> </ul>



Agency/Donor <sup>1</sup>	Key Informants	Key Coastal Resource Activities	Key Sites/Locations	Current Links with CRMP	Recommendations for Future CRMP Activities and Links
		<ul style="list-style-type: none"> <li>• Research, training, and degree courses offered on fisheries, coastal resources and marine ecosystems.</li> <li>• Outreach activities</li> </ul>		<ul style="list-style-type: none"> <li>• INCUNE</li> </ul>	<p>devolved and graduated activities in Lampung (particularly in terms of lessons learned and strengths and weaknesses of hand-over).</p>
NRM	Tim Brown Reed Merrill	<ul style="list-style-type: none"> <li>• Natural Resource Management in a variety of sectors throughout Indonesia</li> </ul>	National coverage	<ul style="list-style-type: none"> <li>• Coordination to produce atlases</li> <li>• Coordination in North Sulawesi</li> <li>• Co-located offices in Jakarta and Manado</li> <li>• Disseminate CRMP project findings through NRM headline news</li> <li>• Coordination to produce one edition of LESTARI</li> </ul>	<ul style="list-style-type: none"> <li>• Collaborate with NRM on eco-tourism potential in North Sulawesi.</li> <li>• Collaborate with NRM to facilitate multi-stakeholder engagement in a regional framework that explores sustainable coastal zone development.</li> <li>• Shift role away from technical cooperation to facilitation. Bring stakeholders together to create effective collaboration and synergy.</li> <li>• Focus on training and capacity-building to distill and disseminate lessons-learned.</li> </ul>
BP/SUPRACO	Karla Boreri	<ul style="list-style-type: none"> <li>• Tangu environmental project in Bintuni Bay Papua<sup>x</sup></li> <li>• Providing key biological, ecological and socio-economic data for GOs and NGOs</li> <li>• Member of USAID GDA<sup>xi</sup></li> <li>• Capacity building locally (government agencies, communities,</li> </ul>	Bintuni Bay, Papua East Kalimantan	<ul style="list-style-type: none"> <li>• Providing data for Bintuni Bay atlas (due to be completed June 2003) and other key activities and projects in Kalimantan...</li> <li>• Providing resources (monetary as well?) and</li> </ul>	<ul style="list-style-type: none"> <li>• Potential source of private sector funding and co-financing in key ecosystems.</li> <li>• Opportunity to build upon lessons learned from ICM models under CRMP (particularly Balikpapan) in Bintuni Bay.</li> <li>• Work with communities in Bintuni Bay to identify and administer projects for CRM from community trust funds provided by BP.</li> <li>• Work with community, local</li> </ul>

Agency/Donor <sup>1</sup>	Key Informants	Key Coastal Resource Activities	Key Sites/Locations	Current Links with CRMP	Recommendations for Future CRMP Activities and Links
		NGOs)		access to facilities.	government and NGOs in Bintuni Bay to identify and prioritize CRM and development activities.
North Sulawesi Watersports Association	Cary Yanny Bruce Moore Angelique Batuna Carlton	<ul style="list-style-type: none"> <li>Operating diving, snorkeling and marine tourism in N. Sulawesi.</li> </ul>	Bunaken National Park Ganga Island Talise Bitung Lembeh Straits Kukuyong Bay	<ul style="list-style-type: none"> <li>No direct links, but overlapping interests at certain sites.</li> </ul>	<ul style="list-style-type: none"> <li>Opportunities for eco-tourism links at certain DPL sites where the fish and coral diversity is significant.</li> </ul>
<b>Multilaterals</b>					
Asian Development Bank	Yoshiharu Kobayashi	<ul style="list-style-type: none"> <li>COREMAP II</li> </ul>	See COREMAP locations above.	<ul style="list-style-type: none"> <li>No direct links, but indirect ones through the relationship with DKP.</li> </ul>	
World Bank	Tom Walton	<ul style="list-style-type: none"> <li>COREMAP II</li> <li>KDP – phase 3 will also include coastal Kecamatan<sup>xii</sup></li> <li>Japanese Social Fund for work in Aceh to expand KDP program.<sup>xiii</sup></li> </ul>	See COREMAP locations above.	<ul style="list-style-type: none"> <li>No direct links, but indirect ones through the relationship with DKP.</li> </ul>	<ul style="list-style-type: none"> <li>CRMP models of grass roots, bottom up institution and capacity building are very helpful. There may be interest in linking COREMAP and/or KDP activities either formally or informally.</li> </ul>
UNESCO	Jan Steffen	<ul style="list-style-type: none"> <li>Coastal Regions and Small Islands Worldwide Program – link universities in region</li> <li>IOC – Thousand Islands</li> </ul>	Pulau Seribu Possible marine protected areas in Kalimantan, Eastern Indonesia	<ul style="list-style-type: none"> <li>Informal linkages and information exchange (document coastal references)</li> </ul>	<ul style="list-style-type: none"> <li>Cooperation in N. Sulawesi and East Kalimantan</li> <li>Regional training possibilities for small islands and coasts</li> <li>Information dissemination</li> <li>Policy development</li> </ul>

Source: Interviews with key informants from each agency January 21-February 4, 2003;

---

<sup>i</sup> Some programs occur within and across multiple agencies and are cross-listed between programs and agencies.

<sup>ii</sup> This fund was initially conceived of as a fuel price liberalization compensation program.

<sup>iii</sup> Key indicators are: within 6 years (timeframe of COREMAP II) 10 % of the reef should recover (living coral over baseline); and, that there should be a 2 % increase in household income per capita per year.

<sup>iv</sup> COREMAP II will have less of a focus on enforcement under MCS at the site level because they found this to have placed too great a financial and logistical burden on local institutions. They are keen to increase the use local sanctions to ensure adherence to rules and responsibilities.

<sup>v</sup> According to existing regulations, marine conservation falls within the jurisdiction of the Ministry of Forestry. DKP and the Ministry of Forestry have a MOU to assist cooperative management of areas where they have a shared interest and overlapping jurisdictions.

<sup>vi</sup> Ministry of Forestry applies the following categories in defining national parks and wildlife/environmental utilization: (1) core area; (2) wilderness area; (3) intensive use area. Buffer zones fall outside the definition of a national park. Marine recreation areas are also defined as conservation areas. MOF has approximately 40 sites covering an estimated 4.2 million hectares in all categories of parks, sanctuaries and conservation areas.

<sup>vii</sup> The Maritime Council functions as a communications venue for the Minister of DKP to disseminate information to other agencies. The Council holds frequent technical meetings to foster cross sectoral dialogue. In addition to key ministries and directorates within the public sector and some NGOs and 'experts' from the universities, the private sector also attends: shipowners; association of fishermen, etc.

<sup>viii</sup> WWF applies a 3-tier approach: (1) conservation; (2) community development; and (3) policy advocacy and outreach.

<sup>ix</sup> FPK is an NGO Consortium that comprises 13 NGOs.

<sup>x</sup> BP will provide approximately US\$200 million to Papuan communities and local government in oil revenues for development and environmental projects and activities. The project will run for an expected duration of 40 years with a start date in 2008.

<sup>xi</sup> BP is a member of the Global Development Alliance with USAID, DFID, British Council...

<sup>xii</sup> The KDP program is the Kecamatan Development Program. Each Kecamatan received between US \$75,000 and \$110,000 for development projects that they can elect to undertake according to plans developed at the village level and approved by a representative body at the Kecamatan level.

<sup>xiii</sup> The Japanese Social Fund will have some monies for fisheries development and small infrastructure projects.