THE WORLD BANK/IFC/M.I.G.A.

OFFICE MEMORANDUM

DATE: January 29, 1998

TO: Mr. Mohamed El-Ashry, CEO/Chairman, GEF

FROM: Lars O. Vidaeus, GEF Executive Coordinator

EXTENSION: 34188

SUBJECT: **INDONESIA: Coral Reef Rehabilitation and Management Program (COREMAP) Final Council Review/CEO Endorsement**

1. Please find attached 2 copies of the Project Document for the above-mentioned project for review by Secretariat staff, prior to circulation to Council and your final endorsement.

2. The project document is fully consistent with the overall objectives of the proposal endorsed by Council as part of the May 1997 work program, and with guidance received from the GEF Secretariat, STAP reviewer, and GEF Council. As recommended, the project has been improved in the following ways:

   - *Phasing:* To respond to comments that the project design was too ambitious and should proceed in manageable phases, GOI, the Bank, and other donors have agreed to define COREMAP as a 15 year program, to be implemented in 3 phases. This will permit the lessons from experience to be incorporated into the design of each successive phase. Monitorable performance targets have been defined for each phase, including overall program outcomes. Before financing would be released for successive phases of the program, an independent evaluation would be conducted to determine if performance targets had been satisfactorily met.

   - *Legal Framework/Enforcement:* As recommended, COREMAP activities aimed at addressing legal issues affecting coral reef management and conservation have been strengthened. The enforcement component, aimed at limiting illegal, destructive practices, has similarly been strengthened.

     Social Participation: Extensive social assessment work has been conducted to ensure sensitivity to local concerns and adapt implementation arrangements to local circumstances. A detailed conflict resolution mechanism has been developed for the Taka Bone Rate reef site, proposed for Phase I/GEF support.

   - *Donor Coordination:* The COREMAP financing plan and respective donor roles have been clarified and will permit effective financial support for the program over a 15 year time frame. Reporting requirements and donor supervision missions will be coordinated to facilitate the administrative task facing COREMAP program management.

3. Incremental costs are currently estimated at $11.6 million (the May 1997 work program proposal estimated $12 million in incremental costs), with $4.1 million for Phase I and $7.5 million for Phase II. We propose to review project cost estimates during final discussions with GOI (scheduled for mid-February), in light of the current exchange rate volatility being experienced by Indonesia. We do not expect overall GEF incremental costs to increase, but there may need to be some adjustments made between the proposed Phase I and Phase II funding levels. We request Council and GEF CEO endorsement for this limited flexibility in finalizing the GEF grant package during our February discussions with GOI.

4. Please let me know if you require any additional information to complete your review of the project document prior to circulation to Council. Many thanks, and we look forward to hearing from the Secretariat as soon as possible, so that we may prepare the 75 copies for distribution.

Attachments

cc: Messrs./Mmes. King, Ramos (GEF); de Tray, Fisher, Walton (EACIF); Fox, Bettencourt (EASRD); MacKinnon, Kimes, Bossard, Nikolov (ENVGC).

ENVGC ISC

Tina Kimes
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Document of
The World Bank

Report No:

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US$6.9 MILLION EQUIVALENT

AND A

GRANT FROM THE

GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF US$4.1 MILLION EQUIVALENT

TO THE

REPUBLIC OF INDONESIA

FOR A

FIRST CORAL REEF REHABILITATION AND MANAGEMENT PROJECT

JANUARY 29, 1998

Rural Development and Natural Resources Sector Unit
East Asia and Pacific Region

Vice President: Jean-Michel Severino, EAP
Country Director: Dennis de Tray, EACIF
Sector Manager: Geoffrey Fox, EASRD
Task Team Leader: Sofia Bettencourt, EASRD

CURRENCY EQUIVALENTS

(Exchange Rate Effective January 15, 1998)

Currency Unit = Indonesian Rupiah
Rp. 1.0 = US$0.00025
US$1 = Rp. 4,000

FISCAL YEAR OF BORROWER

April 1 - March 31

ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AIG	Alternative Income Generation
AMDAL	Envir. Impact Assessment Procedure
ANDAL	Environmental Assessment
APL	Adaptable Program Loan
AusAID	Australian Agency for International Development
BAPPEDA Tk. I	Provincial Development Planning Agency
BAPPEDA Tk. II	District Development Planning Agency
BAPEDAL	Environmental Impact Management Agency
BAPEDALDA	Provincial Pollution Control Agency
BAPPENAS	National Development Planning Agency
BPKP	Central Audit Bureau
CAS	Country Assistance Strategy
CBM	Community Based Management
CMI	Coral Mortality Index
COREMAP	Coral Reef Rehabilitation and Management Program
CRITC	Coral Reef Information and Training Center
CRMS	Coral Reef Monitoring System
DGF	Directorate General of Fisheries
DKN	National Marine Council
ERR	Economic Rate of Return
FRR	Financial Rate of Return
GAAP	Generally Accepted Accounting Principles
GEF	Global Environment Facility
GOI	Government of Indonesia
ICB	International Competitive Bidding
ICR	Implementation Completion Report
ICZM	Integrated Coastal Zone Management
IUCN	World Conservation Union
JICA	Japan International Cooperation Agency
KAMLA	Enforcement authorities, including Navy and Police
KEHATI	Indonesia Biodiversity Foundation
KOMDA	Provincial AMDAL Commission
LH	Ministry of Environment
LCC	Live Coral Cover
LIPI	Indonesia Institute of Sciences
LKMD	Village Development Council
LSM	Local Non-Governmental Organizations
MMTI	Marine Market Transformation Initiative
MOF/KPKN	Ministry of Finance/Directorate General of Budget
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MREP	Marine Resources Evaluation and Planning Project
MSY	Maximum Sustainable Yield
NGO	Non-Governmental Organizations
NPV	Net Present Value
PCD	Project Concept Document
PerDa	Perhaturan Daerah (Provincial Regulation)
PHPA	Directorate General for Forest Protection and Conservation
Pimpro	Pimpinan Proyek (Project Manager)
PIP	Project Implementation Plan
PMO	Project Management Office
PRA	Participatory Rural Appraisals
POKMAS	Village Groups
QBS	Quality-Based Selection
QCBS	Quality and Cost-Based Selection
S&E	Surveillance and Enforcement System
SBKSDA	Bureau for Forest Protection and Conservation
SOE	Statement of Expenditures
TA	Technical Assistance
TBR	Taka Bone Rate
UNDP	United Nations Development Programme
YUHD	GOI's force account payment system

Indonesia

Indonesia: First Coral Reef Rehabilitation and Management Project

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Indonesia
First Coral Reef Rehabilitation and Management Project

Project Appraisal Document

East Asia and Pacific Region

Date: January 26, 1998 | **Task Team Leader:** Sofia Bettencourt, Natural Resources Economist, EASRD

Country Director: Dennis de Tray, EACIF | **Sector Manager:** Geoffrey Fox, EASRD

Project ID: ID-PE-36048; **Sector:** Environment | **Program Objective Category:** Environmental. Sust. Dev.

GEF Supplement ID: ID-GE-40062 | **Focal Area:** Biodiversity

Lending Instrument: Adaptable Program Loan | **Program of Targeted Intervention:** [X] Yes [ ] No

Program Financing Data

Program Phases	IBRD/GEF Financed Projects								Other Donor Financed Projects*			Total COREMAP Program
	IBRD APL		GEF		GOI		Total		Donors	GOI	Total	
	US$M	%	US$M	%	US$M	%	US$M	%	US$M	US$M	US$M	US$M
COREMAP I	6.9	51	4.1	30	2.6	19	13.6	100	14.1	7.5	21.6	35.2
COREMAP II	25.0	59	7.5	17	10.0	24	42.5	100	**57.5**	10.0	**67.5**	**110.0**
COREMAP III	35.0	70	....	0	15.0	30	50.0	100	55.0	15.0	**70.0**	120.0
Total	66.9	63	11.6	11	27.6	26	106.1	100	126.6	32.5	159.1	265.2
Type	Loan		Grant						Loan/ Grant			

* *Other donors are expected to include ADB, AusAID, and JICA (in phase II). Other donors financing is tentative and subject to change.*

Project Financing Data [X] **Loan** [ ] **Credit** [ ] **Guarantee** [x] **Grant** [ ] **Other**

Amount (US$m): US$6.9 million IBRD Loan US$4.1 million GEF Grant

Proposed terms: [ ] Multicurrency [x] Single **currency, US$**

Grace period (years): 3 [ ] Standard Variable [ ] Fixed [ ] LIBOR-based

Years to maturity: 15

Commitment fee: 0.75%

Service charge: Nil

Financing plan (US$m):

Source	Local	Foreign	Total
Government	2.3	0.3	2.6
GEF	2.1	2.0	4.1
IBRD	3.5	3.4	6.9
Total	7.9	5.7	**13.6**

Borrower: Republic of Indonesia **Recipient:** Republic of Indonesia

Responsible agency(ies): National Development Planning Agency (BAPPENAS) -- Coordinating Agency
Indonesian Institute of Sciences (LIPI) -- Executing Agency

Estimated disbursements (Bank FY/US$M):	**1999**	**2000**	**2001**
Annual:	1.0	3.9	2.0
Cumulative:	1.0	4.9	6.9

Estimated disbursements (Global Supplement):	**1999**	**2000**	**2001**
Annual:	0.6	1.9	1.6
Cumulative:	0.6	2.5	4.1

Project implementation period: 36 months

Expected effectiveness date: April 1998 **Expected closing date:** September 2001

A: Program and Project Development Objective

1. Program development objective and key performance indicators (see Annex 1 and 14):

The development objective of the Coral Reef Rehabilitation and Management Program (COREMAP) is to *establish viable, operational, and institutionalized coral reef management systems in priority coral reef sites in Indonesia.* **The program will be implemented in three phases: Initiation (COREMAP I), Acceleration** (COREMAP II) and Institutionalization (COREMAP III). The outputs and benchmark indicators for each phase are outlined below:

COREMAP Program Phases	Phase I Initiation	Phase II Acceleration	Phase III Institutionalization
Years	1998-2001	2001-2007	2007-2013
Development Objective	Viable framework for a national coral reef system in Indonesia established.	Viable reef management systems established in priority sites in four provinces	Viable reef management systems established in priority sites, operational, fully decentralized to regional governments and institutionalized.
Key Program Outputs:	*National program framework and pilot site management*	*Expansion of site management*	*Program institutionalization and full decentralization*
Benchmarks for Subsequent Adaptable Loan and Grant Financing	◊ National COREMAP program strategy/policy discussed with key stakeholders; BAPPENAS Ministerial Letter issued, recommending strategy to involved agencies; COREMAP II sites designed in accordance w/ strategy ◊ Institutional capacity evaluated as sufficient to expand program ◊ Compliance rates > 10% in pilot sites ◊ Community-based management pilots evaluated as workable models ◊ COREMAP I satisfactory, with 75% of outputs and disbursements reached.	◊ Satisfactory institutional capacity at provincial and district levels ◊ Compliance rates increasing ◊ Declining trends in mobile threats and destructive practices ◊ Coral reef plans implemented satisfactorily according to program indicators in > 60 % of sites. ◊ COREMAP II satisfactory, with 75% of outputs and disbursements reached.	◊ COREMAP program strategy incorporated into national policy ◊ Site planning and implementation following program strategic priorities, and fully decentralized to regions ◊ Program sustainability ensured (e.g. through block grants to regional governments tied to local performance) ◊ At 75% of sites, coral reef management plans endorsed by local authorities and implemented satisfactorily by local communities according to program indicators.

- See also Annex 14.1.a "*Checklist for Evaluation of Conditions to Proceed to COREMAP II*".

In addition to the above milestones, detailed ecological and socio-economic impact indicators will be applied to Phases II and III. The key indicators are as follows:

Indicator	Type	Expected Change (Average for all sites)
Coral Reef Mortality Index (CMI)	Coral rehabilitation indicator	Dead coral cover decreasing by 1% per year
Butterfly fish counts for existing species	Biodiversity indicator	20 % increase over 10 years
Average income per capita of target groups in coastal communities	Welfare indicator	5 % increase in real terms per year
Average productivity of target species such as groupers (catch per unit of effort)	Sustainable use indicator	65 % increase over 10 years

2. Project development objective, global objective and key performance indicators (see Annex 1):

The development objective of the First Coral Reef Rehabilitation and Management Project (COREMAP I), which is also the project's global objective, is *to establish a viable framework for a national coral reef management system in Indonesia*. End-of-project indicators are shown as the benchmarks for Phase I in the previous table.

B: Strategic Context

1(a). Sector-related Country Assistance Strategy (CAS) goal supported by the program (see Annex 1):

CAS document number: *16691-IND* ***Date of latest CAS discussion:*** *June 13, 1997*

The CAS and global goal supported by the program is the *protection, rehabilitation, and sustainable use of coral reefs and associated ecosystems in Indonesia which will, in turn, enhance the welfare of coastal communities.* The program meets the CAS objective to enhance equitable and sustainable development, through sustainable marine resource management. Its focus on policy and legal reform, strengthened enforcement, site management, and close collaboration with other donors and non-governmental organizations (NGOs) are consistent with the CAS strategy.

1 (b). GEF Operational Strategy/program objective addressed by the program:

Global Importance

Indonesia is the world's largest archipelago, with more than 17,000 islands and an 81,000 km coastline rich in coral reefs, seagrasses, and mangroves. It contains 2,500 species of mollusks, 2,000 species of crustaceans, 6 species of sea turtles, 30 marine mammals species, and over 2,000 fish species. Indonesia has approximately 75,000 km^2 of coral reefs, or 12 to 15 percent of the world's total. With 362 scleractinian (hard) coral species and 76 genera recorded, Indonesia lies at the epicenter of the world's coral reef diversity.

Despite their importance, Indonesia's coral reefs are believed to be under serious threat from poison and blast fishing, over-fishing, and sedimentation and pollution. In a 1994 survey of 371 national transects based on live coral cover (LCC), the Indonesian Institute of Sciences (LIPI) found 70 percent of the sites to be in poor to fair condition. The only known study of coral reef degradation over time, in Pulau Seribu off Jakarta Bay, indicates a steady decline of 3-6 percent a year in live coral cover (LCC) since 1969. Urgent management interventions are therefore needed to protect Indonesia's reefs.

Consistency with GEF Strategy

The proposed program is consistent with GEF's Operational Strategy, in particular the Operational Program on Marine, Coastal and Freshwater Ecosystems. It supports *in situ* conservation and sustainable use of biodiversity consistent with Article 8 of the Convention on Biological Diversity and Agenda 21. It responds to guidance from the Second Conference of Parties (COP 2) and the Jakarta Mandate's focus on coastal and marine ecosystems. It also responds to the Third Conference of Parties with innovative measures to conserve and sustainably use biodiversity, including economic incentives, strengthened involvement of local communities in coral reef management, and integration of social dimensions related to poverty.

The program focuses on a priority ecosystem identified in Indonesia's National Biodiversity Action Plan, and will support conservation and management of globally important reefs identified in Indonesia's *Marine Conservation Atlas* and the International Union for Conservation of Nature (IUCN)'s *Global Representative System of Marine Protected Areas*. In addition to coral reefs, the program will contribute to the conservation of other marine species, and address issues affecting endangered fish populations as part of an international campaign against cyanide fishing. Finally, the program will help manage an area which is believed to contain the richest coral reef, fish, and marine invertebrate biodiversity in the world. The program has been endorsed by Indonesia's

GEF focal point, and by the GEF council in May 1997.

2. Main sector issues and Government strategy:

Sector Importance

Coral reefs are a major productive and aesthetic asset in Indonesia, playing a key role in fisheries, marine tourism and coastal protection. Healthy reefs can produce on average US$15,000/km^2/year in marine products, and are an important source of food and economic opportunities for some 67,500 coastal villages. Coral reefs play also an important role in marine-based tourism, attracting divers and providing the source of white sand for Indonesia's beaches. The tourism value of coral reefs has been estimated at US$3,000 in low potential areas, to nearly US$500,000/ km^2 in high potential sites. Fringing coral reefs play key roles in dissipating wave energy, thereby protecting coastal lands from storms and wave erosion. The net benefits of coastal protection are estimated at US$25,000 to US$550,000 per km^2 of reef, depending on the value of coastal infrastructure[1].

Key Issues

The key issues affecting Indonesia's coral reefs are (i) poor management of existing threats; (ii) unclear institutional mandates and inadequate institutional capacity; (iii) a weak policy and legal framework; and (iv) insufficient information. Overfishing, destructive practices (bombing and cyanide fishing) and mining are the main threats identified in the COREMAP I pilot areas. These threats are exacerbated by a high demand for marine products, opportunities for substantial private gains, weak enforcement of existing laws, and an open access regime that discourages community action. Responsibility for managing Indonesia's marine areas remains dispersed through numerous government agencies, and adequate institutional capacity has yet to be developed. Policies and regulations tend to follow sectoral priorities, and fail to properly address coastal issues. Legal loopholes such as prohibiting cyanide fishing but allowing its use to tranquilize fish make it extremely difficult to enforce existing laws. Finally, information required for marine management remains fragmented, not standardized and difficult to access.

Government Strategy

The Government of Indonesia (GOI) has identified coral reef management as a national priority. In 1992, the Ministry of Environment (LH), produced a *National Strategy and Action Plan for Coral Reef Ecosystem Conservation and Management*, which recommends: (i) community awareness and participation; (ii) improved management of existing marine conservation areas and expansion to new sites; (iii) improved spatial planning and zonation; (iv) institutional coordination; and (v) a research program for coral reefs. Both the Indonesian Biodiversity Action Plan (1993) and Indonesia's Agenda 21 (1996) emphasize community-based marine resources management. GOI has also launched several recent sectoral initiatives, including the 1992 Sustainable Marine Program (*Program Laut Lestari*), and the establishment of a high-level, inter-ministerial National Maritime Council (DKN) in 1997, with a mandate to coordinate marine management in Indonesia. Fisheries and coastal tourism have been identified as priority programs for the next five-year development plan (Repelita VII), commencing in 1998. Regulations are also being considered to decentralize coastal resources' jurisdiction to provincial governments, an initiative that should improve the management of highly mobile threats. Internationally, Indonesia has played an active role in marine biodiversity issues, hosting the Experts' Meeting of the Jakarta Mandate on Marine and Coastal Biological Diversity in March 1997, and winning the bid to host the Year 2000 International Coral Reef Symposium.

3. Sector issues to be addressed by the program and strategic choices:

There is a growing realization in Indonesia that Government agencies cannot effectively manage such extensive reef areas without the close involvement of coastal villages. A community-based management (CBM) approach

[1] See Cesar 1996: *Economic Analysis of Indonesian Coral Reefs*. The amounts represent net present value, at 10% discount rate over 25 years.

cannot be successful, however, without a supporting framework to contain external threats. This framework needs to include: (i) an effective national strategy for coral reef management; (ii) secure user rights for coastal communities; (iii) effective enforcement to protect communities against external threats; (iv) increased awareness amongst decision makers of the threats facing the reefs; and (v) strengthened management capacity. The COREMAP program has made the strategic choice to address these basic requirements during the initiation phase, and phase interventions at the site level over a period of 15 years. Proceeding cautiously and using a process approach, the program will ensure that the lessons learned from pilot locations are applied to a later, expanded acceleration phase.

C: Program and Project Description Summary

1 (a) The Indonesia Coral Reef Rehabilitation and Management Program (see also Annex 14)

The national COREMAP program will cover priority locations in ten provinces in Indonesia (South, North and Southeast Sulawesi, Riau, North and West Sumatra, Maluku, Irian Jaya and East and West Nusa Tenggara), during a period of 15 years. The program is expected to be supported by the World Bank, the Global Environmental Facility, the Asian Development Bank (ADB), the Australian Agency for International Development (AusAID), and the Japan International Cooperation Agency (JICA). The respective donors' roles in the COREMAP program have been specified over the course of two joint missions in 1997[2]. Even though the adaptable program loan (APL) and grant conditions apply only to the World Bank/GEF funded portion of the program, ADB, AusAID and JICA will likely fund complementary projects under the COREMAP program umbrella. The donors would operate under a collaborative arrangement, and jointly evaluate the results of the Initiation phase prior to proceeding to Phase II.

The adaptable program financing will closely match the program's investment needs, which are expected to decrease progressively from approximately 90 percent of the total costs during Phase I to 70 percent during Phase II. At conclusion, the majority of program costs would be recurrent. Major capital expenditures in surveillance, technical assistance and capacity building would be phased out as the program matured, and be replaced by a supporting framework for reef management at the site level, funded primarily by GOI (see Phase III description). GOI would fund the bulk of recurrent expenditures under all program phases (including an estimated 78 percent during Phase I). GEF would fund Phases I and II.

Phase I (Initiation, 3 years):

The Initiation phase would establish the national framework for the COREMAP program, test community-based management in four sites (Maluku, South Sulawesi, Riau and East Nusa Tenggara), carry out initial program activities in the other six provinces, and prepare for the Acceleration Phase.

The Bank/GEF would support, under the **First Coral Reef Rehabilitation and Management Project**:

- Strengthened COREMAP program *policy, strategy,* and *action plan.*
- A strengthened *legal framework* for coral reef management in Indonesia;
- A national *awareness* and social marketing campaign;
- A *surveillance and enforcement system* tested at the national level and in three target provinces;
- *Pilot community based management* in two sites (*Taka Bone Rate National Park* in South Sulawesi and *Lease Islands* in Maluku).

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[2] - *'Aide Memoire of the Joint Donors Coordination Mission for Coral Reef Rehabilitation and Management Program'*, 21 April 1997.

Other Donors would support (under parallel projects):

- A national *coral reef information, research and monitoring system*, and Coral Reef Information and Training Centers (CRITCs) in Jakarta, Riau, Maluku, South Sulawesi and East Nusa Tenggara (funded by ADB);
- National *capacity building and training* (funding requested from AusAID);
- *Pilot community-based management* and enforcement in Senayang Islands, Riau (funded by ADB), and Kupang Bay, East Nusa Tenggara (funding requested from AusAID);
- *Initial CBM activities* in six provinces (funded separately by GOI).

Phase II (Acceleration, 6 years):

The Acceleration Phase would expand viable community-based management systems to priority sites in ten provinces, according to their degree of readiness. Supporting activities would include integrated planning, a reef monitoring and evaluation system, expanded site surveillance, and a progressive decentralization of program management to regional governments.

The Bank/GEF would likely support, under the **Second Coral Reef Rehabilitation and Management Project** the following activities in Maluku, South Sulawesi, Southeast Sulawesi and Irian Jaya:

- Management of priority coral reef sites (including globally important areas such as the Wakatobi, Spermonde, and Padaido Islands);
- Strengthened site surveillance and containment of national mobile threats;
- Strengthened program management capacity at the district and provincial levels;
- Regional awareness and participation; and
- Preparation for COREMAP III.

Other Donors would likely support (under parallel projects):

- Site management and program support in North Sumatra, West Sumatra, and Riau (funding requested from ADB), and in North Sulawesi, and East and West Nusa Tenggara (funding likely to be requested from bilateral donors).
- Expansion of CRITCs to all program provinces (funding requested from ADB);
- Research centers in Manado and Lombok (funding requested from JICA);

Phase III (Institutionalization, 6 years):

During this phase, the COREMAP program would be fully institutionalized at the regional level, with sustainability ensured through a combination of local government financing, specific block grant transfers to regional governments (*Inpres Pengendalian Dampak Lingkungan)*, and user pay schemes at the site level. Phase III would continue to expand the program to other priority sites in Indonesia. The focus of capacity building efforts would be on district governments.

The Bank would likely support, under the **Third Coral Reef Rehabilitation and Management Project:**

- **Expansion of COREMAP Program to further priority sites in Eastern Indonesia.**
- Local capacity building and development of sustainable financing mechanisms.

Other Donors would likely support COREMAP program expansion to priority sites in Western Indonesia and Nusa Tenggara.

1 (b) First Coral Reef Rehabilitation and Management Project -- Project Components (see Annex 2 for a detailed description and Annex 3 for a detailed cost breakdown):

Component-	Category	Total Costs (incl. contingencies)		Bank financing		GEF financing	
		(US$M)	% of Total	(US$M	% of Bank fin.	(US$M)	% of GEF fin.
Program Strategy and Management		***3.2***	***23.4***	***1.1***	***16.3***	***0.8***	***19.9***
National Program Strategy	Policy	0.7	5.2	0.5	6.7	0.2	6.0
Legal Framework	Policy	0.3	1.9	0.2	2.5	0.1	2.2
Project Management	Project Mng	1.5	10.6	0.2	2.3	0.1	2.1
COREMAP I Evaluat. & Phase II Preparation	Other	0.7	5.4	0.3	4.8	0.4	9.7
Public Awareness		***3.9***	***29.1***	***2.5***	***36.5***	***1.2***	***28.9***
National Awareness Campaign	Other	2.9	21.5	2.0	29.7	0.9	21.1
Regional Campaigns	Other	0.7	5.5	0.4	5.3	0.2	3.8
COREMAP Disseminat. & Public Relations	Other	0.3	2.0	0.1	1.5	0.2	4.1
Surveillance and Enforcement		***4.2***	***31.1***	***2.3***	***33.2***	***0.9***	***21.1***
National Surveillance & Enforcement	Physical&Policy	1.1	7.8	0.7	9.9	0.3	7.4
Sites Surveillance & Enforcement:	Physical						
Taka Bone Rate		1.3	9.8	0.3	4.1	0.6	13.6
Lease Islands		0.3	2.4	0.2	2.9	--	--
Irian Jaya		1.3	9.5	1.0	14.6	--	--
Surveillance Training	Instit. Building	0.2	1.5	0.1	1.8	--	--
Community-Based Management		***2.2***	***16.4***	***1.0***	***14.0***	***1.2***	***30.1***
Site Support:	Inst. Building						
Taka Bone Rate		0.9	6.9	--	--	0.9	22.3
Lease Islands		0.4	3.2	0.4	6.3	--	--
Community Preparation:	Inst. Building						
Taka Bone Rate		0.1	1.0	--	--	0.1	3.4
Lease Islands		0.2	1.4	0.2	2.9	--	--
Site Management:	Physical and						
Taka Bone Rate	Financial	0.3	2.3	0.1	2.0	0.2	4.4
Lease Islands	Mechanism	0.2	1.4	0.2	2.9	--	
	Total	13.6	100.0	6.9	100.0	4.1	100.0

Components with global benefits are italicized. Numbers may not add up due to rounding

2. Key policy and institutional reforms supported by the project:

The COREMAP I project would support:

- *Strengthened policy, strategy, and guidelines for a national coral reef program* in Indonesia.
- *A strengthened legal framework for reef management*, including (i) support to a Maluku regulation (*PerDA*), focusing particularly on traditional user rights (*sasi*) over reef areas; and (ii) development of mechanisms to recognize community-based management (CBM) plans; and (iii) draft regulations to curb poison and explosives fishing.
- Development of *an effective management framework for Taka Bone Rate* National Park.
- *A national awareness campaign targeting decision makers* and key stakeholders, aimed at rallying public support for coral reef management.
- *A pilot site surveillance* system involving joint agency patrols, linked with community-based prevention (Reef Watch system).

3. Benefits and target population:

Project benefits would be of three types: (i) global benefits would accrue from all project components; (ii) national components would benefit Indonesia at large, laying the foundation for future coral reef management systems to succeed; and (iii) the site management component would benefit primarily the coastal communities of Taka Bone Rate and Lease Islands:

Outputs	Key Benefits Expected	Time Frame	Target Population
• National COREMAP Program Strategy	- Guidelines for future site selection and management • Input to national policy	Long-term Long-terr	• COREMAP program managers ıdonesia ;
• Support to local user rights and management plans • Key legislation review	• Strengthened incentives for local reef management • Strengthened legal basis for poison and explosives fishing control	Long-term	• Coastal communities in Maluku and Taka Bone Rate (initially). • Coastal communities in Indonesia
• Public awareness campaigns	• Raised awareness among decision makers, leading to public pressure for more effective reef management	Long-term	• Coastal communities, policy makers, enforcement authorities, key government agencies, and public at large.
• Established surveillance and enforcement systems	• Decrease in illegal fishing practices; • Increased capacity and transparency in surveillance operations.	Short and medium-term	• Traditional fishing communities in Lease, Taka Bone Rate and Padaido (Irian Jaya). • Directorate General of Fisheries and provincial enforcement authorities in pilot sites.
• Site management	• Protection of biodiversity; • Fisheries recovery; • Strengthened local management capacity	Medium to long-term	• Taka Bone Rate: 5 coastal villages (population: 4,200) • Lease Islands: 7 coastal villages (population: 9,300) • Provincial and district governments and NGOs

Long-term: COREMAP II and III *Short and Medium-Term: COREMAP I.*

4. Institutional and implementation arrangements:

Program Coordination

The program's institutional arrangements would be used as a basis for project management during COREMAP I. The National Development Planning Board (BAPPENAS) would be the program's coordinating agency. A COREMAP Steering Committee headed by Deputy IV would provide program guidance and policy coordination. The Committee would include representatives from agencies involved in coral reef management as well as eminent persons representing the non-governmental and private sectors. A National Secretariat chaired by BAPPENAS would coordinate the program's operational inputs. The Secretariat would be assisted by a Project Management Office (PMO) responsible for day-to-day project planning, budgeting, monitoring, and reporting. The PMO would be staffed by a highly qualified full-time Director seconded from BAPPENAS, a Deputy Director from DKN, a Secretary and Project Manager (*Pimpro*) from LIPI, and the project's Technical Assistance (TA) team. The key PMO staff would be subject to annual performance reviews. In South Sulawesi and Maluku, a Provincial Steering Committee coordinated by the Provincial Development Planning Agency (BAPPEDA Tk. I), would be responsible for operational guidance, site monitoring, capacity building, and legal and enforcement support. A District Secretariat chaired by the Regent (Bupati) would coordinate the planning and implementation of field activities. The evolution of institutional mandates would be monitored closely during COREMAP I to enable the program to be aligned with the agency most likely to be given a future mandate for coastal management in Indonesia.

To facilitate program coordination, a common implementation plan and harmonized reporting requirements would be followed by COREMAP I donors.

Project Implementation

The PMO Director, assisted by the TA Team Leader, would be responsible for the *COREMAP program strategy.* The PMO Deputy Director would be responsible for the *legal framework,* assisted by a legal consultant and experts from LH. The national and regional *public awareness* campaigns would be contracted out to a professional public relations (PR) firm. The PMO would remain responsible for dissemination and public relations. The PMO Director would coordinate the *surveillance and enforcement (S&E) component,* assisted by specialized consultants. The project would establish a national coral reef S&E unit at the Directorate General of Fisheries, to issue guidelines to field units, carry out S&E training, and analyze data. Provincial coral reef S&E units would be established in South Sulawesi, Maluku, and Irian Jaya at the Provincial Fisheries Offices, reporting to the Provincial Steering Committee. The units would operate surveillance patrols in collaboration with enforcement authorities (the Police, the Navy, and, in Taka Bone Rate, the park's Bureau for Forest Protection and Conservation), and would coordinate village Reef Watchers, who would be trained to observe and report destructive activities on reefs. All surveillance equipment would be procured centrally by the PMO.

Qualified non-governmental organizations (*LSM)* and local Universities would help implement the *community-based management* component. This community support group would operate under a sub-contract to the TA team. It would deploy a Senior Field Manager working under the Bupati's office, reporting directly to the PMO, and experienced Field Managers (facilitators) stationed at the target villages. The Field Managers would assist village organizations such as the Village Development Council (*LKMD*) and traditional councils in developing and implementing community-based coral reef management plans. The plans would be assessed by the PMO against project criteria, releasing in-cash village grants to support alternative income generation and local infrastructure directly tied to reef management. The proposed criteria for village grants are specified in Annex 2.

Funding Arrangements

LIPI would be the sole executing agency for COREMAP I. Funding from the central government, including loan, grant, and counterpart funds, would be allocated to LIPI's budget (*DIP*). All project contracts would be managed by the PMO following approval by the PMO Director and the Project Manager. Funds for the national coral reef S&E unit would be channeled by LIPI to the Directorate General of Fisheries based on a Memorandum of Understanding (MOU). Funds to the provinces and districts would be similarly based on an MOU between the National Steering Committee and the Provincial Committees, and between the National Steering Committee and the Bupati at the district level. The MOUs would represent a contractual agreement for LIPI to provide project funding, and for regional governments to implement the agreed outputs. The MOUs would include sufficient details of the expected work program, as well as the terms and conditions for fund utilization. Disbursement against the contracts would be phased in stages, based on achievement of work progress and financial reports certified by the Senior Field Manager and the PMO. This output based 'contract' would be an innovative departure from the standard input financing to regional governments (SPABP/Inpres), and would enable greater flexibility in adjusting program funding to field needs.

Loan and grant funding for surveillance operation and maintenance (at provincial level), as well as village funds (at district level) would follow the above mechanism. The loan/grant funds would be authorized by the Ministry of Finance/DG Budget (MOF/KPKN) office, following submission of a request for payment by the Project Manager under GOI's force account payment system (UYHD), whereby GOI funds would be provided for advance payments to an inprest account controlled by the Bappeda Tk. I chief at the provincial level, and the Bupati's designated representative at the district level. Based on work progress and financial reports, the inprest account would be replenished through reimbursement from the loan/grant special accounts at Bank Indonesia. Village grants would be similarly advanced by GOI and reimbursed from the loan's special account. Compliance with the agreed village grant criteria would be first certified by the Senior Field Manager and verified by the PMO. The Project Manager would then authorize disbursement of the funds to a district account earmarked for a direct cash transfer to the LKMD. A first payment of 30 percent of the village grants would be made upon the production of a draft reef management plan and/or alternative income generation plan meeting project guidelines. Subsequent payments would be released to the LKMD based on achievement of subsequent benchmarks, satisfactory work progress, and accountability reports on the use of the funds. Fund transfers would be verified by the Senior Field Managers at the district level, and the Field Managers at the village level.

Accounting, Reporting, and Auditing

The project accounting, financial reporting and auditing would be done in accordance to standards acceptable to the Bank (see Annex 6). Annual project plans would be prepared prior to the conclusion of each calendar year. Project accounting would follow GOI's accounting system, in line with Generally Accepted Accounting Principles (GAAP). Financial statements would include a project account report prepared by the PMO in accordance with the format specified in the Project Implementation Plan, and a special account/statement of expenditures report prepared by the Directorate General of Budget. The PMO, provincial and district offices and LKMD would establish and maintain separate accounts. At the village level, the LKMD and assigned Field Manager would keep a record of all village grants' financial transactions in a blackboard or accounting book placed in a central location, accessible to project staff and interested community members. A progress and financial report would be prepared quarterly. At the district level, the Bupati's representative, with the assistance from the Senior Field Manager, would consolidate the LKMD reports with other district-level expenditures on a quarterly basis. The provincial project units would similarly prepare quarterly reports of expenditures incurred at the provincial level. The PMO's project manager would consolidate these reports with national-level expenditures, and submit the consolidated project report to the Bank on the last week of the fourth month. Project accounts, including SOEs and Special Accounts would be audited annually by the Central Audit Bureau (BPKP) in accordance with procedures satisfactory to the Bank. Copies of annual financial statements, audited reports (including Special Account and SOE audit opinions), and progress reports would be submitted to the Bank within six months of the end of the fiscal year. A manual outlining the format for MOUs, progress and financial reports, and criteria for disbursement to the field is being prepared and would be a condition for Board presentation. The system will be ready for implementation at the time of project effectiveness.

Monitoring and Evaluation

Bank supervision missions will monitor compliance with the agreed impact, output and project input indicators. A mid-term review will be fielded during the second year of implementation to assess progress and allow for necessary corrections in adaptable program processing. An independent evaluation would be conducted during the last year of the project to evaluate lessons of experience and determine readiness for COREMAP II (see Annex 2). The COREMAP donors would collaborate closely during these benchmark reviews. Lessons of experience would be assimilated in future program design and disseminated to COREMAP program sites, as well as to international fora such as the International Coral Reef Initiative and the Year 2000 Coral Reef Symposium.

D: Project Rationale

1. Project alternatives considered and reasons for rejection:

Scope: The project was initially designed to support site management in five Eastern Indonesia provinces, using a conventional, 5-year project cycle. ADB was to finance a parallel project in five additional provinces. This scope was considered too ambitious in the absence of a national framework to support community-based reef management. A 15 year, three-phase program, enabling field activities to be gradually expanded as lessons of experience emerged, was therefore selected.

Executing Agencies: The project considered the option of multiple executing agencies. A unified financing mechanism, executed by LIPI and managed by a strong PMO, was considered preferable to ensure delivery during the short implementation period of COREMAP I. Similarly, an output based MOU with regional governments was deemed preferable to SPABP financing, due to greater flexibility and output accountability.

Sedimentation Issues. The project team considered addressing large-scale sedimentation problems but these were not found to be an issue in COREMAP I sites. Hence, a threat minimization approach was adopted as the appropriate strategy to deal with the acute threats affecting the sites. It was agreed that COREMAP I would address sedimentation insofar as it is pertinent to the project sites, and amenable to local control (e.g. mangrove restoration). This issue will be revisited for COREMAP II sites.

2. Major related projects financed by the Bank, GEF, and/or other development agencies (completed, ongoing and planned):

Sector issue	Project	Latest Supervision (Form 590) Ratings (Bank-financed projects only)	
		IP	DO
Bank-financed:			
• Participatory coastal resources management • Envir. management • Coastal zone management	Philippines: Central Visayas Regional Project		MS
	Mozambique: Coastal and Marine Biodiversity Conserv. Project (*under prep.*)		
	Indonesia: Kerenci Seblat Integrated Development and Conservation Project	S	S
	Indonesia: BAPEDAL Development Technical Assistance Project	S	S
	Seychelles: Biodiversity Conservation and Marine Pollution Abatement	HS	HS
	Egypt: Red Sea Coastal and Marine Resources Management	S	S
	Jordan: Gulf of Aqaba Environment Action Plan	S	S
	Indonesia: Maluku Conservation and Natural Res. Project *(under preparation)*		
	China: Sustainable Coastal Resource Development Project (*under preparation*)		
	Thailand: Coastal Resources Management Project (*under preparation*)		
Other development agencies • Coastal zone planning and information	ADB: Indonesia: Marine Resources Evaluation and Planning (1992)		
• Participatory coastal resources management	Indonesia: Coastal Communities Development and Fisheries Resources Conservation (1997)		
• Coastal zone mng; • Participatory mapping	USAID: Indonesia: Coastal Resources Management Project (1997) Community-based Marine Resource Mng't in Central Maluku, Irian Jaya (1997)		
• Marine resources management and policy	CIDA: Indonesia: Environmental Management Development (Phases 1-3)		

IP - Implementation Progress. DO - Development Objective. IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory); MS (Marginally Satisfactory - Project Completion Report Rating).

3. Lessons learned and reflected in the project design:

COREMAP will be the first World Bank project specifically devoted to coral reef management. However, the World Bank has supported more than 50 projects and programs worldwide with a marine and coastal focus. Most operations are too recent to extract lessons of experience. The Philippines Central Visayas Regional Project, closed in 1992, included a CBM component which established small reef sanctuaries. The Project Completion Report (*PH-2360*) concluded that (i) CBM was effective in increasing coastal fishers' productivity and income; but that (ii) sustainability was doubtful without legal means to control access to resources. Subsequent initiatives have addressed some of the early shortfalls, and the project is now considered a model for other local initiatives. The Seychelles Biodiversity Conservation and Marine Pollution Abatement Project (*SC-GE-2377*, 1993), started in 1993, has successfully changed exploitation patterns for a traditionally hunted resource (sea turtles) that was rapidly becoming extinct, through a combination of public awareness and legislation.

Lessons of experience from similar programs in the region indicate that:

- *Habitat management* in the form of reef sanctuaries (no-take zones), allowing regeneration of fishery resources to surrounding areas where fishing pressure is regulated, is generally more effective than management aimed at specific stocks. All reef fishery management regimes, however, require a replacement of open access conditions by limited access or catch control.
- Reef management has been most successful where *communities have been organized and empowered to manage local reef resources.* Local government endorsement of management plans and recognition of community user rights is essential to ensure the sustainability of CBM initiatives.

- Many CBM initiatives have failed because of *inadequate attention to powerful external threats.* These need to be addressed through effective enforcement and coordinated site development plans.
- Reef management systems should be kept *flexible and adaptable*, building upon local ecological knowledge and traditional management systems;
- Local support should be established first for a *limited set of clear and achievable goals* of direct interest to local people. Early success in achieving these goals helps build capacity to address more complex issues, such as land-based threats.
- Reef management has been most successful when local stakeholders *derive quick and direct economic benefits from reef management*, such as improved fisheries productivity or tourism spin-off benefits. Alternative income generation needs to be closely tied with management goals, and should be complemented by awareness programs, training in non-destructive practices, improvements in local access to credit, and establishment of private sector links.
- *Reef monitoring systems* should be introduced from the outset to permit an early evaluation of impact, and a rapid adjustment in management rules.

These lessons have been incorporated into project design. The stronger focus on legal framework, enforcement, and a slower phasing of site management reflect the recommendations of project reviewers, including a Scientific and Technical Advisory Panel expert, at the project concept document (July 21, 1997) and GEF Council submission (May 1, 1997) stages.

4. Indications of borrower commitment and ownership:

GOI is highly committed to the COREMAP initiative. To date, it has allocated US$8 million equivalent to activities related to COREMAP's preparation. GOI has funded extensive socio-economic and ecological surveys in priority program sites, and managed the technical assistance for project preparation. GOI has also established an inter-agency preparation team in February 1995 and, more recently, a national COREMAP Steering Committee. Working groups were established in all ten program provinces in 1996, including representatives from various agencies, Universities and local NGOs. In recognition of the need to strengthen project guidelines and finalize preparation, GOI allocated US$4.7 million equivalent in counterpart funds for pre-implementation activities during fiscal year 1997-98. These have funded a new COREMAP building, and the drafting of program guidelines. Pilot field facilitators' training and stock assessment are also being planned.

5. Value added of Bank and Global support in this project:

The donors' roles in the COREMAP program have been carefully considered to take into account their comparative advantages. The Bank and GEF are well positioned to support the COREMAP's strategy and policy: the Bank was one of the key agencies launching the 1995 *Global Representative System of Marine Protected Areas (MPAs)*, which identified world-wide priorities for MPA interventions. The Bank's *Marine Market Transformation Initiative* (MMTI) is collaborating with external partners in finding solutions for the live reef fish trade in East Asia and Pacific, one of the most important threats to Indonesia's reefs. The Bank has also recently sponsored two Coral Reef Conferences which helped bring together best practices and lessons of experience from coral reef management around the world. The 1996 *Economic Analysis of Indonesian Coral Reefs*, completed as part of the project preparation, has been disseminated widely and is expected to become an important tool for policy dialogue in Indonesia. The Bank has also, since 1990, assisted GOI in strengthening its environmental protection capacity. These efforts have contributed to the establishment of provincial pollution control agencies (BAPEDALDA), and to a new national law on environmental management. COREMAP is further expected to benefit from the Bank's involvement in regional development in Sulawesi and Maluku.

GEF's support will help raise visibility and global support for the management of the most biologically important coral reef ecosystems in the world. GEF funding will also help ensure that areas of global biodiversity importance, which may be isolated and of limited priority to regional governments, are included in the COREMAP program strategy.

E: Summary Project Analysis (Detailed assessments are in the project file, see Annex 8)

1.a Economic Analysis (supported by Annex 4): [x] Cost-Benefit Analysis

For Site Management: Taka Bone Rate: NPV = US$5.0 million; ERR (quantifiable) = 14%
Lease Islands: NPV = US$0.8 million; ERR (quantifiable) = 15%

COREMAP program benefits will arise primarily from removal of threats to the reefs, in particular poison fishing, explosives fishing, coral mining, overfishing, and sedimentation. While these unsustainable practices can yield large benefits to individuals, they impose high costs to Indonesia in the form of lost fisheries productivity, tourism value, and coastal protection. The net impact of these practices is estimated as follows (see Annex 4.1):

Threats to Reefs	Benefits to Individuals	Costs to Society	Net costs to Society*
Poison Fishing	33	43-476	10-443
Explosives Fishing	15	98-761	83-746
Coral Mining	121	176-903	55-782
Sedimentation (logging)	98	273	175
Overfishing	39	109	70

Present value, 10% discount rate, 25 year time-span in US$'000 per km² of reef. The range in value takes into account variations in tourism potential and coastal protection across sites. See Cesar (1996) 'Economic Analysis of Indonesian Coral Reefs'.

A detailed economic analysis was carried out for the two COREMAP I sites, taking into consideration the existing threats, coral reef condition, fishing practices, and tourism and coastal protection values (Annex 4.1). The analysis included the costs of site management, enforcement and support. For Taka Bone Rate, the estimated quantifiable ERR is 14 percent, with an NPV of US$5 million over 25 years. For the Lease Island site, the estimated ERR is 15 percent (NPV US$0.8 million). A sensitivity analysis was performed taking into account the extreme possibility that the sites would require a doubling in enforcement costs after COREMAP I to maintain the same level of benefits. This scenario reduces the ERR for Taka Bone Rate to 12 percent, and that for Lease Islands to 11 percent. The relatively low ERR takes into account the higher site support costs required for COREMAP I, expected to decrease during Phase II as final program guidelines would become available.

The benefits of national components such as the COREMAP program policy, legal framework, and public awareness campaigns, while not directly quantifiable, are judged to be substantial. In Indonesia, the benefits of reducing fishing pressure from an open access situation to controlled access (assuming optimum sustainable yield) is estimated at US$70,000 in net present value per km² of reef. In Palau, the success of marine protected management is attributed largely to a well directed public awareness campaign. The national surveillance and enforcement sub-component is expected to include an action plan to address mobile threats (particularly poison fishing), which would be implemented during COREMAP II or by parallel Government programs. The estimated net benefit of replacing large-scale poison fishing in Indonesia by sustainable alternatives is US$370 million.

1.b. Incremental Costs

The incremental costs associated with global benefits are estimated at US$11.6 million for the COREMAP program, of which US$4.1 million represents the costs for COREMAP I (see below). The detailed incremental cost analysis for the program is presented in Annex 4.2.

Project Components	Baseline Scenario (US$ Million)	GEF Alternative (US$ Million)	Incremental Costs (US$ Million)
Program Strategy and Management	2.4	3.2	0.8
Public Awareness	2.7	3.9	1.2
Surveillance and Enforcement	3.3	4.2	0.9
Site Management	1.0	2.2	1.2
Total	**9.4**	**13.6**	**4.1**

Numbers may not add up due to rounding.

The baseline scenario would target the rational use of Indonesian coral reef resources for national development purposes. It would also lead to greater institutional capacity and general public awareness. The baseline scenario would, however, be insufficient to ensure that sites of high biodiversity importance (such as Taka Bone Rate National Park) are included in the COREMAP program strategy, since these areas are often of limited regional development priority. The GEF alternative would also help develop an effective surveillance system in Taka Bone Rate to protect the park from external threats, improve public participation and involvement of non-governmental stakeholders in field activities, strengthen the legal framework in support of traditional user rights, and support awareness campaigns likely to benefit coral reef protection throughout Indonesia.

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2. Financial (see Annex 5): **NPV=US$21,600 (per village package); FRR= 39%**

Village Micro-Enterprise Viability

A detailed financial analysis was carried out for alternative income generation micro-enterprises likely to be promoted under the project's community-based management component. The financial analysis estimated requirements for (i) capital investment and working capital; (ii) profit and loss statement; and (iv) financial planning cash flow. The financial rates of return range from 28 to 59 percent, with 39 percent for a representative package of micro-enterprise investments. When risk factors over and beyond normal business risk were added, the switching values -- the values for which the FRR equals the opportunity cost of capital -- were obtained at a 15 percent decrease in revenues and at a 70 percent increase in investment costs.

Justification for Village Subsidies and Fiscal Sustainability of Community-Based Reef Management

Provided that user rights and reef management regimes can be effectively enforced, reef management can yield benefits relatively quickly through increased fisheries productivity (see Technical Analysis). Reef sanctuaries can typically replenish surrounding areas within a period of 3-7 years. The financial rate of return for average reef sanctuaries in the Philippines is 28 percent, indicating that recurrent expenditures are more than offset by management benefits. Nonetheless, reef sanctuaries result in closures of 20-30 percent of the reef area, imposing short-term costs to traditional fishers. In Taka Bone Rate, these losses are estimated at about US$35,000 equivalent per village over a period of two years, using conservative assumptions of reef recovery (see Annex 5). Hence, an initial subsidy of US$35,000 equivalent per village for alternative income generation and reef-friendly infrastructure, as determined by the project, is considered justified.

Fiscal Impact

GOI would finance approximately US$2.6 million of total project costs, primarily for project management, surveillance operation and maintenance, local government support, and taxes (US$0.5 million). Most of GOI's contribution (including transfers to regional governments) would be in the form of central Government expenditures and thus is not expected to result in a significant fiscal impact due to the small project size. GOI has provided assurances that counterpart financing for the project, specifically identified in the 1997 Consultative Group for Indonesia discussions, would be ensured.

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3. Technical:

The impact of closures in replenishing fish populations is well documented. There is increasing evidence that this type of habitat management is preferable to species-specific management in tropical areas, given species interactions. Closed areas (permanent no-take sanctuaries) are also easier to enforce than effort or quota regulations. Reef sanctuaries help replenish adjacent fishing areas in two ways: first, by increasing larvae survival; and second, by serving as reservoirs for fish straying into surrounding areas[3]. This replenishment effect is believed to take 3 to 7 years. The use of sanctuaries for fisheries replenishment is enhanced by a system of relatively small, inter-connected protected areas, comprising approximately 20 to 30 percent of the reefs. These areas should protect spawning sites and be accompanied limited entry on surrounding fishing grounds. For biodiversity protection purposes, much larger protected areas are recommended to accommodate the range of target conservation species. These principles will be taken into consideration by the COREMAP program.

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[3] Roberts, Callum, personal communication, June 1997.

The project will rely on natural regeneration of coral reef areas. Artificial replenishment, including artificial reefs and coral transplantation, will in principle not be supported given their controversial value as habitat enhancers. Restocking programs, similarly, will only be considered once management regimes are firmly in place.

Alternative income generating activities will be screened to ensure that technologies are commercially viable, have a developed market, and are ecologically sound. Experimental and risky mariculture such as sea cucumber and grouper culture would therefore not be encouraged at the village level until the technology becomes established.

4. Institutional:

Executing agency: LIPI has executed two project preparation grants, and has therefore experience with World Bank consultant contracting guidelines. There were concerns that the LIPI project manager may be over-burdened with procurement requirements during implementation, particularly given the short duration of the project, and parallel COREMAP initiatives funded by other donors. GOI has addressed some of these concerns by ensuring that contracting would be assigned to experienced PMO staff, and that advanced action would be taken on technical assistance mobilization

Project management: COREMAP working groups at the central and provincial levels have been actively involved in project design. Coordination problems were experienced during preparation resulting from a weak flow of information between the large number of stakeholders involved. This weakness has been recognized and will be addressed by the project through (i) concentrating project management responsibilities into one centrally managed unit (PMO), staffed by highly qualified, full-time secondments; (ii) deploying a Senior Field Manager at the district level, responsible for linking field activities with the PMO; and (iii) installing INTERNET communication in all regional offices. Project components requiring specialized knowledge (e.g. surveillance and awareness) will be assisted by external consultants.

The capacity of the *Directorate General of Fisheries (DG Fisheries)* in surveillance remains untested and will be piloted during the project. DG Fisheries is currently conducting an extensive upgrading program for enforcement officers, and will benefit from a new monitoring, control and surveillance system supported under ADB's *Coastal Communities Development and Fisheries Resources Conservation Project.* The *district governments* have weak capacity to support COREMAP activities. However, as the future focus of the national program, they will need to be involved from its early stages. It is expected that much of the CBM site support during COREMAP I will be provided by *LSM/University* groups. Competent LSMs are already active at both project sites, and they should be able to provide the required support with limited TA assistance in specialized areas. The capacity of *villages* to implement reef management plans will be tested during COREMAP I. An on-going LSM program is assisting villages at the Lease Island site in strengthening traditional management, and provided that customary leaders are effectively involved, no significant capacity problems are envisaged. Taka Bone Rate communities lack coastal management traditions and are subject to a higher incidence of external threats. Their capacity to manage reef resources would be tested through adaptable management and a careful phasing of project interventions.

5. Social:

The major social issues faced by the project include:

- Break-down in customary community resources management systems due to lack of user rights' recognition;
- Destructive practices such as reef bombing, due to limited economic opportunities in remote sites;
- Dependence on traders and middlemen for marketing of products;
- Limited capacity of local communities to enforce user rights against external fishers;
- Limited capacity of village institutions such as LKMDs to manage and implement field activities;
- Internal conflict within and between neighboring communities on access to limited reef resources.
- Ethnic and cultural heterogeneity among resident fishing populations in Taka Bone Rate (Buginese and Bajau);

Each of these issues would be addressed directly by the project design: the project would support a local decree (*Peratuaran Daerah*) in Maluku, particularly supporting *local community user rights* to reef resources. *Poverty* would be addressed through community-based fisheries management aimed at restoring the productive potential of coral reefs. The project would also assist poor fishers involved in destructive activities in achieving more sustainable income through alternative micro-enterprises. Community preparation activities would include strengthening village groups, improving access to credit, and strengthening terms of trade with existing *middlemen*. The project would support a major surveillance and enforcement component to curb *external threats*. Field facilitators would work with both formal (LKMD) and informal organizations (*adat*, fishers, and women groups) to help strengthen their *institutional capacity*. The COREMAP District Secretariat chaired by the Bupati would play a key role in resolving inter-community *user conflicts*. The project would also help strengthen traditional inter-village councils (*Latupati*) at the Lease Island site in Maluku. Considerable investment has gone into social analysis and data collection to ensure development of culturally appropriate management plans. This would be further ensured by the use of LSMs familiar with local cultural practices.

Gender Issues - Women in target project communities play a key role in processing fish, marketing products, and reef gleaning. The project would directly assist women through targeted micro-enterprise development, improved access to credit, and gender sensitive activities. Women groups would be one of three key community groups targeted under the CBM component (see Annex 2). The project may affect women as it may restrict collection of certain types of invertebrates and destructive reef gleaning - however, this decision would be taken jointly by the community as part of local reef management plans, and the possible loss of income and food would be directly compensated by the higher income obtained from reef recovery and alternative income sources.

Borrower's Commitment - GOI has demonstrated considerable commitment towards social issues by (a) financing the Social Assessment entirely from counterpart funds; (b) contracting LSMs to assist with project preparation; and (c) recognizing community empowerment as a vital element of the COREMAP strategy.

Other Social Issues - At present there are no resettlement issues envisaged at the two project sites. Resettlement may become an issue in COREMAP II as the project expands to new sites, particularly in areas where future private sector tourism development may lead to land acquisition and resettlement (Irian, Maluku) or where expansion of mining activities may lead to displacement of coastal communities (Lease Islands, Maluku). This would be addressed during the design of COREMAP II.

The Bank's policy on isolated vulnerable people would apply to the project sites. Since the project has integrated the strengthening of community rights to local resources, and improved development benefits through income-generation activities, there would be no need for a separate isolated communities' action plan. The issue of nomadic fishermen such as the Bajau is difficult to address as their access to fishing rights could decrease through the implementation of local management plans. In Taka Bone Rate, however, traditional fishers are allowed to operate in the park outside strict conservation areas, and provided these rules are adhered to during project implementation, no major adverse impact is expected. Possible user conflicts between Bajau and Buginese fishers would be addressed through the proposed conflict resolution mechanism outlined in Annex 12.3, and through special mitigation measures to ensure that Bajau communities become direct beneficiaries of reef management and alternative livelihood.

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6. Environmental assessment: Environmental Category [ ] A [x] B [ ] C

With the possible exception of micro-enterprises supported under the CBM component, the project would not have any adverse environmental impacts. An extensive reef monitoring system, capable of detecting changes in coral environmental conditions, would be put in place in all COREMAP I sites under separate ADB financing. Community proposals would be specifically screened to exclude any activities that may adversely affect the reefs by causing physical disturbance in coral communities, turbidity or sedimentation, or untreated discharge of pollutants. Eco-tourism activities would be assessed based on the sites' carrying capacity.

Of much greater concern is the possibility that the project may lose its benefits through non-COREMAP activities

undertaken by public and private agencies. This could include expansion of mining exploration concessions into Saparua (Lease Island site), and a possible live fish export center and oil refinery in Selayar, South Sulawesi. To minimize this risk, GOI would carry out spatial planning studies for coral areas at the project sites and would disseminate the results to all relevant government institutions, the private sector, and the communities. BAPPENAS would also closely monitor proposed investment planning and changes in land use in the project areas, to minimize the potential for conflicts with project objectives. Where such conflict might exist, COREMAP would rely environmental impact (AMDAL) regulations requiring a full environmental assessment (ANDAL) for any activity in, adjoining, or changing the characteristics of a coral reef area. The Chairmen of BAPPEDA Tk. I in South Sulawesi and Central Maluku would ensure that (i) the ANDAL terms of reference, reports and management and monitoring plans satisfactorily address the potential impacts on COREMAP sites, using appropriate quantitative techniques; (ii) LSMs and representatives of affected communities participate in the provincial AMDAL commissions (KOMDA) meetings; and that (iii) other members of the provincial Steering Committee, National Secretariat, and PMO are consulted during the review process. The Bank would be given an opportunity to review copies of the ANDAL terms of reference and reports before they are finalized and would provide technical advice for use by the National Secretariat and/or Provincial Steering Committees in their reviews. The above procedure would be described in the minutes of negotiations.

7. Participatory approach [key stakeholders, how involved, and what they have influenced] (For further details, see Annex 11 and 12):

Stakeholders	Identification/Preparation	Implementation	Operation
a. Primary Beneficiaries:			
Community Groups	CON	COL	COL
b. Other Key Stakeholders:			
Intermediary NGOs	COL	COL	COL
Academic Institutions	COL	COL	COL
Local Government	COL	COL	COL
Navy, Police	CON	COL	COL
Private sector	IS	CON	COL
Other donors	COL	COL	COL

CON - Consultation; COL - Collaboration; IS - Information Sharing.

F: Sustainability and Risks

1. Sustainability

COREMAP Program. Program sustainability would be a specific focus of COREMAP III. By the conclusion of that phase, it is expected that program financing would be ensured through a specific block grant transfers from the central government earmarked for environmental management. Most expenditures during the post-program phase would be recurrent (see Annex 5).

COREMAP I Project. The legal and policy reforms introduced by the project -- particularly the strengthening of user rights, and legislation on poison and explosives fishing -- are expected to provide powerful incentives for future behavioral change, with little requirements for follow-up financing. Similarly, reef management interventions can pay off for themselves in the form of higher fisheries and tourism value, provided there is compliance with management rules. Surveillance and enforcement operations will constitute by far the largest follow-up expenditure at the site level. This funding will need to be provided by the Indonesian Government in perpetuity, as part of its sovereign duties over archipelagic waters, and is expected to decline as a more effective vessel registration and monitoring system is put in place, complemented by market incentives such as poison testing and certification. These interventions will be addressed in stages by subsequent COREMAP projects.

2. Critical Risks (reflecting assumptions in the fourth column of Annex 1):

Because of its innovative and experimental nature, COREMAP I will involve significant risks. However, these would be balanced by the potential high benefits of establishing an effective framework for managing coral reefs in Indonesia. The project small size (US$13.6 million) and adaptable program framework reflects a 'learning by doing' strategy designed to manage potential risks.

Key Risk	Risk Rating	Risk Minimization Measure
Annex 1, cell "from Program Development Objective to CAS Goal"		
• Sufficient political will to enforce existing regulations and contain mobile threats	S to H	• Raised public awareness; judicial seminars involving legal, enforcement, policy and judicial staff.
• No external developments threatening sites' viability	M to S	• Covenant requiring strengthened compliance with environmental assessment procedures.
Annex 1, cell "from Project Development Objective to Program Development Objective"		
• Agencies and key stakeholders are able to cooperate effectively	M to S	• One executing agency and strong, centralized PMO. Public relations unit at PMO responsible for information dissemination on project guidelines. INTERNET communication in all project units.
Annex 1, cell "from Outputs to Project Development Objective"		
• Government is committed to empower coastal communities, recognize user rights, and enact key legislative reform proposed by the project	S to H	• Maluku regulation support specifically identified as output in Project Implementation Plan. Project to discuss enactment procedures with DKN
• **Key stakeholders effectively change their behavior** towards coral reefs	M	• **Awareness campaign handled by highly qualified** public relations firm.
• Chosen facilitators have the required qualifications to be effective in the field	M	• Criteria for facilitators' selection has been agreed • Specialized TA contracted to assist in identification and monitoring of micro-enterprises.
• Communities adopt alternative income activities which effectively reduce pressure on reefs	M	
Annex 1, cell "from Components to Outputs"		
• Government takes advance action on procurement	M to S	Short-list, letter of invitation and draft contract to be ready at negotiations.
• Training program supported by AusAID is effective in building institutional capacity for the program	M	Bank to agree with AusAID on criteria and schedule for training, and monitor progress.
Overall Risk Rating	S	

Risk Rating - H (High Risk), S (Substantial Risk), M (Modest Risk), N (Negligible or Low Risk)

3. Possible Controversial Aspects

In Taka Bone Rate, the project will test a combination of deterrent and preventive surveillance. The area is now the focus of extensive external fishing, originating as far away as Flores, Southeast Sulawesi and Ujung Pandang. Much of this external fishing, involving poison and explosives, is illegal. For legal fishers, the rules of entry into the park remain unclear in the current park management plan, and require further clarification before an effective enforcement system can be introduced. The project will use a conflict resolution framework such as one outlined on Annex 12.3 to manage potential conflicts between fishing groups, and between these groups and the park. Aerial surveillance over Taka Bone Rate is also expected to ease the possibility of on-the-ground conflicts. Another potential controversial issue is the reported abuses of authority and rent seeking behavior currently reported in Taka. The introduction of joint patrols with civilian agencies working side by side with enforcement authorities, and a recording system enabling background checking is expected to improve the transparency of surveillance operations. Conflicts over resource use are not expected to be as pronounced in the Lease Island site, due to strong customary rights' traditions.

At present, the only known planes equipped to provide aerial surveillance over Taka Bone Rate are the NOMAD aircraft of the Indonesian Navy in Ujung Pandang. It was agreed at appraisal that these costs, expected to include primarily fuel and air maintenance costs, would be covered by counterpart financing.

G: Main Loan and Grant Conditions

1. Negotiation and Board Conditions:

The Government of Indonesia would:

- Provide a supplementary program letter, describing the national COREMAP program.
- Appoint a procurement team to help process project contracts and provide the qualifications, terms of reference, and annual performance review criteria for individuals proposed for key PMO positions prior to negotiations. These staff would be appointed on a full-time basis and the PMO established prior to Board presentation.
- Complete guidelines for village grants specifying procedures for reporting, accounting, criteria for eligible expenditures, procurement and performance monitoring, prior to negotiations.
- Complete Terms of Reference, short-lists, draft letter of invitation, and contracts for the Technical Assistance and awareness campaign services, during the period of negotiations.
- Finalize guidelines for MOUs with regional governments, including formats and procedures for financial and work plan reporting, and criteria for fund disbursement, prior to Board presentation.

2. Disbursement Conditions

- Disbursement of loan and grant funds for the surveillance and enforcement component would be subject to the completion of an Operational Manual describing the site surveillance framework, equipment specifications, standards for patrolling, reporting, recording and monitoring, and training modules.

3. Other

- National and provincial coral reef surveillance and enforcement units would be established by June 30, 1999.
- A highly qualified technical assistance and public relations firm would be selected in accordance with agreed criteria and mobilized by December 31, 1998.

  A draft COREMAP program strategy, policy and guidelines would be completed by September 30, 2000, and discussed with key stakeholders.
- GOI would ensure that legislation drafted under the project is submitted on a timely manner to the responsible authorities for enactment.
- GOI would ensure that disbursement under village grants complies with the agreed guidelines, provided that these can be adjusted periodically to reflect lessons learned during project implementation.
- GOI would take the necessary measures to ensure that any development project proposed to be carried out in, or in the vicinity of the project sites, will only be permitted if satisfactory environmental studies have been completed and have shown that potential effects on the site will be avoided or mitigated in full compliance with GOI's regulations. These would be consistent with the Bank's guidelines on environmental assessment.
- GOI would take appropriate steps to (i) enhance the local potential of isolated vulnerable communities in project areas, to ensure the delivery of culturally appropriate benefits, including protection of their traditional user rights, (ii) through a process of informed participation, involve isolated vulnerable people in the design and implementation of coral reef management plans; (iii) ensure that project interventions are in accordance with their economic, social and cultural preferences; and (iv) mitigate any possible adverse impacts.
- GOI would provide to the Bank, by September 30, 2000, an evaluation report for the project, which would include an independent evaluation for Phase I.

H. Readiness for Implementation

[ ] The engineering design documents for the first year's activities are complete and ready for the start of project implementation. [x] Not applicable.
[x] The procurement documents for the first year's activities (technical assistance contract and awareness service contract) are being completed and will be ready for the start of project implementation.
[x] The draft Project Implementation Plan (PIP) has been evaluated and found to be realistic and of satisfactory quality. The PIP will be finalized by project negotiations.
[ ] The following items are lacking and are discussed under loan conditions (Section G): Not applicable.

I. Compliance with Bank Policies

[x] This project complies with all applicable Bank policies.

Task Team Leader: Sofia Bettencourt (EASRD)

Sector Manager: Geoffrey Fox (EASRD)

Country Director: Dennis de Tray (EACIF)

Annex 1
Program and Project Design Summary

Narrative Summary	Key Performance Indicators	Means of Verification	Critical Assumptions
Country Assistance Strategy Goal: To protect, rehabilitate and achieve sustainable use of coral reefs and associated ecosystems in Indonesia, which will, in turn, enhance the welfare of coastal communities	*At COREMAP sites, between Phase II and end of Phase III*:* • Coral Mortality Index (CMI)/dead coral cover decreasing by an average of 1% per year (*coral rehabilitation indicator*) • Butterfly fish counts for existing species increasing by an average of 20 % (*biodiversity Indicator*) • Average income per capita of target groups of coastal communities increasing by 5 % per year in real terms (*welfare indicator*) • Average productivity of target species such as groupers (catch per unit of effort) increasing by 65 % in managed reefs over 10 years (*sustainable use indicator*)	National reef monitoring program CRITC surveys	(From Goal to Bank Mission) Sustainable use of coral reefs (for tourism and fisheries) will benefit coastal communities and serve as an important vehicle for poverty reduction and rural development in the Outer Islands.
Program Development Objective: Viable reef management systems established, operational, and institutionalized in priority coral reef sites. *COREMAP Phase I (Initiation):* Viable framework for a national coral reef system in Indonesia established. *COREMAP Phase II (Acceleration):* Viable reef management systems established in priority sites in 4 provinces (South Sulawesi, Southeast Sulawesi, Maluku, Irian Jaya). *COREMAP III (Institutionalization):* Viable reef management systems established in priority sites, operational, fully decentralized to regional governments, and institutionalized (through specific block grants to regional governments).	*Indicative End-of-Program Indicators (by 2011)*[1]*:* • Program strategy incorporated into national policy. • Site planning and implementation follow the program's strategic priorities and action plan, and are fully decentralized to regions. • Program funding allocated through special block grants (*Inpres Pengend. Damp. Lingkungan*), linked to program priorities and local performance. • At 75 % of COREMAP sites, coral reef management plans endorsed by local authorities, and implemented satisfactorily by local communities according to CRMS indicators.	Independent Evaluation National policy documents (Repelita/Sarlita) COREMAP III implementation completion and evaluation reports	A Coral Reef Monitoring System (CRMS) is established through a parallel project funded by ADB, enabling effective monitoring of ecological and social impact. Large scale sedimentation can be effectively curbed by parallel interventions. Enforcement of existing regulations and containment of mobile threats is effectively carried out No external developments threatening the viability of the sites. No major storm destruction, natural bleaching, or disease events.

- Program indicators are indicative, and will be defined further during Phase I.

Narrative Summary	Key Performance Indicators	Means of Verification	Critical Assumptions
Project Development Objective (COREMAP I) To establish a viable framework for a national coral reef management system in Indonesia	*To be met before effectiveness of Phase II (April 2001):* • Completed national COREMAP program policy and strategy discussed with key stakeholders. Ministerial letter from BAPPENAS issued, recommending the implementation of the strategy to the involved agencies. COREMAP II sites and design in accordance with the strategy. • Institutional capacity evaluated as sufficiently improved to enable expansion of COREMAP program. • Compliance rates (no. of patrol days without violations/total patrol days) increasing by 10 % in pilot sites, following introduction of S&E system. • Community-based management (CBM) pilots evaluated as workable models, and lessons of experience incorporated into design of Phase II. • COREMAP I implemented satisfactory, with 75 % of outputs and disbursements reached.	**Independent evaluation** Project completion report (ICR), and draft PIP Supervision reports Surveillance and enforcement reports Evaluation reports Supervision and project completion reports	Agencies and key stakeholders are able to cooperate effectively Lessons of experience with pilot sites are representative of the range of conditions encountered in coral reef systems in Indonesia to enable the program to expand. COREMAP program strategy can be converted into national policy without major delays.
Outputs: 1. Strengthened national policy, strategic planning and legal framework for coral reef management	*By FY00-01:* • COREMAP program strategy and national action plan approved by Steering Committee; • Matrix of draft revisions of key legislation submitted to the appropriate authorities for enactment; • Academic draft of PerDAs, Kepmen, or Sks supportive of CBM completed; • Draft management framework for Taka Bone Rate completed. • Guidelines on illegal and destructive activities released by Project Secretariat	National policy and strategy document Draft legal documents and legal specialist report.	Government is committed to empower coastal communities and recognize user rights Sufficient political will exists to enact key legislative reform proposed by the project
2. Strengthened Project management	*By December 1998:* • Qualified counterpart staff mobilized at national and provincial levels, with defined performance goals. • Office equipment and furniture, adequate to Project activities, procured and distributed. • TA and awareness PR firm mobilized. • Qualified NGO/University mobilized for Lease/TBR sites.	SKs issued at each level. Procurement records Contract copy and evaluation reports	

- See also Annex 14.1.a. "Checklist for Evaluation of Conditions to Proceed to COREMAP II".

Narrative Summary	Key Performance Indicators	Means of Verification	Critical Assumption
3. National and local public awareness campaigns for coral reef management designed and launched	*By FY99-00:* • Awareness campaign design accepted by Project Secretariat. • National awareness campaign and provincial campaigns in 4 provinces launched • COREMAP newsletter produced and Web page updated 3 x/year. *By FY00-01:* • COREMAP program awards for community, school, thesis, and reef watch designed. • Materials distributed to 10 provinces. • 30% of targeted audience (policy makers, enforcement, private sector, local gov., villagers) familiar with coral reef issues.	Annual and supervision reports. Annual and supervision reports Independent survey	Key stakeholders effectively change their behavior towards coral reefs.
4. Models of coral reef surveillance and enforcement tested and evaluated	*By FY00-01:* • Surveillance framework for 4 pilot sites produced. • Enforcement training completed (195 orientation; 140 reef watchers; 80 enforcement officers) • Provincial S&E units established in TBR and Lease Islands, with violation and incidence reports available for monitoring. • Surveillance equipment according to acceptable design specifications procured and distributed. • Action plan for external and mobile threats produced, accepted by COREMAP Secretariat and included in national action plan for coral reefs.	Surveillance consultant's and annual reports Supervision reports. Annual and supervision reports. Specialist report, and copy of action plan.	There is sufficient political will to effectively apply the enforcement system to all violators, not just a few. Reef watchers are prepared to report illegal activities without fear of repercussions.
5. Pilot community based management plans in two sites designed and tested: • Taka Bone Rate National Park, as an globally important site for biodiversity conservation; • Lease Islands	*By FY98/99:* • Field manuals released to the field. • Qualified village motivators appointed in all 12 priority villages in Lease and TBR. *By FY99/00:* • Coral reef management plan drafted for Lease and Taka Bone Rate pilot sites. *By FY00/01:* • At least one community group/village working with COREMAP program. • Draft management plans accepted by local government for implementation, and key plan components started. • Lessons learned documented on Web page and newsletters. All motivators will have visited at least one other site.	Copy of field manual. Annual and supervision reports. Copy of draft plans Field mngs reports and annual reports. Supervision reports. Annual reports	Field manuals are effectively designed. Sufficient institutional coordination to allow efficient back-stopping of field operations. Chosen village facilitators have the qualifications to be effective in the field. Sufficient political will at local level to support community-based plans. Communities adopt alternative income activities effective in reducing pressure on reefs.

6. Design of COREMAP II Project completed	*By end of Project:* • Site assessments completed; • Independent evaluation of COREMAP I completed. • Project completion report completed within 3 months of completion date. Project implementation plan, acceptable to GOI and donors, completed.	Site reports. Evaluation report. Project completion report. Draft PIP.	
Project Components:	**Inputs (budget):**	Quarterly and annual reports. Disbursement reports.	Government takes advance action on TA and procurement contracts to enable TA/PR firm to mobilize on time. Training program supported by AusAID funds are effective in building institutional capacity for the program Highly qualified counterpart staff can be assigned to work on a near to full-term basis
1. PROGRAM STRATEGY AND MANAGEMENT	US$3.2 million		
1.1 COREMAP Program Strategy	US$0.7 million		
1.2 Legal Framework	US$0.3 million		
1.3 Project Management	US$1.5 million		
1.4 COREMAP I Evaluation and Preparation of COREMAP II	US$0.7 million		
2. PUBLIC AWARENESS	**US$3.9 million**		LIPI building is completed and ready for occupancy by start of project. Sufficient progress and monitoring information exists in three years to identify key lessons to be identified and disseminated
2.1 National Awareness Campaign	US$2.9 million		
2.2 Regional Awareness Campaigns	US$0.7 million		
2.3 COREMAP Dissemination and Public Relations	US$0.3 million		
3. SURVEILLANCE AND ENFORCEMENT	**US$4.2 million**		
3.1 National Surveillance and Enforcement	US$1.1 million		
3.2 Site Surveillance and Enforcement	US$2.9 million		
3.3 Surveillance Training	US$0.2 million		
4. COMMUNITY BASED MANAGEMENT	**US$2.2 million**		
4.1 Site Support	US$1.4 million		
4.2 Community Preparation	US$0.3 million		
4.3 Site Management	US$0.5 million		

Annex 2
Indonesia: First Coral Reef Rehabilitation and Management Project
Detailed Project Description

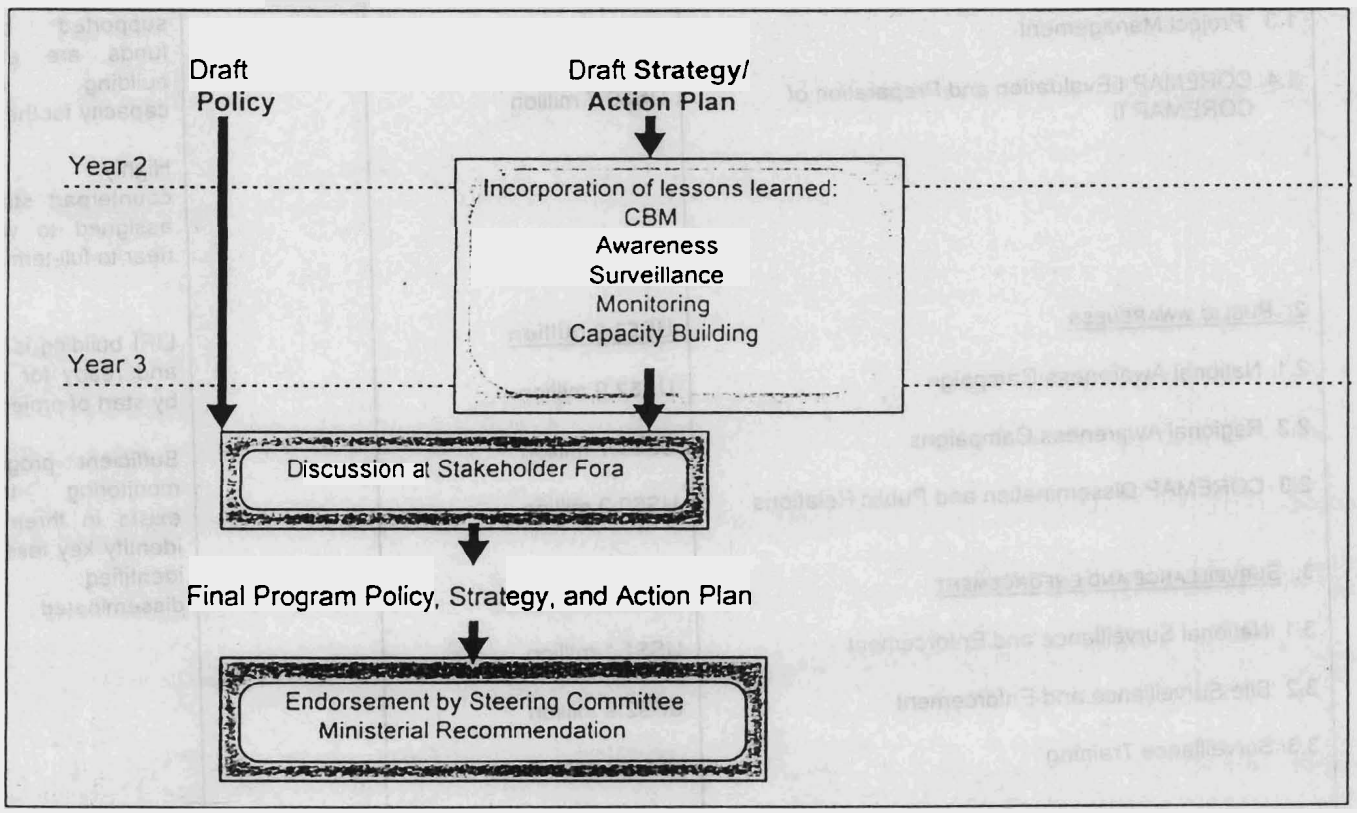
Project Component 1 - Program Strategy and Management (US$3.2 million)

The *Program Strategy and Management Component* would lay the foundation for the future COREMAP program. It would produce (i) the *policy and strategic framework* for the program; (ii) a strengthened *legal framework* for coral reef management in Indonesia; (iii) *project planning, management, and assessment* of lessons learned; and (iv) an *evaluation of COREMAP I and preparation for COREMAP II.*

Sub-Component 1.1: Policy and Strategic Planning for COREMAP Program (US$0.7million)

The project would provide technical assistance and discussion seminars to strengthen the national policy for coral reef management, and finalize the strategy, operational guidelines and action plan for the COREMAP program. This consolidated program strategy would be discussed with key stakeholders during its development, including government, non-government and private sector representatives. The final strategy would be presented to the COREMAP Steering Committee for approval during the third year of implementation and would receive a Ministerial recommendation from BAPPENAS:

Fig. 1: COREMAP Program Strategy Development During Phase I



The key elements of the COREMAP program strategy would include:

- An updated ***national policy for coral reef protection and its sustainable use***, specifying the rationale for the policy, general policy statements and measures to be adopted, and implications for future national development. The policy would help consolidate and update key aspects of LH's 1992 *National Coral Reef Strategy*, as well as the *1996 Indonesia's Marine Environmental Policy*.

- A ***national COREMAP program strategy***, including guidelines for program support. The strategy would clearly specify the (i) the national commitment to the program, (ii) its goal and objectives, (iii) the operational and institutional framework, (iv) criteria for site selection and prioritization, (v) criteria for stakeholder involvement, (vi) and operational guidelines for program implementation. Strategy development would be *iterative*, building upon lessons of experience from the Initiation Phase. The strategy would also strengthen the program's site selection in accordance with emerging information on the status of coral reefs in Indonesia.

- ***Short-term (5 years) and long-term (25 years) action plan*** for the COREMAP program clearly specifying priority objectives, actions, geographical focus, and expected performance benchmarks.

Responsibility: PMO Director and DKN Deputy Director, with the assistance of TA Team Leader.

Sub-Component 1.2: Legal Framework for Coral Reef Management (US$0.3 million)

The legal framework sub-component would produce academic legal drafts to improve and clarify key regulations affecting reef management in Indonesia. The project would supply technical assistance, studies and workshops in support of the following activities:

- ***Strengthened legal framework for community-based management and marine protected areas.*** This would include (i) provision of assistance to the Maluku regional government in preparing and evaluating draft regional regulations (*Perda*) on coral reefs, particularly on customary user rights (*sasi*); (ii) assisting the district governments at project sites in issuing Letters of Endorsement (*Surat Keputusan Bupati or Perda)* to community-based reef management plans; and (iii) drafting and discussing the legal, managerial responsibilities and fiscal framework for a conservation management authority for Taka Bone Rate. The development of this framework would be expected to benefit from the planned decentralization of coastal management to the provinces.

- ***Review and rationalization of key legislation*** affecting coral reefs. This would be done through both proposed new legislation, as well as interpretation of existing laws. The review would focus on legal measures to curb poison and explosives fishing, namely by drafting regulations prohibiting the *transportation* and use of explosives or poisonous substances aboard vessels, as well as the *possession* of illegally caught fish (currently only the *use* of these substances in fishing is prohibited, and cyanide is allowed on-board to tranquilize fish. This effectively prevents the introduction of poison testing in Indonesia at current times). Other regulations in support of the enforcement component, such as a possible ban on scuba or hookah gear in protected areas, could also be considered. The review would also help harmonize the definitions and contents of key laws (e.g. *National Fisheries Law No. 9, 1985* and *Conservation Law of Ministry of Forestry No. 5, 1990*) to provide for their consistent interpretation. Finally, the review would investigate how existing laws (e.g. *Law No. 5 of 1960* on *Basic Provisions for Agrarian Law, Law No. 5 1990 on National Resources Conservation of Flora and Fauna, Law No. 24, 1992 on Spatial Planning, Law No. 5, 1996 on Indonesian Territorial Waters,* and *Law No. 23, 1997 on Environmental Management)* could best be used in support of coral reef management.

- ***Legal Studies.*** The project would investigate the type of evidence admissible in court to prove damage to coral reef ecosystems, and translate it into guidelines for collection of evidence to be used as a basis for surveillance training. Additional legal studies, in particular a study on the legal aspects of conflict resolution, could also be financed if found necessary for the legal framework development.

Responsibility: The legal framework would be the responsibility of the PMO Deputy Director and LH/BAPEDAL staff seconded to the PMO, assisted by a long-term legal consultant. The key output would be a matrix of proposed draft legal revisions, which would be submitted to the relevant institutions for enactment. Guidelines for *Surat Keputusan, Perda,* clarification of existing legislation, and collection of evidence would be disseminated through the public awareness component, and their key elements incorporated into the COREMAP program guidelines.

Sub-Component 1.3: Project Management (US$1.5 million)

The project would fund office equipment, workshops, meeting costs, incremental staff, travel costs, study tours, and general operation and maintenance for the central Project Management Office and regional project units. Under this sub-component, the PMO would (i) assign and mobilize key counterpart staff; (ii) manage all procurement contracts; (iii) conduct the project launch, and project planning, review, and evaluation workshops; (iv) prepare project accounts and reports; (v) conduct workshops for field facilitators and regional project staff; (vi) conduct study tours; and (vi) coordinate all project activities. The PMO would also ensure the dissemination of emerging lessons of experience across COREMAP sites.

Capacity building and institutional strengthening is expected to be funded separately by AusAID. The project would, however, include a small budget for training and cross visits at the provincial level. In South Sulawesi, this would include pilot adult and primary school programs aimed at highly mobile fishing communities in the Spermonde and Sinjai island groups, as well as training directly related to site support. The proposed training in Maluku involves primarily site support and cross visits. With the exception of major workshops, project management activities would be financed by counterpart funds.

Sub-Component 1.4: Evaluation of COREMAP I and Preparation for COREMAP II (US$0.7 million)

Independent COREMAP I evaluation: In addition to routine evaluations, the project would commission, six months prior to completion, an independent evaluation for COREMAP I. The evaluation would assess progress in achieving the benchmark indicators for the Initiation Phase, and recommend future program adjustments. It would be carried out by a panel of highly qualified experts, of which half would be nominated by GOI (and approved by the Bank), and half by the World Bank Environmental Sector Board (approved by GOI). The panel would be managed by the World Conservation Union (IUCN). The expert panel would discuss their findings with the COREMAP Secretariat prior to the conclusion of the evaluation. Their unedited opinion, together with GOI's own evaluation, would be submitted to the World Bank within 30 days of the mission, and would be incorporated into the Implementation Completion Report. The terms of reference for the independent panel will be defined with GOI at mid-term review.

Preparation for COREMAP II: The project would allocate incremental technical assistance to complete the design of COREMAP II and prepare a draft a Project Implementation Plan in accordance with GOI, World Bank and GEF requirements. Subject to a satisfactory evaluation of Phase I, the World Bank and GEF would support the management of priority coral reef sites in South Sulawesi, Southeast Sulawesi, Maluku and Irian Jaya during COREMAP II (see Annex 14). Detailed ecological and social assessments for these sites would be carried out by the Coral Reef Information and Training Centers (CRITCs) under separate ADB financing.

Project Component 2 - Public Awareness (US$3.9 million)

The main purpose of this component would be to raise stakeholders' awareness, and target key factors constraining successful management of coral reefs in Indonesia. The project would provide services, workshops, publications, awareness materials, research, and awards in support of (i) a *national multi-media awareness* campaign; (ii) *regional campaigns* in COREMAP I pilot provinces; and (iii) *public relations and dissemination* of program guidelines. The component's focus would be on educating the public on the nature of coral reef threats, fostering public stewardship towards Indonesia's reefs, and changing destructive behavior. *The overall principle would be to have a single national COREMAP awareness strategy, with a consistent message across all COREMAP provinces and sites.* Target audiences would include reef users (primary), development planners, decision makers, local leaders, NGOs and school children (see Table 1).

Responsibilities: National and regional campaigns would be carried out by a highly qualified public relations media firm familiar with the Indonesian setting, under contract to the PMO. The firm would enlist the support of NGOs and local groups and help build their capacity in regional campaign implementation.

The PMO, assisted by a seconded staff from the Directorate General of Tourism, would be responsible for dissemination and public relations. A limited number of awareness activities are expected to be implemented by the provincial project units, in collaboration with LSMs (see Table below).

Target Audiences for Public Awareness Campaigns:

Scope	Audiences	Type P-Primary S-Secondary	Behaviors Targeted
National	Ministry of Environment DG Fisheries Trade and Industry representatives PHPA Enforcement and Judiciary Authorities NGOs Indonesian Coordinating Body for ASEAN	S	Unclear national policies Weak fisheries regulatory and incentive framework Lack of commitment to enforcement No national recognition of traditional tenure Illegal use of cyanide and encouragement of regional trade
Regional	COREMAP Project Staff (for program guidelines dissemination) Local Fishers (including women) Middlemen/Traders Foreign Fishing Boat Owners Traditional Leaders (Kewangs)	P	Unclear understanding of program strategy Unsustainable/illegal fishing practices Encouragement of illegal trade Cyanide, large scale explosives, overfishing Disempowerment
	NGOs Religious Institutions Government Agencies School Children Enforcement Authorities	S	Limited knowledge of coral reef management Vehicle for behavioral change Weak enforcement commitment

Component 2.1 National Awareness Campaign (US$2.9 million)

The National Awareness Campaign would be implemented through mass media such as television, radio, and newspapers. It would also develop multi-media awareness materials for the COREMAP program. Project activities are expected to include:

Television:

- 10 short feature COREMAP programs for stations such as Seputar Indonesia.
- A 20 minute informational video on COREMAP.
- Commercial production of a 30 second TV spot on Indonesia's coral reefs, to be aired on national TV. and acquisition of airtime in local TVRI programming in the 10 COREMAP program provinces.

Other Media

- Bi-lingual Worldwide Web page providing regular information on the COREMAP program.
- A COREMAP newsletter bulletin.
- Target radio programs.
- Development of simple COREMAP program guidelines for local governments and communities.
- A popular coral reef program targeting children;
- Collaborative program targeting industries with impacts on reefs, designed through a series of seminars with chamber of commerce and industrial associations.
- An illustrated guide for coral reef ecosystems (published in Bahasa Indonesia).
- Underwater coral and reef fish identification plates for recreational divers and snorkelers.
- COREMAP promotional T-shirts, to be distributed at special events.
- CD-Rom learning support and multi-media presentations on Indonesia's coral reefs.
- Development of miscellaneous visual materials, involving local writers, producers and artists.

Training and Seminars

- A national campaign conference to promote the COREMAP program throughout Indonesia, targeted at key national and local stakeholders.
- Visual materials development training, focusing particularly on local and national NGOs.
- Training and site visits for journalists and media reporters.

An independent social marketing research survey would be commissioned to evaluate the results of the campaign, prior to and after its implementation. The results would be used by the PR firm to optimize the use of the various media during the campaign.

Component 2.2: Regional Awareness Campaigns (US$0.7 million)

Regional Awareness Campaigns would be implemented in the four pilot COREMAP I provinces (South Sulawesi, Maluku, Riau and East Nusa Tenggara)[4]. Activities to be supported would include:

- Children competition for COREMAP logo design.
- Billboards promoting coral reef conservation.
- Radio production, spots and programs in local stations.
- A local information campaign on coral reef regulations and fines associated with reef damage.
- Flipcharts targeted at key stakeholders showing the impact of destructive practices on reefs
- Design and printing of local COREMAP program leaflets
- Banters and buntings associated with special events.
- Education materials for local schools.
- Awards for local schools preparing the best display/poster on coral reef conservation.

The following activities would be implemented by the South Sulawesi and Maluku provincial project units under separate counterpart financing:

South Sulawesi	Maluku
• Koranic text on environmental conservation, disseminated through radio • Portable information kiosks on COREMAP • Local TVRI slot on coral reef conservation • Awards to community leaders • Local posters, calendars, T-shirts, bulletins and brochures • Annual seminars	• Local materials -- including posters and slides for local cinema • School competitions • Local TV and radio spots • Awards to community leaders • Local leaders' workshops • Training and briefing for local journalists

Sub-Component 2.3: Public Relations and Dissemination (US$0.3 million)

The sub-component would fund:

- *COREMAP program dissemination* including distribution of COREMAP program guidelines to all ten program provinces, study tours, and regular updating (3 times a year) of the COREMAP's newsletter and Web site. The PR firm would also ensure that awareness materials would be made available to NGOs, schools and other education institutions.

[4] Even though Riau and NTT are expected to be funded by ADB and AusAID under parallel projects, it was considered important to have a consistent public awareness campaign across the four provinces.

- ***Public relations***, including national workshops and lobbying of decision makers, production of press briefs, press conferences, and awareness material distribution at public events.

- ***Public awards,*** including a national Reef Watchers' day, national competition for best managed COREMAP site, writing contests and awards to journalists, and development of other competitive awards rewarding outstanding performance in reef conservation.

Project Component 3 - Surveillance and Enforcement (US$4.2 million)

The purpose of this component would be to curb destructive practices on coral reefs. The project would fund specialized technical assistance, surveillance equipment, judicial seminars, studies, surveillance operations, planning workshops, and incremental staff costs in support of (i) *a national surveillance and enforcement (S&E) unit*; (ii) *S&E operations at target project sites*; and (iii) *surveillance training.*

Destructive fishing practices -- primarily explosives and poison -- originate from two sources: (i) well organized, powerful fishing cartels; and (ii) resident and transient fishers. The first source includes foreign vessels fishing illegally in Indonesia as well as highly mobile domestic vessels, frequently targeting remote reefs. The second, small-scale group often recognizes their impact on traditional fishing grounds, but is driven to destructive practices by economic necessity and by increasing resource scarcity (Malthusian overfishing). The project would develop distinct strategies to deal with these groups:

Large-scale pressures: The proposed strategy involves a combination of *legislative reform*, and *full deterrent enforcement.* First, the project would help draft legislation shifting the burden of proof from fishers to middlemen encouraging illegal practices (see Sub-Component 1.2). Second, the project would support a study on poison testing and certification followed, if sufficient progress is achieved on the legal front, by a pilot certification scheme. Finally, the project would strengthen the capacity and transparency of deterrent enforcement by piloting a *rapid response* system, encouraging *joint patrols* between local government and enforcement agencies, and developing *checks and balances* in violations' recording.

- ***Small-scale, resident pressures:*** The proposed strategy involves a combination of awareness, community-based management, and alternative income generation. The project would stress preventive enforcement, through a village *Reef Watch* program linked to promotion of community stewardship towards the reefs.

Responsibilities: The PMO Director would have overall responsibility for the component. The Directorate General of Fisheries (DGF) would be the component's implementing agency. DGF would establish a national unit to operate a coral reef enforcement and surveillance system (*National Coral Reef S&E Unit*), working in close collaboration with the Ministry of Environment (LH) and DKN, for policy coordination, and the Navy, Police and Department of Sea Communications, for enforcement operations. At the site level, *Provincial Coral Reef S&E Units* would be coordinated by the Provincial Fisheries Agencies (Dinas Perikanan), under guidance from and reporting to the COREMAP Steering Committee. Joint patrols would be organized by Dinas Perikanan with the local conservation unit (SBKSDA) and enforcement authorities (KAMLA). The units would also be responsible for the Reef Watch program at the site level, in close collaboration with the community support group assisting the CBM component.

Sub-Component 3.1: National Surveillance and Enforcement Component (US$1.1 million)

This sub-component would include the following activities:

- ***Development of an operational manual for field surveillance and enforcement operations,*** including detailed standards for patrolling, reporting, recording, monitoring and evaluation, equipment specification, and staffing. The guidelines would be adjusted at the end of COREMAP I based on lessons of experience from the field pilots, and included in the final COREMAP program guidelines.

- ***Procurement and distribution of surveillance equipment.*** Based on the pilot site requirements, the technical assistance would help the PMO procure and distribute surveillance equipment to the

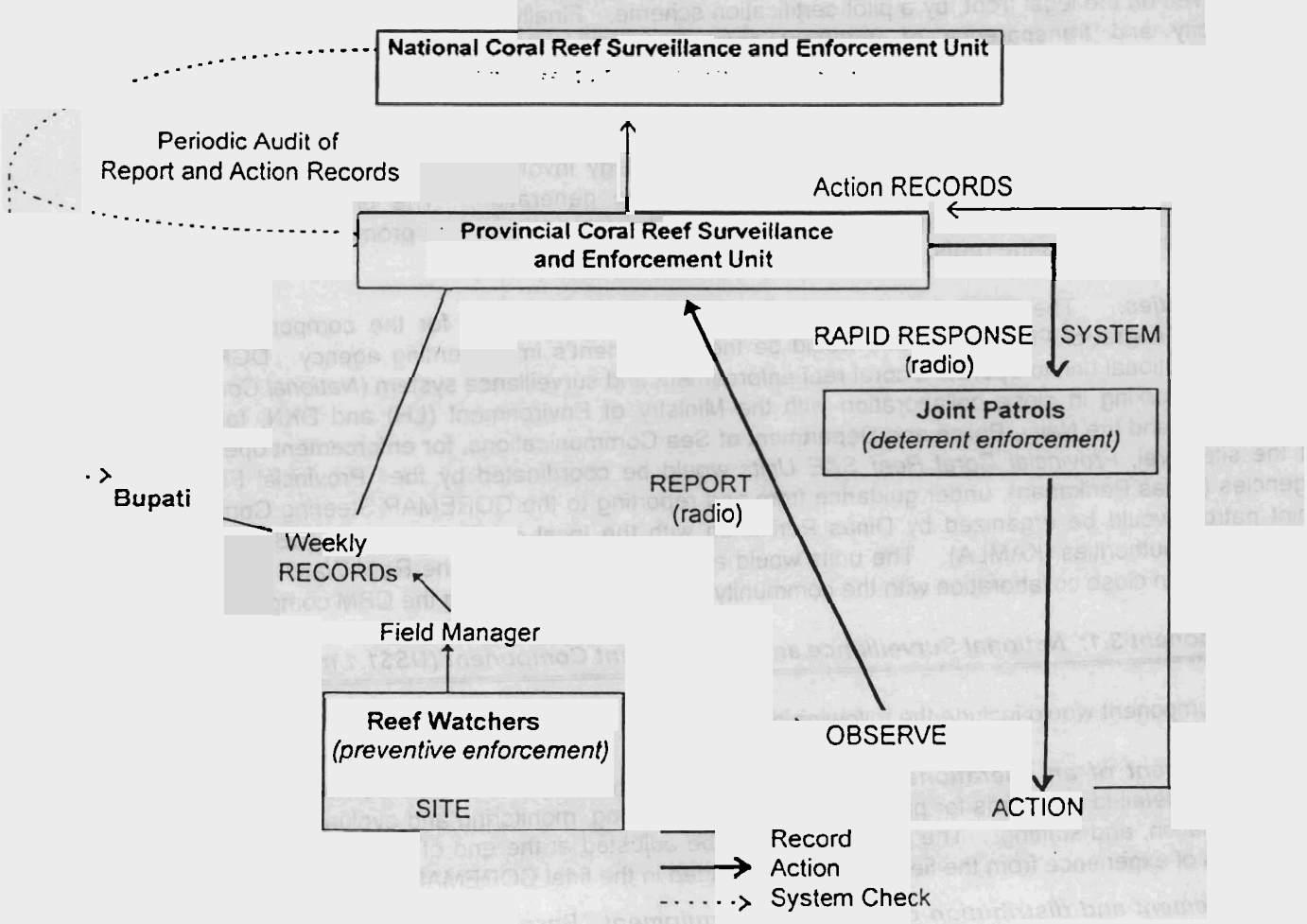
S&E units (see sub-component 3.2). Patrol vessel specifications would vary from site to site, depending on the capability of commercial vessels and sea conditions. Communication equipment would be standardized across all S&E units. The project would also include a small allocation (US$80,000) for piloting new surveillance equipment, such as underwater recorders for blast fishing.

- ***Establishment of a National Coral Reef S&E Unit,*** to operate a surveillance and enforcement system for the project. The unit would be responsible for data information collection, analysis, interpretation and dissemination; support to field units; and monitoring and evaluation of field activities. The unit would be closely linked to DGF's MCS system, developed under the ADB *Coastal Community Development and Fisheries Management Project.*
- ***Special Seminars.*** The project would support annual meetings of judges, policy makers, prosecutors and senior enforcement officials. The seminars would discuss issues of concern, actions to be taken, and lessons learned in curbing destructive activities in coral reefs.
- ***Poison Testing Study.*** This study would develop an action plan to introduce poison testing in Indonesia. Provided legislation is enacted outlawing the use of cyanide in tranquilization, the project could initiate a pilot test and certification scheme in Taka Bone Rate. Full-scale testing and certification could be considered during COREMAP II.

Sub-Component 3.2: Site Surveillance and Enforcement (US$2.9 million)

The site surveillance and enforcement sub-component would be implemented in Taka Bone Rate, Lease Islands, and Padaido Islands (Irian Jaya). **Site surveillance would rely on a combination of deterrent** and preventive approaches (Fig. 2):

Fig. 2: Proposed Site Surveillance Strategy



The project would establish a Coral Reef S&E Unit at the provincial level responsible for patrol scheduling, operation and reporting. The unit would operate joint patrols between Dinas Perikanan, SBKSDA and KAMLA agencies. At the field level, groups of community Reef Watchers equipped with hand-held radios would monitor reef activities and report any violations to the S&E unit. The unit's radios would be tuned at all times to the Reef Watchers' frequency, and rapid response patrols would be deployed if full enforcement action was found warranted. Upon completion of their patrols, the Reef Watchers and patrol units would fill in activity sheets, which would be assembled independently into weekly observation and action records. Copies of the records would be sent to both the Provincial S&E unit and the Bupati's office. The records would be audited yearly by the National S&E Unit to determine the effectiveness of the actions taken in response to violation reports. The results would be used as an input to the incentives and rewards program designed by the public awareness component (see Fig. 2).

Reef Watchers would be selected based on the following criteria: (a) they should be members of and selected by the local communities; (b) they should have good verbal and written communication skills; and (c) they should have good knowledge of the local reef system and reef practices. Consideration would be given to engaging former explosives and poison fishers who have earned the respect of their communities. The Reef Watchers would report to the S&E Unit and receive an honorarium of Rp. 20,000 per day of patrol. Reef Watcher stations would be positioned strategically along the coast, and be equipped with radio communications and minor field equipment (e.g. binoculars and cameras). The Reef Watchers would not carry out arrests due to concerns about personal repercussions, but confine their duties to observation, recording and reporting.

Taka Bone Rate National Park: Due to the remoteness of the park (15-18 hours from Ujung Pandang), and level of external threats (75-80 percent of the fishing effort), the project would support a full deterrent and preventive surveillance strategy aimed at controlling the park's four access gateways (Rajuni Kecil; Tarupa, Jinatu, and Pasitalu). A total of eight Reef Watcher stations would be established, one in each of the inhabited islands, supplied with HF/VHF bases and hand held VHF radios. Four patrol boats with outboard, twin, 60 horsepower engines would be stationed at the park's entry gates, supported by a 65-70 feet transport vessel with a range of 500 nautical miles and three days of sea-keeping capacity. Miscellaneous equipment for patrol and Reef Watcher stations (including global positioning systems, vessel safety equipment, loud hailers, signal flares, binoculars and cameras) would also be provided. The ground patrols would need to be supported by an estimated 10 hours/week air surveillance, which would be leased locally from Navy NOMAD aircraft stationed in Ujung Pandang (funded by GOI). Depending on the progress of field operations, the project could also help support a vessel registration system in the park. Vessels under 5 gross tons (GRT) would be issued a free license and fishers' permit. Vessels of 5-10 20 GRT with a history of fishing in the park, would operate under a traditional fishers permit and a paid license. Vessels above 20 GRT, which are not permitted to enter or fish in the park, would be the main target of park surveillance efforts. The following aspects, however, will require close attention during the development of a surveillance system for the park: (i) clarification of the rules of entry into the park, which remain unclear under the current park management plan; (ii) a fuller understanding of use patterns within the park, including interactions between external and internal fishers; and (iii) effective conflict resolution, following a framework similar to that of Annex 12.3.

Lease Islands: The Lease Islands site (Saparua and Nusa Laut islands) has strong traditions of marine customary management. The project strategy for this site would focus on preventive enforcement (Reef Watch System), which could be expanded during COREMAP II to a deterrent approach if found warranted. The project would provide communication equipment (HF/VHF base radios, VHF hand-held radios, motorcycles) and minor field equipment to nine Reef Watcher stations located strategically around the two islands, and help expand the incipient Nusa Laut coast watch system to Saparua. In order to facilitate follow-up and prepare for COREMAP II, a Provincial Coral Reef S&E Unit would be established at Dinas Perikanan in Ambon.

Irian Jaya (Padaido Islands): Even though site support to Padaido is not expected to be included until COREMAP II, GOI has requested that surveillance for Irian Jaya be introduced to counterbalance an expected shift of mobile threats from South Sulawesi and Maluku. Funding for surveillance operations in this site would be conditioned upon a satisfactory surveillance needs assessment during COREMAP I.

Sub-Component 3.3: Surveillance Training (US$0.2 million)

The project's consultants would assist the PMO in developing and conducting a national training module for S&E operations. The training would first be implemented at the national level, shifting to the provinces during the last two years of implementation. Three training modules are envisaged: Orientation, Reef Watchers Training, and Law Enforcement. The key topics and target audiences are outlined below:

Training Course	Target Groups	Duration	No.	Topics
Orientation	Target gov't officials, NGOs and fishers	2 days	3 national 3/province	Ocean/coastal management; Basic introduction to Surveillance and Enforcement
Reef Watchers	Community, NGOs, and targeted gov't officials	3 days	1 national 1/province	Observation; report writing; patrol scheduling and implementation; peer pressure compliance techniques; public speaking; basic personal protection; radio operation; equipment operation and maintenance.
Law Enforcement	Law enforcement officers	10 days	7 national 3/province	Reef Watchers course Marine laws; evidence gathering and preservation; boarding at sea; inspection techniques; detention and arrest; court and witness preparation; patrol scheduling, implementation and safety; report writing; equipment operation and maintenance.

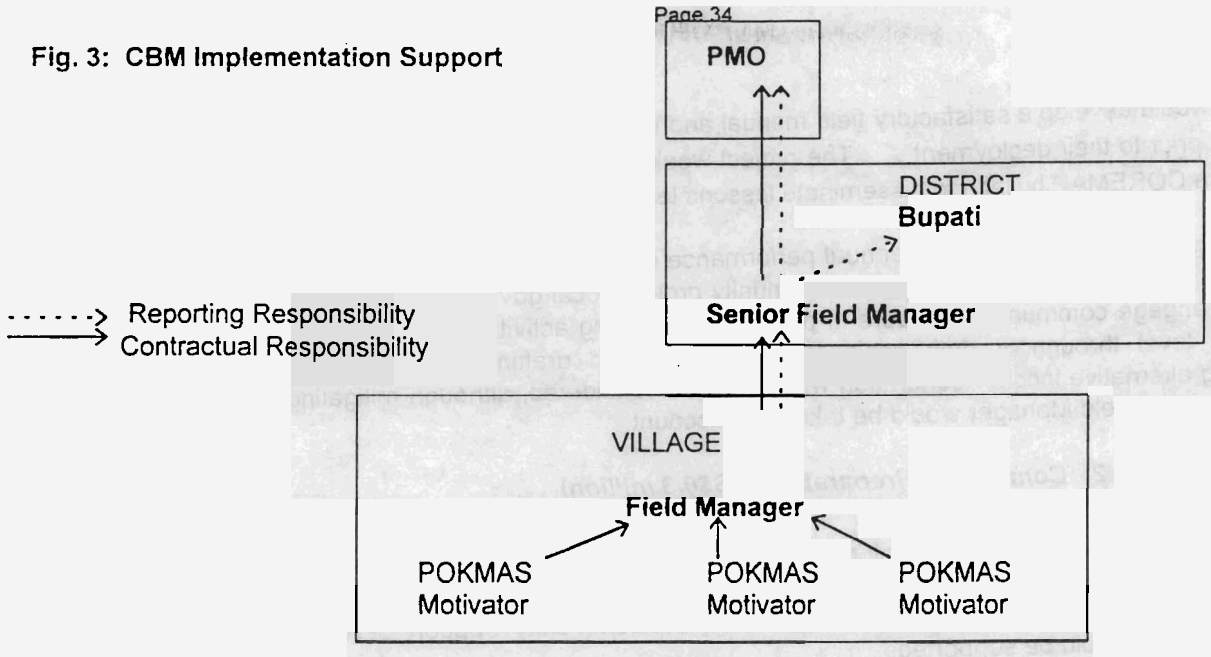
Project Component 4 - Community-Based Management (US$2.2 million)

The *community-based management* (CBM) component would seek to improve the condition of coral reef ecosystems in two pilot sites (Taka Bone Rate and Lease Islands), through *reef management plans designed, implemented and monitored by local communities*. The project would provide technical assistance, community support services (including travel, per diem, remuneration, communications and minor field equipment for field facilitators), training, and village grants to empower communities in this task. Recommended interventions would include reef sanctuaries, restrictions on fishing access, catch or effort, and local activities reducing threats to reefs. The component would be closely linked to the legal framework, to ensure legal backing of reef management plans and traditional user rights. The project would also fund a study in each site on the optimal location of conservation zones and reef sanctuaries.

Of all project components, the CBM component remains the most untested. The few available lessons of experience argue for a focus on process and flexibility, where field activities can be continuously adapted, rather than a rigid design. The project's focus on only two sites and 12 villages is well suited to this approach. Lessons of experience from these pilots will be evaluated at the end of the project, and incorporated into COREMAP program guidelines. The CBM approach proposed below is therefore indicative and subject to adjustments during implementation.

Responsibilities: The CBM component would be facilitated by a highly qualified local LSM or a consortium between a local University and an LSM, operating under a sub-contract to the Technical Assistance (TA) team. This *Community Support Group* would deploy a *Senior Field Manager* at the district level, and *Field Managers* at the village level. The Senior Field Manager would serve as the key link between the PMO and the District Secretariat and supervise the work of Field Managers, who would be stationed at the villages for 2-3 years. They would carry out the initial socialization, assist the communities in preparing the reef management plans, and help the Provincial Coral Reef S&E Units in establishing the Reef Watch program. *Village Motivators* chosen from within the communities would assist Field Managers in strengthening village groups (POKMAS) (Fig. 3). Due to the isolation of the project sites, a ratio of three Motivators and one Field Manager per village is proposed, although it is expected that the Field Managers would operate in groups to maximize technical support. Assistance in specialized fields would be provided by the project's TA.

Fig. 3: CBM Implementation Support



Sub-Component 4.1: Site Support (US$1.4 million)

This sub-component would fund site management TA and community support services. The TA is expected to include a coral reef management specialist assisting both pilot provinces, and short term specialists in micro-enterprise and marine park management (for Taka Bone Rate). Both project sites have on-going LSM and University-supported programs, and to the extent possible, these would continue to be supported under COREMAP. The agreed criteria for selecting the Community Support Groups and their key members are outlined below:

Community Support Group	Senior Field Managers	Field Managers	Village Motivators
• Meets agreed criteria for an established LSM: - Legally established for at least two years, with clear goal, Director, and List of Trustees. - Previous experience managing external funds. - With full-time staff willing to reside at village level. - Not eligible are Government agencies[-], industry, labor, political, military organizations, and Gov't sponsored cooperatives and associations. • Proven experience in community-based coastal resources • Preferably with previous experience in project site[--]. • Acceptable to target communities and endorsed by Bupati	• 5 Years of project management experience • Background in coastal management or CBM • Excellent communication skills • Demonstrated experience facilitating stakeholder fora, including gov't and LSM collaboration).	• Previous experience in CBM coastal programs at the project sites; • Background in coastal management and/or AIG development (minimum qualification Sarjana or 3 years practical experience); • Proven facilitation and communication skills at the village level, and ability to stay on-site for prolonged periods • Acceptable to target communities	• Member of target community; • Highly motivated to organize and strengthen community groups; • Highly motivated to reef conservation; • Respected within the community

- Under contract to, and managed by the community support group.
- Institutions of higher learning or research organizations would be eligible but would be encouraged to associate with a qualified LSM to ensure availability of full-time staff at the village level.
-- - This criteria could be relaxed if the LSM demonstrated exceptional qualifications in comparable sites.

The PMO would develop a satisfactory field manual and training modules for Field Managers and Village Motivators prior to their deployment[5]. The project would organize annual facilitators' workshops, cross visits, and a COREMAP bulletin to disseminate lessons learned (see Components 1.3 and 3.3).

Field Managers would be subject to annual performance reviews, and evaluated based on their ability to (a) develop an active interaction between community groups, local government agencies and the private sector; (b) engage community members in participatory training activities; and (c) willingness to live at the village level throughout their assignment. Success in drafting reef management plans and establishing alternative income generation would also be considered, although mitigating factors outside the control of the Field Manager would be taken into account.

Sub-Component 4.2: Community Preparation (US$0.3 million)

This sub-component would fund initial community socialization (village workshops, group formation, training, village awareness, and participatory mapping), leading to the development of CBM plans. The budget for this sub-component would be included in the Community Support Service contracts. The following activities would be supported:

- ***Social Preparation***, including (a) *problem assessment, consultation and awareness raising*; (b) *community training* on coral reef management planning, conservation awareness, micro-enterprise needs analysis, and basic technical and management skills (including book-keeping); and (c) *group strengthening*. The latter would include strengthening village groups in three key areas: Conservation (coastal habitat protection), Production (income generation through micro-enterprise development linked to reef management) and Women's' groups. In the Lease Island site, the project would also help strengthen inter-village traditional councils (*Latupati*) to resolve village disputes and develop island-wide management plans.

- ***Formulation of Coral Reef Management Plans.*** Draft reef management plans would be developed by the communities in close consultation with specialist TA and the Coral Reef Information and Training Centers (CRITC) which would provide technical and scientific back-up. Indicative guidelines for reef management plans and reef sanctuaries are given below:

Guidelines for Information to be Included in Draft Reef Management Plans:

- ◊ Key *problems, and strategy proposed;*
- ◊ Community *mapping;*
- ◊ *User rights*;
- ◊ **Map of proposed *management units*** (e.g. sanctuaries);
- ◊ Proposed *management rules and sanctions;*
- ◊ *Local institutions* responsible for the management plan;
- ◊ *Informal monitoring* proposed;
- ◊ **Description of local *Reef Watch*** system;
- ◊ Conflict resolution mechanism proposed (if applicable)
- ◊ Estimated funding and community contribution

Note: The Plan must be endorsed by village authorities

Technical Guidelines for Reef Sanctuaries

Sanctuaries should be strict no-take zones (no extraction of marine products at any time);
Recommended size: 20-30% of the total reef area;

- ◊ Sanctuaries should protect spawning aggregation sites for target species;
- ◊ Areas surrounding sanctuaries should be restricted for the use of traditional communities.

The project would in principle not fund artificial rehabilitation schemes, such as artificial reefs. Transplantation and restocking schemes would only be considered after the establishment of effective management rules.

[5] This training is expected to be funded separately by AusAID for all pilot COREMAP I sites.

- ***Facilitating the Development of Alternative Income Generation (AIGs) Activities.*** AIG activities would be aimed at *reducing pressure on reef resources.* Two types of AIGs would be considered (a) those providing communities with a direct stake in sustainable reef management; and (b) substitution AIGs, to replace destructive or over-fishing practices on reefs. To the maximum extent possible, the Field Managers would help establish partnerships between communities and private sector, to facilitate marketing and ensure AIG sustainability. The feasibility of potential AIGs would be assessed by the Production village group, assisted by the field manager, TA, and relevant district agencies. The criteria for AIGs supported by the project is outlined below.

Criteria for AIGs:

- Be financially feasible (18% minimum rate of return)
- Involve low risk
- Have proven technology
- Involve low capital and operational costs
- Have developed markets
- Must be 'reef friendly', i.e. lead to reduction in pressures to reefs
- No significant environmental impact.

Unproved technologies (such as grouper grow-out dependent on wild fingerlings), fishing boats, and gear (except as required for substitution of destructive fishing practices) would not be supported by the project, due to high risks and poor sustainability. AIGs which might have environmental impact would be evaluated against the sites' carrying capacity and any mitigation measures proposed. Examples of AIGs which could be supported by the project include user pay schemes with diving groups and promotion of diving tourism, eco-tourism based services, replacement of poison and blast fishing by sustainable gear (e.g. hook and line), fish processing, and mariculture of native mollusks and seaweed where local marketing is ensured. Field Managers would have a discretionary budget of US$5,000 to support AIGs requiring rapid implementation. The project would also provide training to potential AIG beneficiaries in basic technical and financial management. Finally, the sub-component would provide information on existing credit mechanisms, or (if no such credit is available) train community members in establishment of savings and credit schemes. These are expected to be informal, and not result in official cooperatives.

Sub-Component 4.3: Site Management (US$0.5 million)

Once coral reef management plans and AIGs are identified, the communities would become eligible to receive block grants from the project. The grants would average US$35,000 equivalent per village in Taka Bone Rate and US$25,000 equivalent per village in the Lease Islands site. They would be provided in cash to the village's LKMD, following certification of eligibility criteria by the Senior Field Manager and verification by the PMO. Eligibility for the grants would be tied to the communities achieving the following milestones:

- **A Draft Coral Reef Management Plan,** formulated and adopted by the communities according to project criteria: 30 percent of the funds.
- Formulation of an **AIG plan** meeting project criteria: 30 percent of the funds.
- Initial **success in implementing the Management Plan**, where informal monitoring indicates that management rules are being adhered to by the community, releasing the remaining of the grant.

The Block Grant could be utilized for the following:

- Incremental costs associated with implementation and monitoring of coral reef management plans.
- Establishment of a local saving and credit scheme where alternative credit is unavailable[6]. The maximum grant contribution would be 50 percent, against an equal amount in community savings.
- A maximum of 1:1 matching grants against loans approved under a village credit scheme or against villagers' contributions, for AIGs meeting project criteria.

[6] Support to savings' schemes could only be reimbursed by the Bank if used to fund productive activities.

- Grants for 'reef friendly infrastructure', including (i) approved infrastructure or equipment to implement reef management plans (e.g. mooring buoys); (ii) infrastructure relieving pressure on reefs; or (iii) infrastructure required in support of AIGs.

Disbursement of village grants would follow the guidelines developed prior to project negotiations, which could be adjusted periodically during implementation in accordance with lessons of experience from the field. The transfer of funds for village grants would be certified at the district level by the Senior Field Managers and at the village level by the Field Managers.

In addition to CBM, the project would support a park zonation study for Taka Bone Rate. The study would be implemented by the CRITC at Hasanuddin University in collaboration with the park's conservation authorities, and would optimize the location of conservation areas (*Zona Inti*) and reef sanctuaries, in light of the most recent information on breeding grounds, species habitats, and coral distribution patterns. The project would also support a small reef sanctuary zoning study in the Lease Islands site, under contract to the CRITC in Ambon.

The following aspects would be closely monitored during CBM implementation, to enable periodic adjustments to project design:

(i) the effectiveness of the selected AIGs and village grants in changing the behaviors of villagers involved in reef exploitation;

(ii) compatibility between the total fishing effort of resident fishers with reef management goals;

(iii) fishing effort shifts to non managed areas;

(iv) user conflicts; and

(v) the extent to which user rights of local communities are being protected.

Annex 3
Indonesia: First Coral Reef Rehabilitation and Management Project
Estimated Project Costs

Project Component	Local	Foreign	Total
	← US $ million →		
1. Program Strategy and Management	*1.8*	*1.1*	*2.9*
1.1 National Program Strategy	0.2	0.5	0.7
1.2 Legal Framework	0.2	0.0	0.2
1.3 Project Management	1.4	0.1	1.4
1.4 COREMAP I Evaluation and Preparation for COREMAP II	0.1	0.5	0.7
2. Public Awareness	*2.6*	*1.0*	*3.6*
2.1 National Awareness Campaign	1.8	0.9	2.7
2.2 Regional Awareness Campaigns	0.6	0.1	0.7
2.3 Public Relations and Dissemination	0.2	0.0	0.3
3. Surveillance and Enforcement	*1.5*	*2.4*	*3.9*
3.1 National Surveillance and Enforcement	0.5	0.5	1.0
3.2 Regional Surveillance and Enforcement	0.8	1.9	2.7
3.3 Surveillance Training	0.2	0.0	0.2
4. Community-Based Management	*1.4*	*0.6*	*2.0*
4.1 Site Support	0.6	0.6	1.3
4.2 Community Preparation	0.3	0.0	0.3
4.3 Site Management	0.5	0.0	0.5
Total Baseline Costs	*7.3*	*5.2*	*12.4*
Physical Contingencies	0.4	0.3	0.6
Price Contingencies	0.3	0.2	0.5
Total Project Cost	*7.9*	*5.7*	*13.6*

Note: Totals may not add up due to rounding.

Annex 4
Indonesia: First Coral Reef Rehabilitation and Management Project
Economic Analysis

Annex 4.1: Cost Benefit Analysis Summary

A. General As part of Project preparation, a detailed economic analysis of coral reef degradation in Indonesia was carried out[7]. The summary, given in the table below, highlights the trade-offs between short-term financial gains to individuals doing destructive activities, and the social costs they impose on society. The table clearly shows the devastating economic consequences of a 'policy of inaction'. For none of the threats do the short term financial gains to individuals approach the longer term costs to society. For example, coral mining is estimated to yield net benefits to individuals of US$ 121,000 per km^2 of reef in net present value terms versus total quantifiable costs to society ranging from US$180,000 to US$900,000/km^2 of reef. These costs are attributed to a foregone net fisheries income equivalent to US$94,000/ km^2, loss of coastal protection functions, valued at US$12,000 to US$260,000, foregone tourism net revenues of US$3,000 to 480,000 and forest damage due to collection of fire wood for lime processing of US$ 67,000/ km^2. The ranges in economic losses for coastal protection and tourism are attributed to variations in land use and tourism potential. These costs refer to quantifiable benefits only. Other ecosystem function losses related to intrinsic biodiversity, coral spawning sources, and option values have not been monetized.

Total Net Benefits and Losses Resulting from Coral Reef Threats in Indonesia
(present value, 10% discount rate, 25 year time-span, in US$'000 per square kilometer of reef):

Threats	Net Benefits to Individuals	Net Losses to Society				Total Net Losses
		Fishery	Coastal Protection	Tourism	Others	
Poison Fishing	33	40	0	3-346	n.q.	43-476
Blast Fishing	15	86	9-193	3-482	n.q.	98-761
Coral Mining	121	94	12-260	3-482	> 67*	176-903
Sedimentation (logging)	98	81	--	192	n.q.	273
Overfishing	39	109	--	n.q.	n.q.	109

n.q. -- Non quantifiable * - Forest damage due to collection of wood for lime processing.

B. Taka Bone Rate (South Sulawesi) The following assumptions were made for the economic analysis. The total area of Taka Bone Rate (TBR) is around 2,200 km^2 , although the actual park area is only 530 km^2 . The reef area up to 25 meter depth - the basis for the calculations - is estimated at around **500 km^2** . The actual coast line area of the atoll is unknown. However, only 7 islands are inhabited. The total coastline of these 7 islands is estimated at around **25 km**. The coastline is **100% rural** with limited village infrastructure and agricultural area (palm trees). Coral cover and coral mortality are reported for different sites in TBR by LIPI, World Wildlife Fund, among others. Blasting and other destructive fishing techniques have resulted in major damage. Coral destruction, as defined by the mortality index, is currently at around **60%**, as confirmed by LIPI officials, with live coral cover ranging from **poor to fair**.

The current fishing effort in TBR is not exactly known. Around 70% of fishing pressure is from outside the Park while some people from TBR actually fish outside the Park area (Flores). There is a *de facto* **open access** situation. However, due to the distance to the main market (15-18 hours to Ujung Pandang), and low population density in the Park (around 4,200 people), catches are higher than average. Still, present **resource rents** are assumed to be zero, except for destructive fishing. The current maximum sustainable yield (MSY) and open access equilibrium are estimated at **6 and 3 mt/km^2/yr** respectively.

Due to lack of fresh water, the local population does not have ice to preserve fish and hence dry the fish or use it for home consumption. Grouper are an exception: they are either caught by hook-and-line (e.g. in

7 See Cesar (1996) "Economic Valuation of Indonesian Coral Reefs" , for the detailed assumptions used.

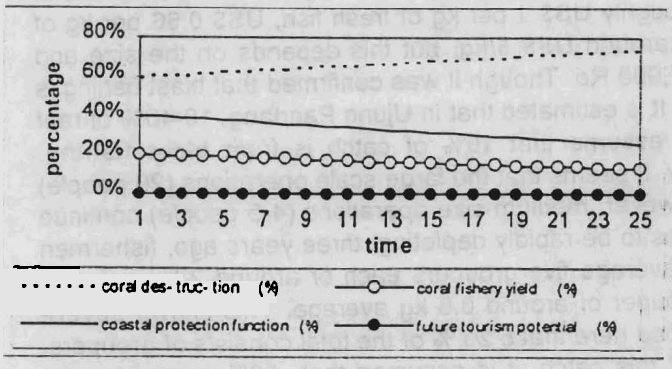
Rajuni Kecil), or by traps and/or cyanide (done by outsiders and some locals), and kept alive in floating cages. The larger scale external operations (e.g. blast fishing, etc.) use ice to bring fish to the markets in Ujung Pandang, Salayar and elsewhere. Prices are roughly **US$ 1** per kg of fresh fish, **US$ 0.66** per kg of blasted fish, **US$ 0.40** for dried fish. Groupers fetch around **US$ 5/kg**, but this depends on the size and species, with top of the line, the Sunu 'super' worth 17,000 Rp. Though it was confirmed that blast fishing is practiced in TBR, the extent of this practice is unclear. It is estimated that in Ujung Pandang, 10-40% of reef fish landings originate from blast fishing. Here, we assume that **10%** of catch is from **blast fishing**. Accounts of cyanide use for groupers vary enormously. It seems that the large scale operations (20 people) are increasingly moving to Maluku and Irian Jaya. However, medium-size operations (4-5 people) continue to operate in TBR. The stock of groupers in TBR seems to be rapidly depleting: three years ago, fishermen in Rajuni Kecil, using hook-and-line, would catch on average five groupers each or around 2 kg per day. Current catch rates in 'good' fishing days are one grouper of around 0.6 kg average. This shows **severe over-exploitation** of the top reef predators. It is assumed here that 6 2/3 % of the total consists of groupers, though this has not been confirmed by TBR data. Of this catch, it is assumed that **90%** is caught with cyanide.

Coastal erosion, probably due to past coral destruction, is widespread in TBR. In Rajuni Kecil, around 10 meters of coastline (or one row of houses) has been lost to the sea over the last 20 years. Assumptions on the relationship between coral destruction and coastal erosion are: (i) extensive damage leads to a **50 cm** destruction per year; (ii) 1% loss in coral destruction leads to 1% coastal erosion without a threshold. Due to the absence of fresh water, pristine reefs, and few non-reef related tourism attractions in TBR, it is assumed that the tourism potential of the Park is **low**. In Rajuni Kecil, there is one *losmen*, but it is only used occasionally. Though tourism will probably never be a large source of alternative income generation, it is currently at close to **zero %** of its potential.

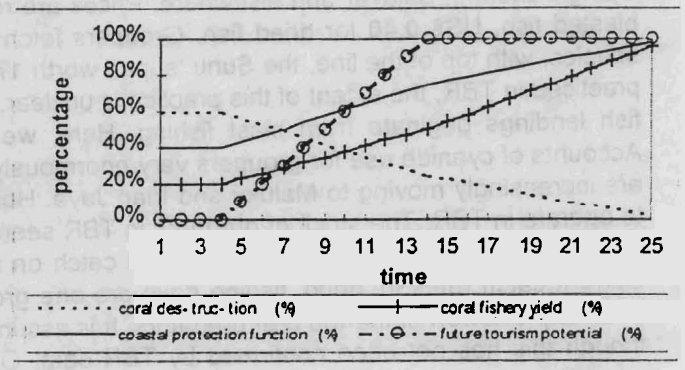
Trends: Trends for each of these key variables over 25 years are difficult to estimate. In the **'with'** scenario, it is assumed that over the three years of COREMAP I implementation, enforcement and surveillance will bring blast and poison fishing gradually to a near stand-still and that the current levels of coral destruction, fishing yields, coastal protection and tourism potential will stay put for 3 years, after which corals will recover quickly to 25% coral destruction in 10 years time, as confirmed by LIPI experts. The expected recovery will be relatively quick due to the predominance of *Acropora spp.* It is assumed that fishery yield and coastal protection will return to 50% and 75% of their potential, respectively, up from 20% and 40%. It is further assumed that blast fishing will come to a complete stop 10 years after the end of COREMAP I. Also, it is assumed that grouper fishery will stay at 6 2/3 % of total yield, but that it will be caught through non-destructive techniques. Tourism potential, though low, would gradually move to full capacity. In the **'without'** scenario, it is assumed that blast and cyanide fishing are continuing at present levels, leading to a increase in coral destruction of 75% in 25 years, up from 60%. This would imply a drop in fishery yield to 12.5% of its potential, and a drop in coastal protection to 25% of its capacity (see project files for detailed assumptions). Tourism potential would stay at 0%.

Results: Given these assumptions, the quantifiable incremental benefits are estimated at US$13.5 million in net present value terms. These benefits are mainly due to a recovery of fish yield due to the establishment of sanctuaries and the eradication of destructive fishing practices. The total costs over 25 years are very difficult to measure, as far-reaching assumptions need to be made concerning the costs beyond COREMAP I. Two scenario's are considered. The first scenario assumes that GEF will provide an amount of US$ 500,000 over COREMAP II, consistent with current plans. IBRD would provide an additional US$ 350,000, which would keep the GEF-IBRD ratio for Taka Bone Rate the same as in COREMAP I. It is assumed that GOI would support the costs of aerial surveillance, the reef watchers program and legal prosecutions, while keeping its staff involvement at provincial and district level in place. Note that GOI has additional costs both in COREMAP I and beyond for park rangers and their transportation, not included in project costs but still part of the economic analysis. Also, for the calculations, only a part of district and provincial costs are attributed to the costs of managing Taka Bone Rate. A sensitivity analysis was performed for a 'higher cost' scenario, where it was assumed that in order to achieve the eradication of illegal and/or destructive fishing, a doubling of enforcement expenditures would be needed. In the 'standard' scenario, the net present value of net incremental benefits is US$ 5.0 million with an ERR of 14%. In the 'higher' cost scenario, the net incremental benefits would drop to US$ 3.5 million with an ERR of 12%.

Assumed Trends in the 'Without' Scenario



Assumed Trends in the 'With' Scenario



From the GOI perspective, its perceived rate of return could be thought of as not including GEF grant funds. Excluding GEF costs, the ERR would become 17% in the 'standard' scenario and 14% in the 'higher cost' scenario. This can be interpreted as the economic rate of return for Indonesian policy makers. It indicates the rationale for GEF involvement, as it would make the project more attractive for GOI: with scarce resources, a project with an ERR of 17% is more attractive than a project with a rate of return of 14%. This analysis excludes the biodiversity value and other non-quantifiable ecosystem functions of Taka Bone Rate National Park.

Summary Table for the Economic Analysis of Taka Bone Rate *(US$ million; 25 year horizon)*			
		standard scenario	**higher cost scenario**
Incremental Benefits (NPV; @10%)		13,500	13,500
Costs (Coremap I; sum)			
	GEF	2,200	2,200
	IBRD	700	700
	GOI	2,600	2,600
Costs (Coremap II; sum)			
	GEF	500	1,000
	IBRD	350	700
	GOI	4,300	5,400
Costs (after II; annual)			
	GEF	0	0
	IBRD	0	0
	GOI	700	900
Net Benefits (NPV; @10%)		**5,000**	**3400**
ERR		**14%**	**12%**
ERR (excluding GEF funds)		**17%**	**15%**

C. Lease Islands (Maluku) The following assumptions were made for the economic analysis. For the purpose of the analysis, the coral reef area is defined as the reefs surrounding the island groups of Saparua and Nusa Laut. No official estimates are available for this figure and local conditions vary dramatically, with shallow reef flats both in North and South Saparua and steep drop-offs very close to the shore in Nusa Laut. Our own preliminary estimates, based on field observations and site maps, are given in the table below. The Lease Islands are 100% rural, with mostly agricultural land and modest village coastal infrastructure.

Location	**Area (km^2)**	**Length coastline (km)**	**Coastal activities**
1. Saparua	7.5	25	100% rural
2. Nusa Laut	42.5	75	100% rural
Total	**50.0**	**100**	**100% rural**

Coral conditions in the Lease Islands vary quite dramatically, depending on local threats. According to a recent LIPI survey, **coral conditions** range from 'good to excellent' (Akoon; Nusa Laut), 'good' (Titawai, Nusa Laut), and 'fair' (Ameth: Nusa Laut and most of Saparua) to 'poor' (Ihamahu; Saparua). However, field observations and personal correspondence with marine scientists would question these results, for instance for Ameth, where conditions appear to be better than 'fair'. As a rough estimate for the purposes of the analysis, a **50%** coral destruction and 'fair' condition are assumed.

Current fishing effort varies considerably per location. Gleaning in Northern Saparua has led to a near depletion of small mollusks on the reef flat. The situation is far beyond open access equilibrium. With respect to near shore fisheries, the *de facto* fishing situation is one of open access, though the yields are higher than what would be expected given the 50% reef destruction discussed above. The reason might be a fairly low population pressure and other economic opportunities in agriculture. We assume here that for a 50% destruction and the quoted catch per day, the yield is **5 mt/km^2 /yr** for a situation in between open access and maximum sustainable yield (MSY) (1/3 above open access) or 33.3% of the MSY for an intact reef. Average ex-vessel prices received for fresh reef fish ranged from Rp 2-3,000 per kg depending on species, season, size, condition and supply and demand. Therefore, US$ 1/kg is taken as an average. There is a market for grouper and other highly prized fish due to its vicinity to Ambon city and live grouper cages on Ambon island. Grouper prices for the fishermen vary depending on location and middleman. An average price of US$ 5 per kg of grouper is assumed. For explosive fishing, no data were confirmed in Ambon, and a blasted fish price of US$ 0.66 per kg, as per Ujung Pandang, is assumed.

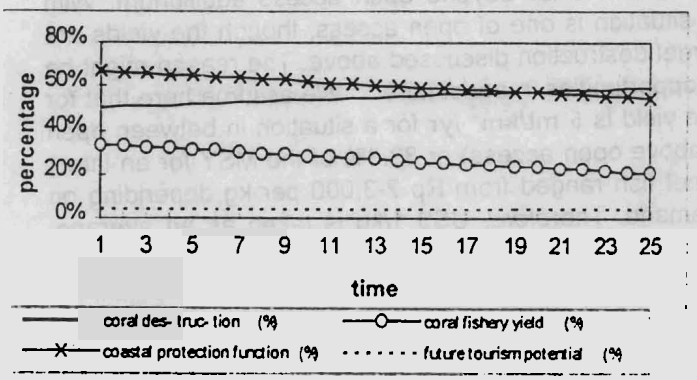
It was confirmed that **blast fishing** is practiced in North Saparua by fishermen from nearby villages. Though there are no exact figures, it seems that blast fishing is practiced less than in other parts of Indonesia. Therefore, as a preliminary estimate 5% of catch from blast fishing is taken. Allegedly, some **cyanide** live-fishery is going on. Given the proximity to the live cages in Ambon Island, live grouper catch is indeed likely, though no estimates of market share could be obtained. Hence, the general average of 1/15 of catch as given by Cesar (1996) is assumed here. Other threats to coral reefs in the area include coral mining, though this is very limited in scope. The extent of coral destruction suggests some evidence of **coastal erosion**. However, most of Nusa Laut and parts of Saparua have naturally robust stony coastlines, so that the impact of reef destruction is very limited. Besides, the area is predominantly rural. Therefore, coastal erosion is assumed to be small (Cesar, 1996; 'low' scenario). Given its proximity to Ambon with international flights to Australia and proximity to the famous resort island of Banda, the Lease Islands have a reasonable **tourism potential**. However, lacking infrastructure and absence of other facilities render the Islands mostly unknown to tourists. Here we assume that tourism potential is moderate with a net present value of US$ 100 thousand per km^2 of reef. At present, it is assumed that the Lease Islands are at around 5% of this potential, with limited diving tourism in Ameth (Nusa Laut) and a few *losmen* on Saparua.

Trends: Trends for each of the key variables over 25 years are difficult to estimate. It is assumed in the **'with'** scenario that over the three years of COREMAP I, enforcement and surveillance will bring blast and poison fishing gradually to a stand still and that the current levels of coral destruction, fishing yields, coastal protection and tourism potential will then remain stable for 3 years. After this, corals will re-build slowly and achieve full recovery in 25 years. Following Cesar (1996), it is assumed that the pressure on the reefs will decline gradually (to 1/3 below MSY at the end of COREMAP III and to MSY after 25 years). Grouper yields will stay at 1/15 of total catch and blast fishing will stop during COREMAP II. Tourism potential would grow gradually, and is assumed to reach full potential after 25 years. In the **'without'** scenario, it is assumed that blast and cyanide fishing are continuing at present levels, leading to an increase in coral destruction of 60% in 25 years. This implies that the fishery yield would drop to 20% of its capacity (open access and 60%; for assumptions, see Cesar, 1996). Blast fishing is assumed to grow to 10% due to Malthusian overfishing, and grouper catch would gradually decrease to 0% in 25 years. Tourism potential would stay at 5%.

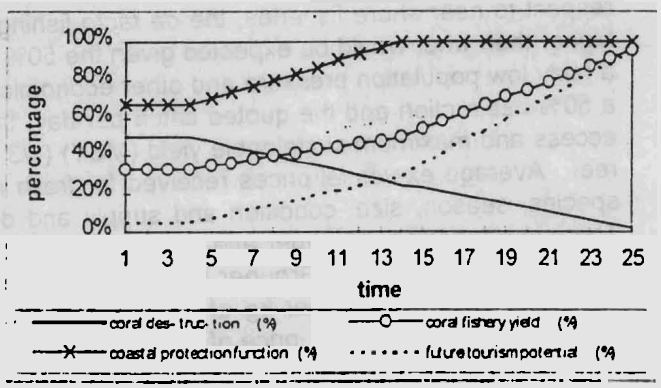
Results: Given slow coral recovery, and hence slow restoration of the functions of coral reef ecosystems, most benefits accrue after completion of COREMAP I. The quantifiable incremental benefits are estimated at US$2.4 million in present value terms. In the longer run, in particular, annual incremental benefits are expected to be large: around US$ 1.0 million per annum in year 25, due to much higher fishery rents and tourism revenues. However, the intervention costs after 3 years, both incurred by the Government

and through COREMAP II and III, need to be taken into account to compute the ERR. Given the large uncertainty with regard to the success of this pilot phase, these future intervention costs are unknown. As per Taka Bone Rate, two scenario's are presented: the 'standard' scenario assumes that GOI continues with the enforcement expenditures of COREMAP I. The corresponding ERR is estimated at 15% resulting in net incremental benefits of US$0.8 in net present value terms over 25 years (see table). This can be compared with a 'higher cost' scenario with an ERR of 11%, in the unlikely event that enforcement costs would need to double after COREMAP I in order to achieve the eradication of destructive fishing in the area.

Assumed Trends in the 'Without' Scenario



Assumed Trends in the 'With' Scenario



Summary Table of Economic Analysis for Lease Islands ('000 US$)

yr.	1	2	3	4	5	6	7	8	9	10	25	NPV
Quantifiable benefits 'with'												
fisheries	63	62	61	72	82	93	103	114	124	135	380	1,185
coastal protection	94	94	94	99	103	108	113	118	122	127	141	1,049
tourism	28	28	28	42	56	69	83	97	111	125	556	1,174
net benefits AIG	50	50	50	50	50	50	50	50	50	50	50	454
Total quantifiable benefits	235	234	233	262	291	321	350	379	408	437	1,127	3,862
Quantifiable benefits 'without'												
fisheries	61	59	57	54	52	50	47	45	42	40	4	397
coastal protection	93	93	92	91	91	90	89	88	88	87	76	799
tourism	28	28	28	28	28	28	28	28	28	28	28	252
Total quantifiable benefits	183	180	176	173	170	167	164	161	158	155	108	1,448
Incr. benefits over 25 years	**52**	**55**	**57**	**89**	**121**	**153**	**186**	**218**	**250**	**282**	**1,019**	**2,414**
Intervention Costs (COREMAP I and expected costs afterwards)												
GOI	62	183	130	43	43	43	43	43	43	43	43	588
IBRD	167	617	492	0	0	0	0	0	0	0	0	1,032
Total Costs Lease Islands	229	800	622	43	43	43	43	43	43	43	43	1,620
Net Benefits (NPV)	-176	-745	-565	46	78	110	143	175	207	239	976	794
ERR (standard scenario)	15%											794
ERR (higher cost scenario)	11%											

Annex 4.2: Incremental Cost Analysis

Context and Broad Development Goals:

Coral reefs and their associated marine life are one of the greatest natural treasures of Indonesia. The country is located at the center of the world's coral reef diversity. Indonesia's coral reefs are estimated at 50,000 to 100,000 km^2, or approximately 12 to 15 percent of the world's reefs[8]. The quality of Indonesian reefs is, however, declining rapidly and even remote reefs are not free from man-induced deterioration. It is currently estimated that less than 30 percent of Indonesia's reefs are in good condition (with live coral cover above 50 percent). The main threats in the present project's sites are destructive fishing practices (bombing and cyanide), coral mining, overfishing, settlement pollution, and uncontrolled tourism development. Without immediate interventions, it is likely that large areas of reefs will suffer irreversible damage in the near future.

The COREMAP Program will consist of three phases, implemented over 15 years. IBRD and GEF funding would follow the Bank's new Adaptable Program Lending (APL) framework. GEF funding would assist the first two phases of the program. By the third phase, institutionalization of the project should have reached a level where GEF financing is no longer necessary. ADB, AusAID and JICA are expected to be involved in supporting parallel projects under the COREMAP program umbrella.

The proposed program is consistent with Indonesia's Biodiversity Action Plan, Agenda 21, the Convention on Biological Diversity, GEF's Operational Program on Marine, Coastal, and Freshwater Ecosystems, and guidance from the three Conference of Parties. It specifically responds to the Jakarta Mandate stressing conservation and sustainable use of marine ecosystems. By focusing on Eastern Indonesia, the proposed program portions expected to be supported by the World Bank and GEF would help conserve an area which is believed to contain the richest coral reef, fish, and marine invertebrate biodiversity in the world.

Baseline Scenario for Phases I and II

Scope and Costs: Under the baseline scenario, it is anticipated that GOI would begin implementation of COREMAP initiatives in the provinces targeted under the World Bank/GEF-funded project. The Baseline Scenario would focus on interventions having direct or indirect impact on livelihood opportunities for reef-dependent local communities. While these areas are under severe stress, they are often unrelated to areas of high biodiversity importance. The baseline scenario would comprise four major elements:

(a) **Community Based Management** in two Provinces (Maluku and South Sulawesi), expanding to four Provinces in Phase II (Maluku, Irian Jaya, South and Southeast Sulawesi). Activities would include reef management plan preparation and implementation; local awareness raising and community training; alternative income generation to reduce pressure on coastal resources and enhance their sustainable use; strengthened links with enforcement networks; and 'reef-saving' infrastructure to relieve settlement impact on reefs. *The baseline costs for this component are estimated at US$ 1.0 million for Phase I and US$ 12.0 million in Phase II.*

(b) **Surveillance and Enforcement** at the national, regional and site levels. This component would include training, workshops, surveillance equipment, and operational costs for enforcement. *The baseline costs for this component are estimated at US$ 3.3 million and US$ 6.0 million in Phase II.*

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[8] M. Spalding, *personal communication*, based upon an upcoming study from the World Conservation Monitoring Center.

(c) **Program Strategy and Management**. Under this component, GOI would develop the COREMAP program strategy and guidelines, carry out project management, complete a legal review in support of reef management, and carry out preparatory activities for Phase II. *The baseline costs are estimated at US$ 2.4 million, including technical assistance, and US$ 10 million in Phase II.*

(d) **Public Awareness,** at the national and regional level. This component would include mass-media campaigns, outreach programs and materials, dissemination of COREMAP guidelines and awareness building workshops. ***Baseline costs in the range of US$ 2.7 million are foreseen for Phase I and US$ 7.0 million for Phase II.***

Benefits. Implementation of the Baseline Scenario investment program will be important for the rational use of Indonesian coral reef resources, both at the site level as well as for the country in general. It is estimated that, at the national level, sustainable hook-and-line live-grouper fishery (as opposed to cyanide fishing), could create jobs for an estimated 10,000 Indonesian fishers and generate net benefits on the order of US$321,800 million (in present value terms). Likewise, should blast fishing be prevented, gains of up to US$482,000 per km^2 in areas of high tourism value could be obtained. Should alternative income generation and enforcement of traditional property rights be successful in reducing fishing pressure from an 'open access' situation to an 'optimal sustainable yield', coral reef fisheries could produce an additional US $70,000 in net present value per km^2 of reef. The Baseline Scenario would also lead to greater institutional capacity, general public awareness, and a stronger framework for reef management in Indonesia.

The Baseline Scenario would, however, be insufficient to ensure the effective conservation and management of sites of high biodiversity importance, since from both local communities as well as regional governments' perspectives, these areas are often isolated and of reduced regional development priority. Hence, the GEF Baseline would not be sufficient to ensure that high priority *conservation* areas are included in future national COREMAP program strategies. The Baseline Scenario would also be insufficient to ensure effective enforcement in sites of high biodiversity importance, an effective involvement of NGOs in field activities, and a public dissemination of lessons of experience, particularly amongst non-governmental stakeholders.

Global Environmental Objectives

The global environmental objective of the GEF Alternative is to protect, rehabilitate, and achieve sustainable use of coral reefs and associated ecosystems in Indonesia. The Indonesian reef ecosystem is believed to contain the richest coral reef, fish, and marine invertebrate biodiversity in the world. Given their possible links, protection of Indonesian coral reefs would also assist coral reef regeneration in other parts of the Indo-Pacific region.

GEF Alternative in Phases I and II

Scope and Costs. Under the GEF Alternative, an expanded program would be undertaken, comprising activities focusing on both coastal poverty alleviation/ development through the rational use of reef resources (generating domestic benefits), as well as protection of coral reef ecosystems of global significance. Note that the estimates for Phase II are still preliminary given the nature of the adaptable program framework. Currently, it is foreseen that the GEF alternative would supplement the components of the Baseline Scenario in the following ways:

(a) <u>Community Based management</u> of one additional site in Phase I and three additional sites in Phase II:

- The Phase I site would be the **Taka Bone Rate National Park** in the Flores Sea, which has been identified as a first priority area for conservation under Indonesia's *Marine Conservation Atlas*, as well as a priority under the *Global Representative System of Marine Protected Areas.*. **Taka Bone Rate is the world's third largest atoll, and** Indonesia's largest. The foreseen GOI expenditures over the coming 5 years are considered insufficient to effectively protect the park from external threats, and maintain

core areas as sanctuaries. GEF incremental funding of approximately US$ 1.2 million in Phase I and US$0.5 million in Phase II are estimated to be required.

- The first proposed Phase II site is the **Wakatobi (Tukang Besi) National Marine Park**, which is located in the Wallacea region (Southeast Sulawesi) and is COREMAP's closest site to the perceived center of global marine biodiversity. It was identified as a conservation priority under Indonesia's *Marine Conservation Atlas*, and declared a national park in 1996. Up to 70 percent of the reefs remain in excellent condition, but increasing threats -- especially from commercial bombing, cyanide, mining and overfishing -- render it a priority for urgent conservation. The site has been managed by a non-profit partnership group (Operation Wallacea) involving the private sector, NGOs and government agencies. This group has succeeded in raising international attention for the site, and is expected to raise US$600,000 over the next six years in sponsorships, paying diving volunteers, and entrance fees. This level of support is, however, insufficient to effectively manage and protect this remote archipelago, and GEF incremental funding of US$1.0 million is estimated to be required (for Phase II only).

- The second proposed Phase II site is the **Padaido Islands**, located southeast of Biak in northern Irian Jaya. This site has extensive and very diverse reefs, and is believed to contribute to coral reef maintenance in Western Papua New Guinea. It has suffered bombing and recent earthquake damage, but is reportedly recovering due to local initiatives to stop destructive fishing practices. Incremental GEF funding of US$ 1.0 million is proposed for the site (for Phase II only).

- The third proposed Phase II-site is the **Spermonde Islands**, located in the eastern border of the Makassar Straits. This site has the highest coral reef diversity recorded in Indonesia (over 250 coral species) and one of the highest recorded in the world. GEF-financing of this site would be conditional on rationalization of project locations and activities to adequately address sustainable use across the reef ecosystem. The level of support planned for the above sites during the project life is insufficient to ensure their effective management, and incremental GEF funding of US$ 1.0 million is proposed (for Phase II only).

Including the above four sites would add to the scope of what would otherwise be feasible under the project. For all four sites, GEF financing would make possible the deployment of field facilitators and site managers, training, awareness, preparation and implementation of management plans, and limited equipment. Alternative income generation, a productive activity expected to bring direct benefits to project villages, would be funded under the IBRD loan. *The estimated GEF contribution to cover incremental costs in Phase I is estimated at US$1.2 million out of a total GEF Alternative Cost of US$ 2.2 million. For Phase II, the corresponding figures are US$ 3.5 million out of a total of US$ 15.5 million.*

- <u>Surveillance and Enforcement</u>. Additional financing under this component would increase the assistance to GOI in developing a national reef surveillance strategy focusing particularly on mobile threats (poison and blast fishing), including a study and pilot certification for introduction of poison testing in Indonesia, and judicial seminars to develop strategies to curb reef destruction. The GEF alternative would also help efforts to strengthen the monitoring, control and surveillance of GEF target sites. *It is estimated that GEF would provide incremental costs amounting to US$ 0.9 million in Phase I and US$ 2.0 million in Phase II, out of a total GEF Alternative costs of US$ 4.2 million and US$ 8.0 million respectively.*

- <u>Program Strategy and Management.</u> Additional financing under this component would increase the assistance to GOI in preparing a national COREMAP program strategy with a stronger emphasis on conservation area protection. Supplementary legal support, especially in strengthening community user rights' systems, would also be provided. The GEF Alternative would also support an independent panel evaluation of Phase I results, which would be used to disseminate lessons of experience for subsequent program phases. Additional items in the GEF Alternative would include final preparation of globally significant Phase II sites, as well as incremental project management assistance necessary to support GEF activities. *GEF financing for this component would be quite limited, in the order of US$ 0.8 million in Phase I and US$ 1.0*

in Phase II, resulting in a total GEF Alternative cost of US$ 3.2 million and US$11.0 million, respectively.

- **Public Awareness**. GEF funds are envisaged for enhanced national and regional-level coral reef campaigns, as well as increased involvement of local groups and NGOs; incremental support for a system of yearly awards and public recognition to outstanding COREMAP participants; and increased emphasis on decision makers' involvement and press coverage likely to benefit coral reef protection throughout Indonesia. *GEF incremental funding for this component is estimated at US$ 1.2 million (Phase I) and US$ 1.0 million (Phase II) , out of a total GEF Alternative cost of US$ 3.9 and 8.0 million, respectively.*

Benefits

In addition to the national benefits associated with the Baseline Scenario, global benefits of the GEF Alternative include:

- Protection of globally significant biodiversity in priority coral reef ecosystems;
- Improved management of Take Bone Rate (Phase I) and Wakatobi (Phase II) Marine National Parks;
- Opportunity to test and expand community-based management both inside and outside protected areas;
- A strengthened legal framework for coral reef management in Indonesia;
- Improved national policy and enforcement strategy for coral reef management;
- Enhanced participation and public awareness amongst decision makers and the public at large;
- Enhanced capacity building for coral reef management, particularly amongst NGOs;

Incremental Costs

The total costs of the Baseline Scenario are estimated at US$ 9.5 million in Phase I and US$ 35.0 million in Phase II. The GEF Alternative is estimated at US$ 13.6 million in Phase I and US$ 42.5 million in Phase 2. The incremental costs of the GEF Alternative are therefore estimated at US$ 4.1 million (Phase I) and US$ 7.5 million (Phase II). The Asian Development Bank, AusAID and the Japanese International Development Agency (JICA) are involved in financing parallel projects within the COREMAP program that would amount to an additional financing of approximately US$14.1 million in Phase I and US$ 57.5 million in Phase II. These contributions are additional to the estimated Baseline Scenario for the current project. GEF funds are not expected to be required during Phase III, as the program will have matured to the point where most global benefits would also be expected to result in domestic benefits. A GEF grant of US$ 11.6 million (US$ 4.1 million in Phase I and US$ 7.5 million in Phase II) is therefore requested to support the program.

INCREMENTAL COST MATRIX - COREMAP PHASE I AND PHASE II

Component Sector	Cost Category	Phase I (US$)	Phase II (US$)	Domestic Benefit	Global Benefit
Community Based Management	Baseline	1.0	12.0	Revenues created from rational use of renewable reef resources; Increased knowledge of rational utilization of coral reef ecosystem;	
	With GEF Alternative	2.2	15.5	Improved management of two marine parks (Taka Bone Rate in Phase I and Wakatobi in Phase II); Expansion and testing community based coral reef resource management in sites of global importance (Spermonde, Padaido);	Protection of globally significant biodiversity; Pilot demonstrations, replicable elsewhere in Southeast Asia.
	Incremental	1.2	3.5		
Surveillance and Enforcement	Baseline	3.3	6.0	Establishment of national and provincial enforcement systems for coral reefs	
	With GEF Alternative	4.2	8.0	Improved enforcement strategy for coral reef management (e.g. poison testing); Relevant enforcement support, specially for protection of traditional rights; Improved enforcement in GEF-funded sites.	Contribution to international efforts to tackle poison fishing; Better protection and management of globally significant sites.
	Incremental	0.9	2.0		
Program Strategy and Management	Baseline	2.4	10.0	Improved guidelines and strategy for coral reef management; strengthened legal framework; Increased public sector capacity to support community based coastal resource management;	Improved national strategy and legal framework for effective protection of the world's richest coral reefs.
	With GEF Alternative	3.2	11.0	Participatory development of COREMAP Program strategy, through discussion with key stakeholders; strengthened protection of community user rights; Independent evaluation of Phase I.	Strengthened focus of COREMAP program on high priority conservation sites. Enhanced capacity of NGOs;
	Incremental	0.8	1.0		
Public Awareness	Baseline	2.7	7.0	Raising public awareness of significance of coral reef ecosystems and their functions.	
	With GEF Alternative	3.9	8.0	Increased intensity of public awareness campaign; Increased involvement of local groups and NGOs in campaign;	Increased national and international public pressure to stop international mobile threats such as cyanide fishing; Increased exchange of regional lessons of experience on effective coral reef management. Strengthened public constituency to protect world's richest coral reefs.
	Incremental	1.2	1.0		
Totals	Baseline	9.5	35.0		
	With GEF Alternative	13.6	42.5		
	Incremental	4.1	7.5		
Total GEF Incremental Costs (COREMAP I+II)		11.6			

The financial analysis of each of the microenterprises covered a period of six years, including an establishment period of one year and an operation period of five years. The financial assessment was based on several financial indicators which included: (i) investment costs; (ii) working capital requirements; and (iii) annual operating costs. Operating cost items included wages, production materials, repair and maintenance costs, depreciation and interest payments. The results of the financial analysis are summarised in the two tables below. The first table summarises the analysis of individual micro-enterprises. The aggregate results of the second table took into account the total costs and benefits weighed by the assumed adoption rate for individual enterprises, as displayed on the "# of activities" column of the first table. The results indicate financial rates of return (FRR) from 28 percent to 59 percent, well above the estimated weighted average capital cost of 18 percent. The benefit-cost ratios for the activities range from 1.08 to 1.26. The Net Present Values (NPV) for the various activities varies considerably from US$748 to US$4,380. For the assumed aggregate package of a total of 50 microenterprises and an investment of US$35,000 by a group of 387 investors, the FRR is 39 percent, the benefit-cost is 1.17 and the NPV is US$ 21,600.

Financial Analysis of Representative AIGs

Microenterprise	Investment	FRR	NPV	B/C ratio	# of activities	Switching Values	
	(US$)	*(%)*	*(@12%; US$)*			Benefits *(for 12%)*	Investment Costs *(for 12%)*
Brick making	403	41%	249	1.19	10	16%	70%
Kerupuk ikan	230	59%	254	1.13	10	12%	125%
Terasi processing	682	31%	322	1.26	10	20%	53%
Bag making	1069	28%	388	1.08	5	7%	40%
Pearl oyster	1042	45%	757	1.24	5	19%	80%
Seaweed	1179	43%	780	1.21	5	18%	75%
Snorkeling	315	46%	266	1.09	3	9%	95%
Seabass culture	2309	44%	1460	1.24	2	19%	70%
Total Package:	35,166	39%	21,598	1.17	50	15%	70%

Financial Analysis for the Aggregate AIG Package

Item	Yr 0 (Rp million)	Yr 1 (Rp million)	Yr 2 (Rp million)	Yr 3 (Rp million)	Yr 4 (Rp million)	Yr 5 (Rp million)
Capital Costs						
Investment	78.9	0.0	0.0	13.7	1.9	2.3
Working Capital	26.6	0.0	0.0	0.0	0.0	0.0
Total Capital Costs	105.5	0.0	0.0	13.7	1.9	2.3
Variable costs						
Labor Costs	0.0	22.1	22.5	22.8	22.8	22.8
Other Costs	0.0	39.2	67.4	69.0	69.0	69.0
Total Variable Costs	0.0	61.3	89.9	91.9	91.9	91.9
Total Costs	105.50	61.31	89.90	105.57	93.79	94.13
Total Revenues	0.00	127.03	134.68	141.61	142.19	142.19
Net Benefits	-105.50	65.73	44.79	36.04	48.39	48.06
FIRR	39.369%					
NPV @ 12% (Rp million)	64.795	(21,600 US$)				
Benefit-Cost Ratio	1.17	:1				

Annex 6
Indonesia: First Coral Reef Rehabilitation and Management Project
Procurement, Disbursement, and Financial Management Arrangements

Procurement

Procurement methods (Table A)

Procurement of goods and services would follow the World *Bank's "Guidelines for Procurement under IBRD Loans and IDA Credits"* dated January 1995, and revised January and August 1996 (for works and goods), and the "*Guidelines for Selection and Employment of Consultants by World Bank Borrowers*" dated January 1997 (for services). The World Bank's standard bidding documents and contracts would be used. All procurement would be handled centrally by the Project Management Office (PMO). The Project Director would approve all contracts prior to signature by the Project Manager (*Pimpro*). The project's implementation plan summarizes the procurement schedule for major contracts (Figure 1).

Goods

Goods (US$2.2 million) procured under the project would include surveillance equipment funded under the Bank loan and GEF grant (US$2.1 million), and office equipment for project management, funded by GOI (US$0.1 million). ***Surveillance equipment*** comprising computers, radios, faxes, maps, cameras, surveillance vessels, GPS, safety equipment (e.g. life jackets, flash lights, and identification vests) and other minor field equipment would be procured under International Competitive Bidding (ICB) procedures, in reasonably sized lots of US$50,000 or more. A margin of preference for domestically manufactured goods could be applied. The surveillance equipment would be distributed to the Directorate General of Fisheries (in Jakarta) and to the Provincial Fisheries Offices in South Sulawesi and Maluku. The patrol vessels would be of civilian specifications, and would be appropriately marked as being under Government Service as required by the United Nations Convention of the Law of the Sea.

Services

Services (US$7.9 million) procured under the project would include awareness campaigns, technical assistance, community support services, and special studies. The project's ***awareness campaigns*** (US$3.4 million), including specialized services, TV and radio production, awareness materials, training, and miscellaneous campaigns, would be contracted to a professional public relations firm, using quality and cost based selection (QCBS) and an output based contract. The firm could, at its prerogative, sub-contract specific parts of the campaign to qualified local groups or NGOs. The contract would be processed in two phases (i) campaign design; and, subject to a satisfactory design, (ii) campaign implementation. Provincial awareness activities would be funded separately by the Government at an estimated cost of US$0.2 million.

The project's ***technical assistance*** contract (US$2.5 million) for strategy and policy development, legal advice, monitoring, control and surveillance, reef management, and technical support, would be procured through a competitive, quality-based selection (QBS). Since it is vital that the technical assistance be of the highest professional quality for the development of the long-term program framework, price would not be a factor in the selection.

Community support services (US$0.4 million for the Lease Island site and US$0.5 million for Taka Bone Rate) would include field managers stationed at the districts and project sites, village motivators, field equipment, and expenses associated with community support such as workshops, training, awareness, and participatory mapping. These services would be procured

under two contracts (one for each pilot site) to highly qualified local non-governmental groups (LSM) according to the criteria specified in Annex 2, and could be provided by a consortium between an LSM and a local University. The community support groups would be sub-contracted by the winning TA firm. The short-listed TA firms would specify how the community support services would be managed, but would not name the sub-contractors in their bid. The winning TA would then select, either through a direct contracting procedure or through a competitive process, the most qualified LSM/University group for each site. The sub-contracts for the community support group would be subject to prior review by the Bank. Direct sub-contracts with community support groups would be justified based on their unique expertise and continuity needs at the site level.

Special studies (US$1.0 million) would consist of park management and zonation for Taka Bone Rate, a sanctuary zoning study in Lease Islands, two to three legal and enforcement studies, an independent evaluation for COREMAP I, and a feasibility study for COREMAP II. The *legal and enforcement studies*, averaging US$55,000 each, would be procured through selection based on consultant's qualifications, but without price considerations.

Funds for *park management and zonation* of Taka Bone Rate (US$180,000), consisting of expert advice, mapping, site surveys, demarcation, and workshops, would be contracted out to the Coral Reef Information and Training Unit (CRITC) at Hasanuddin University in South Sulawesi. The University has been actively involved in assisting PHPA with park zonation, and the CRITCs future role in site monitoring make it uniquely qualified to provide this assistance. A parallel reef sanctuary study (US$55,000) would be carried out at the Lease Islands site under contract to the CRITC in Ambon.

For the *independent evaluation* of COREMAP I (US$220,000), an evaluation panel would be constituted as follows: GOI would nominate half of the panel, subject to clearance by the Bank. The remaining half would be nominated by the World Bank Environmental Sector Board (cleared by GOI). The World Conservation Union (IUCN), would manage the panel under a sole source contract, and consolidate the evaluation results. IUCN would give final clearance for the panel and be expected to ensure the quality (but not the results) of the evaluation. The report would be added, unedited, to the borrower's evaluation report, and submitted to the COREMAP program donors.

The *detailed design of COREMAP II* (US$370,000) would be included in the TA contract, with release of the funds subject to satisfactory performance of the firm during project implementation.

Miscellaneous

Miscellaneous procurement items (US$3.4 million) would include operation and maintenance for surveillance operations (US$0.9 million), surveillance training (US$0.2 million), workshops and seminars (US$0.4 million), village grants (US$0.3 million), public relations (US$0.3 million), and project management (US$1.3 million). These items would be procured according to Government procedures acceptable to the Bank.

The Bank and GEF would finance the incremental costs of *surveillance maintenance and operation* in accordance with the incremental cost analysis of Annex 4.2. This would include vessel fuel, equipment maintenance, and minor equipment replacement (US$0.4 million); and honoraria and local patrol costs for community reef watchers (US$0.2 million). Aerial surveillance would be provided by GOI at an estimated cost of US$0.3 million. Fuel and minor equipment replacement, valued at less than US$50,000 per lot, which may be required 'on the spot' to ensure the safety of operations at sea, would be purchased under local shopping procedures. *Surveillance training* is expected to be contracted out to specialized institutions. Specific law enforcement training, which may need to be conducted by enforcement agencies such as the Police and the Navy, would be funded by counterpart funds.

The Project Management Office would organize all major **workshops and seminars**, in collaboration with the technical assistance team. **Village grants** (averaging Rp. US$35,000/village in Taka Bone Rate and US$25,000 equivalent per village in Lease Islands) would be provided as a cash transfer to village LKMDs, against the production of reef management plans meeting project criteria. The grants would be used to fund eligible expenditures related to reef management, strengthening of savings' groups, and alternative income generation, as detailed in Annex 2. **Public relations** expenditures would include the production, printing and distribution of program guidelines, press briefs, public awards, and organization of special events, such as a Reef Watchers' day. Local shopping procedures would be used whenever appropriate. Project management expenditures (US$1.3 million) would be funded by GOI.

Prior Review Thresholds (Table B)

Prior review would be required for (i) all ICB goods' contracts above US$50,000 per contract; (ii) consulting firms above US$100,000 equivalent per contract (including awareness services and studies); (iii) individual consultants above US$50,000 equivalent (including studies); (iv) all community support service sub-contracts; and (v) sole source contracts. This would ensure prior review of approximately 89 percent of the IBRD/GEF financed items. Other items would be subject to an ex-post evaluation during supervision, amounting to approximately 10 percent of the transactions.

Disbursement

Allocation of loan and GEF grant proceeds

The allocation of loan and GEF grant proceeds is shown on Table C.

Use of statements of expenses (SOEs):

Disbursement based on Statement of Expenditures (SOEs) would be used for contracts (i) goods below US$50,000 equivalent; (ii) awareness and public relations activities below US$100,000 equivalent; (iii) consulting firms below US$100,000 (including studies); (iv) individual consultants below US$50,000 equivalent (including studies); (v) surveillance training; (vi) surveillance operation and maintenance; (vii) conferences and workshops; and (viii) village grants. All supporting documentation, including contracts, procurement information, and evidence of payment, would be kept at the Project Management Office and Provincial Project Offices for review by the Bank and independent auditors.

Special account:

To facilitate disbursement, GOI will establish a single special account at Bank Indonesia, for both the IBRD loan and the GEF grant. Application for withdrawals and audits would, however, be conducted separately for loan and grant expenditures. The initial deposits would be US$1 million for the IBRD loan and US$500,000 for the GEF grant account, equivalent to 4-5 months disbursements. The special account would be opened in US dollars and maintained by the Directorate General of Budget.

Financial Management

Internal Control Structure

The project's Internal Control (IC) structure, consisting of project management policies and procedures, would follow the existing Government internal control system. This system is considered satisfactory to the Bank based on its: (i) accounting system; (ii) organization structures; (iii) delegation of authority and responsibility practices, such as job descriptions; (iv) management control methods, including an internal audit function, budgeting, variance analysis and forecasting; (v) enforcement policies established by the Government; (vi) authorized execution of transaction; (vii) limited access to assets; (viii) comparison of recorded amounts with existing assets; (ix) trained staff; and (x) segregation of functions in ways which prevent staff from perpetrating and concealing errors and irregularities. Transparency would be emphasized under the project, and the concept would be introduced to the LKMD and village groups as part of the internal control.

Organization

The PMO would have a Project Manager (*Pimpro*) to manage project funds and a treasurer (*Bendaharawan*). They would be provided with assistance (as necessary) on procurement, technical and financial matters, and would meet the following qualifications:

Project Manager (*Pimpro*)	Treasurer (*Bendaharawan*)
• Staff of implementing unit (LIPI) • Competence • Sarjana Degree • Minimum staff level III/c • Having a Project Management Certificate or equivalent • Three years working experience in government projects.	• Staff of implementing unit (LIPI) • Competence • Sarjana/D III Degree • Minimum staff level III/a • Having treasury (*bendaharawan*) certificate or equivalent • Two years working experience in government projects.

Accounting System and Procedures

The general accounting system and procedures would follow the Government accounting system which is in line with Generally Accepted Accounting Principles (GAAP), and is acceptable to the Bank. The specific project accounting system would be specified in Project Manuals. The project's financial statements should be prepared in accordance with GAAP, and should show the financial position of COREMAP at the end of fiscal year and the funds received and expended for the accounting period ending on March 31 of each year. The financial statement would include the ***Project Account***, prepared by the PMO, and the ***Special Account/Statement of Expenditures (SOE)*** prepared by DG Budget.

The **Project Account** report should use the format specified in the PIP, and include:

- Summary of funds received from the Bank, GEF, and counterpart financing;
- Summary expenditures shown under the project and by project component and category expenditures, both for current fiscal year and accumulated to date.

The **Special Account/Statement of Expenditures** report should include:

- Deposit and replenishments received from the Bank;
- Withdrawal from special account and other sources, such as bridging financing accounts, including all SOEs used as the basis for the submission of withdrawal applications;
- The remaining balances at the end of each fiscal year;
- Reconciliation between special account and amount being disbursed.

The Special Account/Statement of Expenditures report should use the standard format which was developed and conveyed to DG Budget on June 8, 1992.

Financial Management Reporting Requirements

The PMO, Provincial and District offices, and LKMD or POKMAS, would establish and maintain adequate and separate accounts, including those for the Special Account, from the beginning of project implementation. The LKMD, with the assistance of the field manager, would prepare a progress report, including financial report, and submit it to the district project unit quarterly. The district units at the Bupati office, with assistance from the Senior Field Managers, would prepare quarterly progress report consolidating the report prepared by LKMD and other cost components (e.g. recurrent costs). The provincial units at Bappeda Tk. I office, with assistance from the Senior Field Managers, would similarly prepare quarterly progress reports of activities and expenditures incurred at the provincial level (including enforcement). The provincial and district offices would submit the financial report to the PIMPRO on the third week of the fourth month. This report would be consolidated with other components by the PIMPRO in LIPI. The PIMPRO would submit the consolidated report to the Bank on the last week of the fourth month. The consolidated financial reports would be submitted annually to the National Supervision and Development Board (BPKP) or other qualified auditors acceptable to the Bank.

Audit Requirements

The implementing agencies will be required to:

- Maintain records and accounts to reflect, in accordance with sound accounting practices, the operations, resources and expenditures in respect of the project for which they are responsible for implementation;
- Have these records and accounts audited for each fiscal year during which disbursements have been made under the project;
- Furnish audit reports to the Bank as soon as available, but in any case no later than **six** months after the end of each fiscal year.

The specific audit requirement are as follows:

- DG Budget would be responsible to prepare financial statements for the Special Account, and submit to the Bank a Special Account/SOE audit report not later than 6 months after the end of each fiscal year (September 30 each year);
- The Pimpro in LIPI would be responsible to produce the consolidated project account, as well as the progress reports. The Pimpro should submit to the Bank a consolidated Project Account audit report not later than 6 months after the end of each fiscal year (September 30 each year).

The financial statement, including project accounts and the Special Account/SOE, would be audited annually by BPKP in accordance with procedures satisfactory to the Bank. In addition to the BPKP audit, the Bank would conduct ex-post review of all documents on a sampling basis during supervision.

The expenditure categories are summarized on Table D.

Annex 6, Table A: Project Costs by Procurement Arrangements[9]
(in US$million equivalent)

Expenditure Category	Procurement Method				Total Cost (with contingencies)
	ICB	NCB	Other	N.B.F	
1. Goods					
Surveillance equipment	2.2 (1.4) [0.4]				2.2 (1.4) [0.4]
Office equipment				0.1[6]	0.1
2. Services					
Awareness campaigns			3.4[2] (2.4) [1.0]	0.2[6]	3.7 (2.4) [1.0]
Technical assistance			2.5[2] (1.3) [1.2]		2.5 (1.3) [1.2]
Community support services			0.8[2] (0.4) [0.4]		0.8 (0.4) [0.4]
Special studies			1.0[2] (0.4) [0.6]		1.0 (0.4) [0.6]
3. Miscellaneous					
Surveillance O&M			0.6 (0.2) [0.2][3]	0.3[7]	0.9 (0.2) [0.2]
Surveillance training			0.2[4] (0.1)		0.2 (0.1)
Workshops			0.4[4] (0.3) [0.1]		0.4 (0.3) [0.1]
Village grants			0.3[4] (0.3)		0.3 (0.3)
Public relations			0.3[4] (0.1) [0.2]		0.3 (0.1) [0.2]
Project Management				1.3[8]	1.3
Total	2.1 (1.4) [0.4]		9.6 (5.5) [3.7]	1.9	13.6 (6.9) [4.1]

Note: N.B.F. = Not Bank-financed (includes elements procured under parallel cofinancing procedures, consultancies under trust funds, any reserved procurement, and any other miscellaneous items). The procurement arrangement for the items listed under "Other" and details of the items listed as "N.B.F." are explained below. Figures in ( ) are the amounts to be financed by the Bank loan. Figures in [ ] are the amounts to be financed by the GEF grant.

[1] - Procured under community participation procedures.
[2] - Procured according to *World Bank Guidelines for Selection and Employment of Consultants*, January 1997.
[3] - Incremental costs only. Procured according to GOI procedures acceptable to the Bank. See text for details.
[4] - Procured according to GOI procedures acceptable to the Bank. See text for details.
[5] - Reserved procurement.
[6] - Includes provincial awareness activities funded by GOI under own procedures.
[7] - Includes aerial surveillance in Taka Bone Rate funded by GOI under own procedures.
[8] - All project management costs funded by GOI under own procedures.

[9] For details on presentation of Procurement Methods refer to OD11.02, "Procurement Arrangements for Investment Operations." Details on Consultant Services are shown on Table A1.

Annex 6, Table A1: Service Selection Arrangements

(in US$million equivalent)

Services Expenditure Category	Selection Method					Total Cost (including contingencies)
	QCBS	QBS	SS	CQ	Other	
A. Firms						
Awareness Campaigns	3.4 (2.4) [1.0]					3.4 (2.4) [1.0]
Technical Assistance		2.5 (1.3) [1.2]				2.5 (1.3) [1.2]
Community Support Services:						
-- Taka Bone Rate					0.5 [0.4][1]	0.5 [0.4]
-- Lease Islands					0.4 (0.4)[1]	0.4 (0.4)
Special Studies:						
Legal and Enforcement Studies:						
-- Legal Studies (2)				0.1 (0.07) [0.04]		0.1 (0.07) [0.04]
-- Poison Testing Study				0.1 (0.04) [0.02]		0.1 (0.04) [0.02]
Park Zonation/Sanctuary Studies (2)			0.2[2] (0.1)[0.2]			0.2 (0.1) [0.1]
COREMAP I Evaluation			0.2[3] [0.2]			0.2 [0.2]
Detailed Design for COREMAP II					0.4[4] (0.2) [0.1]	0.4 (0.2) [0.1]
Total	3.4 (2.4) [1.0]	2.5 (1.3) [1.2]	0.4 (0.1) [0.4]	0.2 (0.1) [0.1]	1.2 (0.6) [0.5]	7.8 (4.5) [3.2]

Numbers may not add up due to rounding.

Note: QCBS = Quality- and Cost-Based Selection
QBS = Quality-based Selection
SS = Single-Source Selection
CQ = Selection Based on Consultants' Qualifications
Other = Selection of individual consultants (per Section V of Consultants Guidelines), or others
Figures in ( ) parenthesis are the amounts to be financed by the Bank loan. Figures in [ ] are the amounts to be financed by the GEF grant.

[1] - Sub-contracted by the winning TA firm under either sole source or competitive procedures. The sub-contract would be subject to prior review by the Bank.
[2] - Contracted to the Coral Reef Information and Training Center at Hasanuddin University, South Sulawesi.
[3] - Independent panel nominated jointly by GOI/Bank, and managed by IUCN.
[4] - Included in TA contract, but subject to satisfactory performance of TA firm.

See Annex 6 for further details.

Annex 6, Table B: Thresholds for Procurement Methods and Prior Review[10]

Category	Threshold for Prior Review	Procurement Method	Review Method	Documents required for Disbursement	Loan Category	Grant Category	Amount Subject to Prior Review	Total Amount
							US$ million	US$ million
1. Goods								
Surveillance Equip.	> US$50,000	ICB	Prior	Full Doc.	1	1	2.2 (1.4) [0.4]	2.2 (1.4) [0.4]
Office Equipment	none	NBF	NBF	NBF	--	--	0.0	0.1
2. Services								
Awareness Campgs.	>US$100,000	QCBS	Prior	Full Doc.	2	2	3.4 (2.4) [1.0]	3.7 (2.4) [1.0]
Technical Assistan.	>US$100,000 for firms >US$50,000 for individ.	QBS	Prior	Full Doc.	7	7	2.5 (1.3) [1.2]	2.5 (1.3) [1.2]
Comm. Supp. Serv.	all	Sub-contract by winning TA	Prior	Full Doc.	3	3	0.8 (0.4) [0.4]	0.8 (0.4) [0.4]
Special Studies: Legal and Enforc.	>US$100,000	CQ	Annual Review	SOE	4	4	---	0.2 (0.1) [0.1]
Design of COREMAP I	all	QBS (included in TA contract)	Prior (included in TA contract)	Full Doc. (included in TA contract)	4	4	0.2 (0.1) [0.2]	0.2 (0.1) [0.2]
COREMAP I Evaluation	all	SS	Prior	Full	--	4	0.2 [0.2]	0.2 [0.2]
Sanctuary Studies	all	SS	Prior	Full Doc.	4	4	0.4 [0.4]	0.4 [0.4]
3 Miscellaneous								
Surveillance O&M. Aenal Surveillance		Others	Random Post	SOE	5	5	-	0.9 (0.2) [0.2]
Survei. Training		Others	Random Post	SOE	8	--	--	0.2 (0.1)
Workshops		Others	Random Post	SOE	6	6	--	0.4 (0.3) [0.1]
Village Grants		Others	Random Post	SOE	9	--	--	0.3 (0.3)
Public Relations		Others	Random Post	SOE	2	2	--	0.3 (0.1) [0.2]
Project Management	none	NBF	NBF	NBF	--	--	--	1.3
Total Value of Contracts Subject to Prior Review							9.8 (5.8) [3.6]	13.6 (6.9) [4.1]
As percentage of Total Bank/GEF financing							89%	

[10] Thresholds generally differ by country and project. Consult OD 11.04 "Review of Procurement Documentation" and contact the Regional Procurement Adviser for guidance.

Annex 6, Table C: Allocation of Loan and Grant Proceeds

Loan/Grant Category	Financing Percentage		Amount in US$ Million	
	IBRD	GEF	IBRD	GEF
I. Surveillance Equipment:				
(a) National, Lease, Irian Jaya Sites	100% foreign expenditures, 100 % local (ex-factory), 65 % procured locally	---	1.0	--
(b) Taka Bone Rate Site	40%	60%	0.3	0.4
II. Awareness Activities	70%	30%	2.4	1.0
III. Community Support Services:				
Lease Island Site	100%	---	0.3	--
Taka Bone Rate Site	---	100%	--	0.4
IV. Studies	40%	60%	0.4	0.6
V. Surveillance O&M:				
(a) National, Lease, Irian Jaya Sites	60%	--	0.2	--
(b) Taka Bone Rate Site	--	60%	--	0.2
VI. Conferences/ Workshops	65%	35%	0.3	0.1
VII. Consulting Services	50%	50%	1.3	1.2
VIII. Surveillance Training	60%	--	0.1	--
IX. Village Grants	100%	---	0.3	--
X. Unallocated			0.3	0.2
Total			6.9	4.1

Notes:

TA/Studies: GEF/IBRD financing reflects weighted average of incremental costs, as follows:

Taka Bone Rate	100% GEF financing
Lease Island Site	100% IBRD financing
National TA/Studies	65% IBRD, 35% GEF
Independent Evaluation	100 % GEF financing

Awareness Activities/Conferences and Workshops: GEF/IBRD financing reflects incremental costs.

All financing is net of taxes.

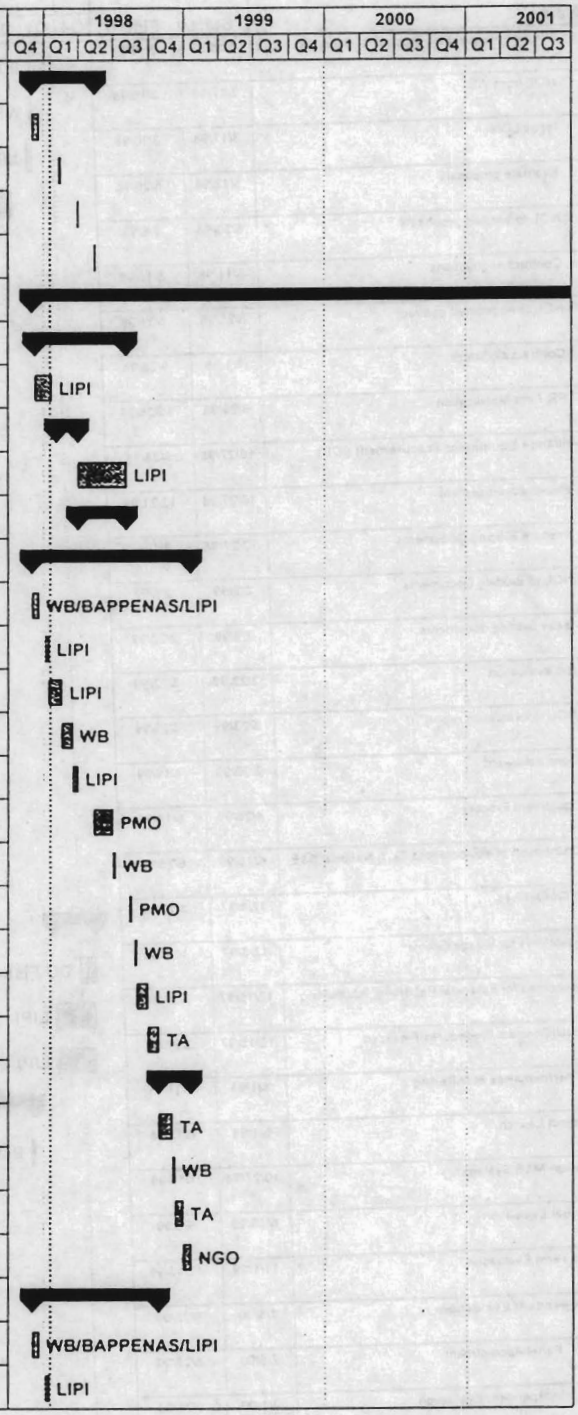
Annex 6, Table D: Financial Accounting Category Expenditure Description

Project Component	Loan Categ.	Grant Categ.	Eligible Expenditures
Part A. Program Strategy & Mng.			
Special Studies	4 *(40%)*	4 *(60%)*	Legal studies; independent evaluation of COREMAP I; COREMAP II design
Workshops	6 *(65%)*	6 *(35%)*	National conferences/workshops on program strategy development; judicial seminars; facilitators conference; project launch, annual planning, evaluation, and review; study tours.
Consultant's Services	7*(50%)*	7 *(50%)*	COREMAP strategy and policy development; project and TA management; legal advice; COREMAP II design.
Project Management	NBF	NBF	Regular meeting costs for national teams; provincial and district workshops; training (other than surveillance/awareness training)
Office and Other Equipment	NBF	NBF	Office equipment for PMO and regional project units; speed boat/equipment for Selayar unit.
Recurrent Costs	NBF	NBF	Incremental staff; travel costs; project management O&M for central and regional project units.
Part B. Public Awareness			
Awareness Activities	2*(70%)*	2*(30%)*	Specialized awareness/social marketing services; awareness materials production; multi-media national and regional campaigns (including TV and radio); awareness training, research, equipment, production, communications and travel (contracted to a professional PR firm); Guideline distribution and dissemination; public relations; awards[1] (excludes awareness campaigns implemented by provincial teams, which are NBF).
Recurrent Costs	NBF	NBF	Incremental staff.
Part C. Surveillance and Enforcement			
Surveillance Equipment: Nat, Lease, Irian	1(a) *(100%)*		Computer and office equipment for surveillance units, radio equipment, maps, cameras, surveillance vessels, GPS, safety equipment, and other surveillance equipment;
Taka Bone Rate	1(b)*(40%)*	1 *(60%)*	
Studies	4 *(40%)*	4 *(60%)*	Study and action plan for curbing destructive practices (including poison testing).
Surveillance O&M: National, Lease, Irian	5 (a) *(60%)*	--	Surveillance equipment O&M; minor equipment replacement; and honoraria and patrol costs for reef watchers (excludes aerial surveillance and legal prosecutions, which is NBF).
Taka Bone Rate	--	5 *(60%)*	
Workshops	6 *(65%)*	6 *(35%)*	National and cross regional conferences/workshops on coral reef protection from destructive activities and surveillance planning and monitoring
Consultant Services	7 *(50%)*	7 *(50%)*	Monitoring, control and surveillance, and surveillance data systems development.
Surveillance Training	8*(60%)*	--	Reef watchers, and coral reef surveillance and enforcement training (excludes training of Police and Navy officers, which is NBF).
Project Management	NBF	NBF	Meeting/workshop costs at provincial/district levels
Recurrent Costs	NBF	NBF	Incremental staff costs, travel costs, and operation and maintenance of national/provincial surveillance units.
Part D. Community Based Management			
Community Support Services: Lease	3 *(100%)*	--	Services by NGOs and Universities, including field managers, motivators, office and field equipment, accommodation, travel and communications; and costs of community support such as workshops, training, socialization, monitoring, and mapping.
Taka Bone	--	3 *(100%)*	
Studies	4 *(40%)*	4 *(60%)*	Zonation and sanctuary studies in Taka Bone Rate and Lease.
Consultant Services	7 *(50%)*	7 *(50%)*	Coral reef management, park management, technical support.
Village Grants	9 *(100%)*	--	Reef management costs, alternative income generation, and reef saving infrastructure, provided as cash transfer to LKMD against the criteria specified in Annex 2, sub-component 4.3.

[1] - Awards only eligible for GEF financing.

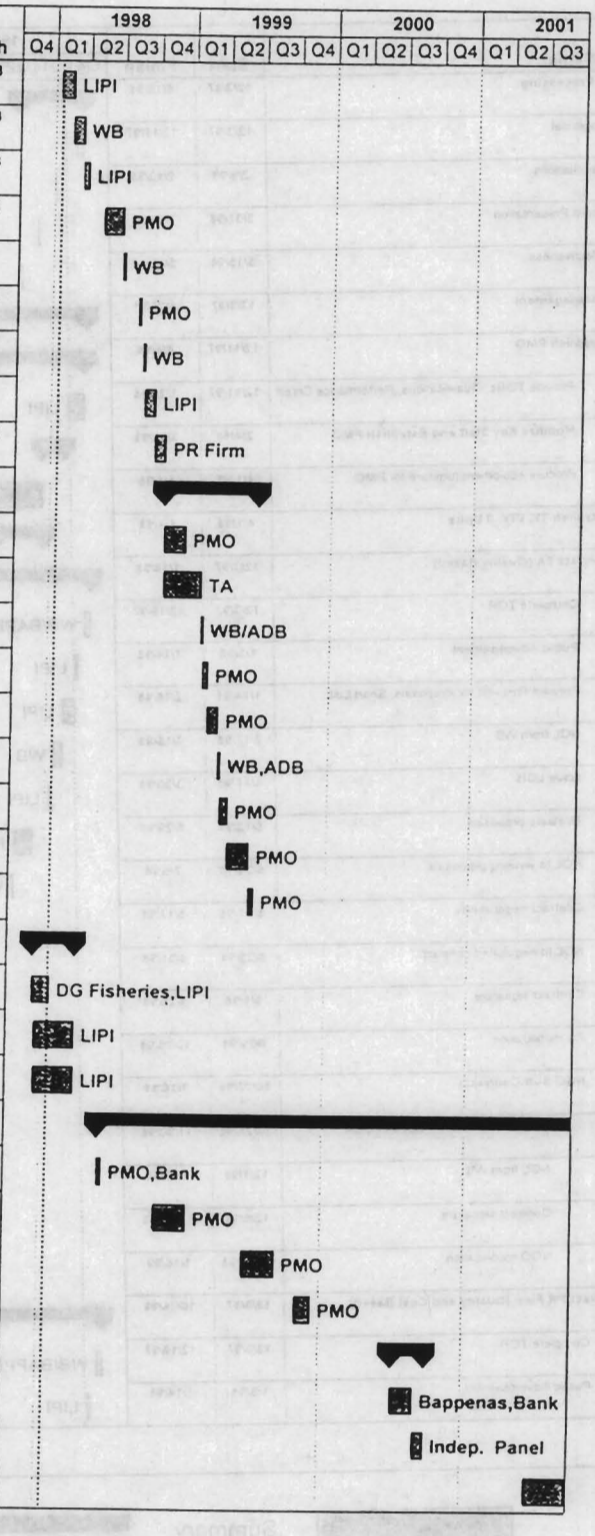
Annex 6, Figure 1: Project Implementation Plan

ID	Task Name	Start	Finish
1	Project Processing	12/3/97	5/15/98
2	Appraisal	12/3/97	12/19/97
3	Negotiations	2/9/98	2/13/98
4	Board Presentation	3/31/98	3/31/98
5	Effectiveness	5/15/98	5/15/98
6	Project Management	12/3/97	9/27/01
7	Establish PMO	12/11/97	8/4/98
8	Provide TORs, Qualifications, Performance Criteri	12/11/97	1/21/98
9	Mobilize Key Staff and Establish PMO	2/4/98	3/31/98
13	Procure equipment/furniture for PMO	4/1/98	8/4/98
14	Establish Tk. I/Tk. II Units	4/1/98	8/4/98
18	Contract TA (Quality Based)	12/3/97	1/18/99
19	Complete TOR	12/3/97	12/19/97
20	Public Advertisement	1/5/98	1/14/98
21	Prepare Request for Proposals, Short List	1/14/98	2/16/98
22	NOL from WB	2/17/98	3/16/98
23	Issue LOIs	3/17/98	3/30/98
24	Evaluate proposals	5/12/98	5/29/98
25	NOL to winning proposals	6/30/98	7/6/98
26	Contract negotiations	8/11/98	8/17/98
27	NOL to negotiated contract	8/25/98	8/31/98
28	Contract signature	9/1/98	9/25/98
29	TA mobilization	9/29/98	10/26/98
30	NGO Sub-Contracts	10/27/98	1/18/99
31	Prepare TOR, Short List/Selection	10/27/98	11/30/98
32	NOL from WB	12/1/98	12/7/98
33	Contract signature	12/8/98	12/28/98
34	NGO mobilization	12/29/98	1/18/99
35	Contract PR Firm (Quality and Cost Based)	12/3/97	10/26/98
36	Complete TOR	12/3/97	12/19/97
37	Public Advertisement	1/5/98	1/14/98



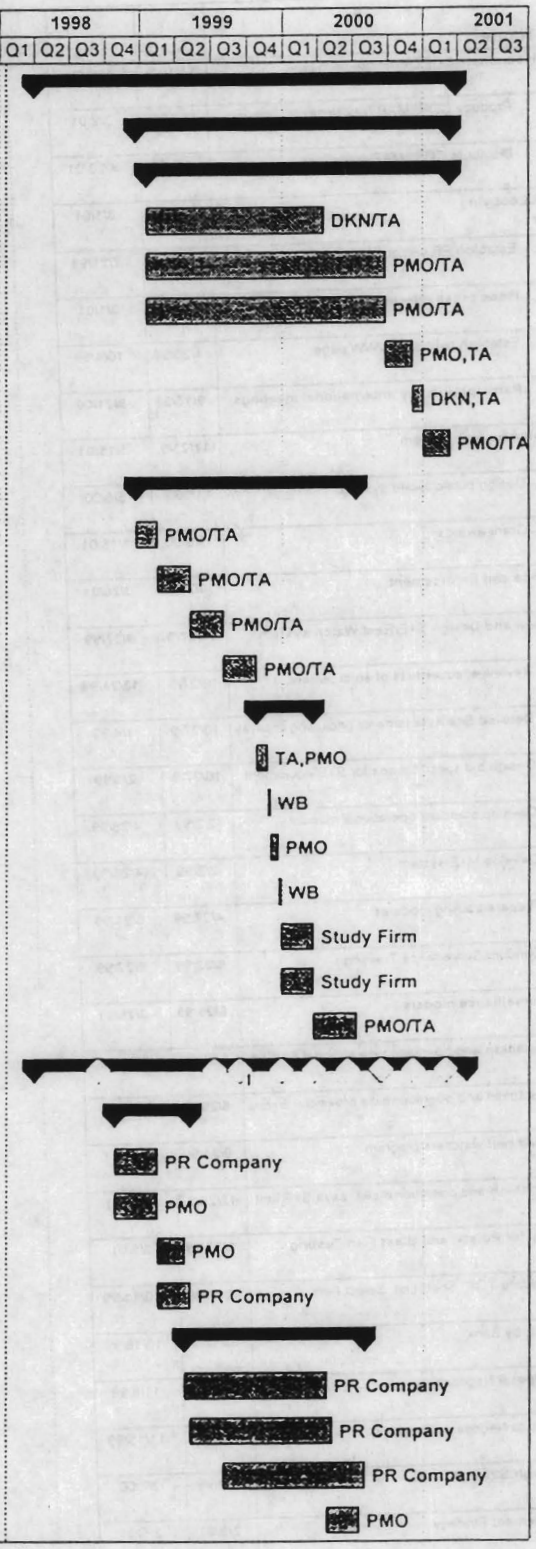
Task Summary Rolled Up Milestone

ID	Task Name	Start	Finish
38	Prepare Request for Proposals, Short List	1/15/98	2/16/98
39	NOL from WB	2/17/98	3/16/98
40	Issue LOIs	3/17/98	3/30/98
41	Evaluate proposals	5/12/98	6/29/98
42	NOL to winning proposals	6/30/98	7/6/98
43	Contract negotiations	8/11/98	8/17/98
44	NOL to negotiated contract	8/25/98	8/31/98
45	Contract signature	9/1/98	9/28/98
46	PR Firm Mobilization	9/29/98	10/26/98
47	Surveillance Equipment Procurement (ICB)	10/27/98	6/28/99
48	Public advertisement	10/27/98	12/21/98
49	Prepare Bidding Documents	10/27/98	2/1/99
50	NOL to Bidding Documents	2/2/99	2/8/99
51	Issue bidding documents	2/9/99	2/22/99
52	Bid evaluation	2/23/99	3/22/99
53	NOL to evaluation report	3/23/99	3/29/99
54	Contract award	3/30/99	4/19/99
55	Equipment Procured	4/20/99	6/14/99
56	Distribution of equipment to Tk. I, National S&E	6/15/99	6/28/99
57	Project Guidelines	12/8/97	3/27/98
58	Guidelines for Village Grants	12/8/97	1/21/98
59	Guidelines for Financial Reporting, Accounting,	12/15/97	3/27/98
60	MOU/Contract Procedures Finalized	12/15/97	3/27/98
61	Project Performance Monitoring	6/1/98	9/27/01
62	Project Launch	6/1/98	6/12/98
63	Design M&E System	10/27/98	1/18/99
64	Annual Evaluation	6/15/99	9/6/99
65	Mid-Term Evaluation	11/1/99	12/10/99
66	Independent Evaluation	7/5/00	9/28/00
67	Panel Appointment	7/5/00	8/29/00
68	Independent Evaluation	9/1/00	9/28/00
69	Implementation Completion Report	6/15/01	9/27/01



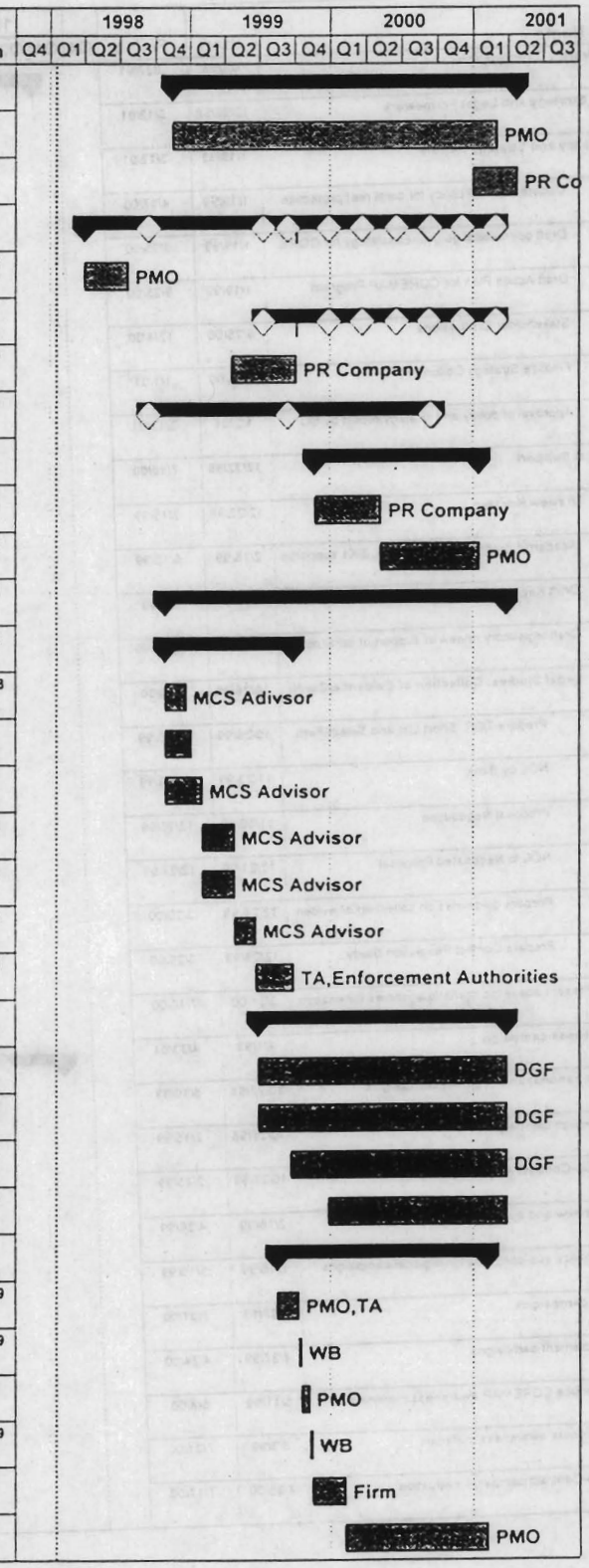
Task Summary Rolled Up Milestone

ID	Task Name	Start	Finish
70	Project Coordination	4/1/98	3/27/01
75	Policy, Strategy and Legal Framework	12/22/98	3/12/01
76	Policy and Strategy Report	1/19/99	3/12/01
77	Update national policy for coral reef protection	1/19/99	4/17/00
78	Draft operational guidelines/strategy for CORE	1/19/99	9/25/00
79	Draft Action Plan for COREMAP Program	1/19/99	9/25/00
80	Stakeholder Discussions	9/26/00	12/4/00
81	Finalize Strategy Document	12/5/00	1/1/01
82	Approval of policy and strategy report by SC	1/2/01	3/12/01
83	Legal Support	12/22/98	7/10/00
84	Review Key laws	12/22/98	2/15/99
85	Academic draft of Maluku PerDA, SKs supportin	2/16/99	5/10/99
86	Draft Kepres for mng institution for TBR	5/11/99	8/2/99
87	Draft legislatory review in support of coral mng	8/3/99	10/25/99
88	Legal Studies: Collection of Evidence/Confli	10/26/99	3/20/00
89	Prepare TOR, Short List and Select Firm	10/26/99	11/22/99
90	NOL by Bank	11/23/99	11/29/99
91	Proposal Negotiation	11/30/99	12/20/99
92	NOL to Negotiated Proposal	12/21/99	12/27/99
93	Prepare guidelines on collection of eviden	12/28/99	3/20/00
94	Prepare Conflict Resolution Study	12/28/99	3/20/00
95	Present academic drafts to agencies for enactm	3/21/00	7/10/00
96	Public awareness campaign	4/1/98	4/23/01
97	Design national and regional campaigns	10/27/98	5/10/99
98	Design campaign	10/27/98	2/15/99
99	Sub-Contract Attitude Survey	10/27/98	2/15/99
100	Review and approval of design	2/16/99	4/26/99
101	Finalize sub-contracts for regional campaigns	2/16/99	5/10/99
102	Launch campaigns	4/27/99	7/31/00
103	Implement campaigns	4/27/99	4/24/00
104	Produce COREMAP awareness materials	5/11/99	5/8/00
105	Distribute awareness materials	8/3/99	7/31/00
106	Sub-Contract campaign evaluation	4/25/00	7/17/00



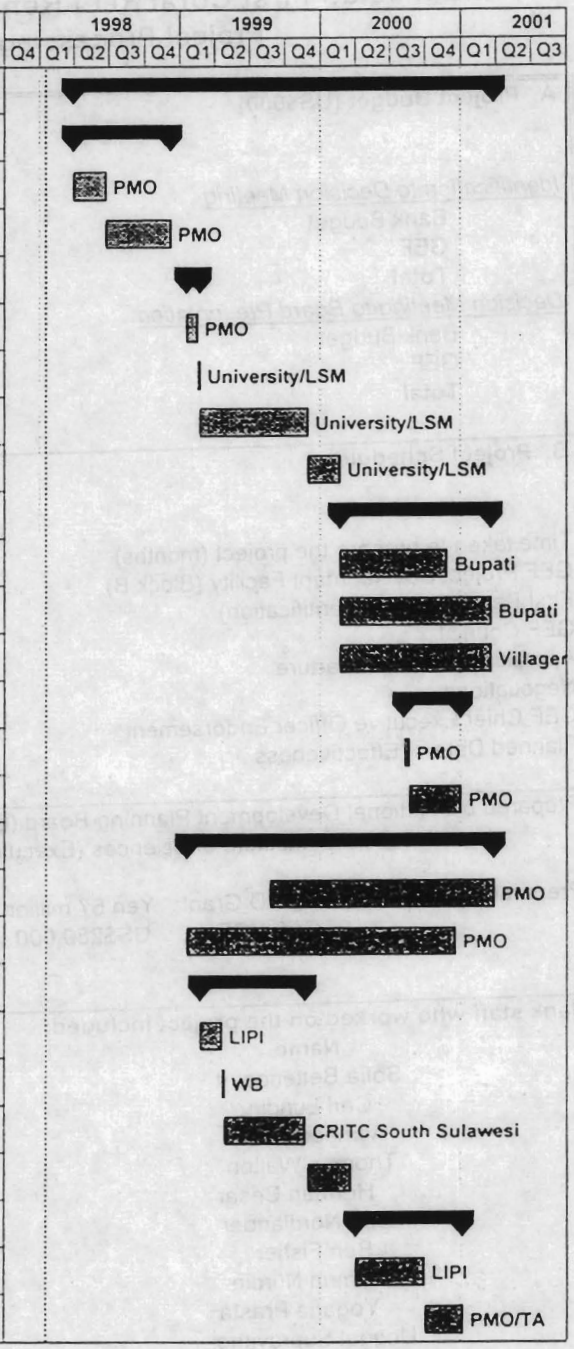
Task Summary Rolled Up Milestone

ID	Task Name	Start	Finish
107	**Disseminate COREMAP guidelines**	11/16/9	4/23/01
108	Produce COREMAP Newsletter (bi-annual)	11/16/9	3/2/01
109	Distribute COREMAP guidelines	1/2/01	4/23/01
110	**PR/Lobbying**	4/1/98	3/1/01
111	Establish PR unit at PMO	4/1/98	7/21/98
112	**Issue press releases**	7/13/99	3/1/01
121	Establish bi-lingual WWW page	4/20/99	10/4/99
122	**Participate in key international meetings**	9/15/98	9/21/00
126	**Design awards system**	11/23/9	1/15/01
127	Design public award system	11/23/9	5/8/00
128	Grant awards	5/9/00	1/15/01
129	**Surveillance and Enforcement**	10/27/9	3/26/01
130	**Review and Design S+E/Reef Watch system**	10/27/9	9/27/99
131	Review effectiveness of enforcement	10/27/9	12/21/98
132	Detailed Site Assessments (including I. Jaya)	10/27/9	1/4/99
133	Design bid specifications for S+E equipment	10/27/9	2/1/99
134	Develop standard operational manual	2/2/99	4/26/99
135	Develop M+E system	2/2/99	4/26/99
136	Prepare training modules	4/27/99	6/21/99
137	Conduct Surveillance Training	6/22/99	9/27/99
138	**Test surveillance models**	6/29/99	3/26/01
139	Establish and operationalize national S+E un	6/29/99	3/26/01
140	Establish and operationalize provincial S+E u	6/29/99	3/26/01
141	Start reef watchers program	9/21/99	3/26/01
142	Establish and operationalize I. Jaya S+E unit	12/28/9	3/26/01
143	**Strategy for Poison and Blast Fish Testing**	8/17/99	2/5/01
144	Prepare TOR, Short List, Select Firm	8/17/99	10/11/99
145	NOL by Bank	10/12/9	10/18/99
146	Proposal Negotiation	10/19/9	11/8/99
147	NOL to Negotiated Proposal	11/9/99	11/15/99
148	Design Strategy	11/16/9	2/7/00
149	Implement Strategy	2/8/00	2/5/01



Task Summary Rolled Up Milestone

ID	Task Name	Start	Finish
150	CBM Tested	4/1/98	3/26/01
151	Issue draft CBM guidelines/field manuals	4/1/98	12/8/98
152	Complete guidelines	4/1/98	6/23/98
153	Disseminate guidelines	6/24/98	12/8/98
154	Select, train and deploy field managers	1/19/99	2/22/99
155	Train FMs and Senior FMs	1/19/99	2/15/99
156	Deploy FMs and Senior FMs	2/16/99	2/22/99
157	Conduct socialization	2/23/99	11/29/99
158	Produce draft location management plans	11/30/9	2/21/00
159	Formalize and implement location plans	2/22/00	3/19/01
160	SK issued for location plans	2/22/00	11/27/00
161	Village grants	2/22/00	3/19/01
162	Implementation of pilot mng schemes	2/22/00	3/19/01
163	Evaluate pilot CBM	8/8/00	1/1/01
164	Evaluation seminar	8/8/00	8/21/00
165	Review and finalize CBM guidelines	8/22/00	1/1/01
166	Establish facilitators network	1/19/99	3/26/01
167	Issue facilitators newsletter	8/24/99	3/26/01
168	Organize cross visits	1/19/99	12/18/00
169	Zonation Study for Taka Bone Rate	2/23/99	11/22/99
170	Complete TOR, Proposal Evaluation	2/23/99	4/19/99
171	NOL by Bank	4/20/99	4/26/99
172	Study Implementation	4/27/99	11/22/99
173	Taka Bone Rate Conservation Center Established	11/30/9	3/20/00
174	Design of COREMAP II completed	4/3/00	1/5/01
175	Complete site assessments for Phase II	4/3/00	9/29/00
176	Prepare draft COREMAP II PIP and Feasibility Stu	10/2/00	1/5/01



Task Summary Rolled Up Milestone

Annex 7

Indonesia: First Coral Reef Rehabilitation and Management Project

Project Processing Budget and Schedule

A. Project Budget (US$000)	Planned (At final PCD stage)	Actual
Identification to Decision Meeting		
Bank Budget	US$167,700	US$314,000
GEF	US$147,200	US$123,500
Total	**US$314,900**	**US$437,500**
Decision Meeting to Board Presentation		
Bank Budget	US$41,300	US$77,400
GEF	US$36,800	US$49,400
Total	**US$78,100**	**US$126,800**

B. Project Schedule	Planned (At final PCD stage)	Actual
Time taken to prepare the project (months)	17	33
GEF Project Development Facility (Block B)	--	9/18/1995
First Bank mission (identification)	4/15/1995	4/15/1995
GEF Council	05/01/1996	05/01/1997
Appraisal mission departure	6/29/1996	12/01/1997
Negotiations	09/18/1996	02/11/1998
GEF Chief Executive Officer Endorsement	10/03/1996	02/28/1998
Planned Date of Effectiveness	---	04/30/1998

Prepared by: National Development Planning Board (Coordinator) and
Indonesian Institute of Sciences (Executor)

Preparation assistance: PHRD Grant: Yen 67 million (GOI executed)*
GEF PDF: US$280,000 (GOI executed)*

Bank staff who worked on the project included:

Name	Specialty
Sofia Bettencourt	Natural Resources Econ./Task Team Leader
Carl Lundin	Coastal Zone Management Specialist
Asmeen Khan	Participation Specialist
Thomas Walton	Environmental Specialist
Herman Cesar	Environmental Economist
Karin Nordlander	Legal Specialist
Ben Fisher	Country Program Coordinator
Thamrin Nurdin	Institutional Specialist
Yogana Prasta	Disbursement Specialist
Unggul Suprayitno	Audit and Disbursement Officer
Christine Kimes	GEF Coordinator/East Asia and Pacific
Kathy Mackinnon	GEF Biodiversity Specialist
Esme Abedin	Operations Analyst
Elizabeth George	Task Assistant (HQ)
Lieke Sastrosatomo	Task Assistant (RSI)
Ellen Schaengold	Senior Sociologist
You Hua Yu/Bridie Champion	Disbursement Officer (HQ)
John Fringer/Preben Jensen	Procurement Advisor
Tony Whitten	Biodiversity Specialist
Adi Wiyana	Consultant

* *Includes preparation of COREMAP II sites.*

Time and cost overruns above the PCD estimates were due to (a) the need to adjust project design after PCD stage; (b) delays in TA processing due to new borrower-executed PHRD rules; and (b) adjustment in GEF/IBRD financing leading to a higher Bank contribution for project preparation.

Annex 8
Indonesia: First Coral Reef Rehabilitation and Management Project Documents in the Project File*

Preparation Reports

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Cesar, Herman. 1996. "Economic Analysis of Indonesian Coral Reefs." Environment Dept., Dec. 1996

Cesar, Herman. "Economic Analysis for Lease Islands." and "Economic Analysis for Taka Bone Rate"

Cesar, Herman. 1997. "Nilai Ekonomi Terumbu Karang Indonesia." World Bank. April 1997.

Flewwelling, Peter H. 1997. "The Government of Indonesia Coral Reef Rehabilitation and Management Project (COREMAP) for Riau (Senayang), Maluku (Nusa Laut/Saparua), NTT (Kupang), and South Sulawesi (Taka Bone Rate) - Legal Framework, Surveillance and Enforcement."

Global Vision, Inc. "Community Environmental Awareness and Participation, Volume I, Field Assessment Report.", Volume II "Inception Report" and Volume III "Preparation Document", September 1996.

Government of Indonesia. "Terms of Reference for Technical Assistance - Project Preparation Stage"

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Yayasan Kehati. "Pengembangan Dan Pengelolaan Terumbu Karang Oleh Masyarakat di Indonesia Timur (Community Based Coral Reef Management at East Indonesia). Laporan Proyek COREMAP Tahap Persiapan, Juli 1996-Januari 1997." Jakarta, Indonesia.

Site Reports - Maluku

Pusat Penelitian dan Pengembangan Kependudukan dan Ketenagakerjaan Lembaga Ilmu Pengetahuan Indonesia. 1996/1997. "COREMAP, Propinsi Maluku, Buku I: Data Dasar."

Yayasan Hualopu. 1996. "Laporan Perkembangan. Pengelolaan Sumber Daya Laut Berkelangjutan Berbasis Masyarakat Desa Ameth, Kec. Saparua, Kab. Malteng. Buku 1: Proses Kegiatan.", and "Buku 2: Kumpulan Hasil Peta". Ambon.

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Site Reports - South Sulawesi

Badan Perencanaan Pembangunan Daerah (BAPPEDA). 1997. "COREMAP I - Sulsel." Propinsi Daerah Tingkat I Sulawesi Selatan.

Kerjasama Antara. 1995. "Laporan Ekspedisi Kelautan Taka Bonerate Sulawesi Selatan, 25 September-2 Nopember 1995." Proyek Inventarisari Dan Evaluasi Sumberdaya Nasional Matra Laut Bakosurtanal Dengan Pusat Penelitian Dan Pengembangan Oseanologi (LIPI). Jakarta.

BAPPEDA TK. 1. 1996/1997. "KONSEP: COREMAP Propinsi Sulawesi Selatan."

Ministry of Forestry. "Draft Taka Bone Rate National Park Management Plan, 1994-2019, Volume I-II" Directorate General of Forest Protection and Nature Conservation.

Basis Project Documents and Mission Aide Memoires

COREMAP: Draft Concept Paper/GEF Project Brief." World Bank Memo. July 11, 1995

GEF Peer Reviewers. Various comments on COREMAP Proposal.

Bettencourt, Sofia. "COREMAP: Minutes of Concept Paper/GEF Project Brief Meeting, July 21, 1995." World Bank Memo. July 28, 1995.

Bettencourt, Sofia. "Proposal for Review." Submission to GEF Council. March 24, 1997.

Bettencourt, Sofia. "COREMAP: Draft Public Information Document." July 26, 1995.

Bettencourt, Sofia. "COREMAP: Identification Mission (April 7-26, 1995) - Back-to-Office Report." World Bank Memo. May 15, 1995.

Bettencourt, Sofia. "COREMAP: Preparation Mission Aide Memoire." World Bank Memo. November 7, 1995.

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Bettencourt, Sofia and Thomas Walton. "COREMAP: "Appraisal Mission Aide Memoire, December 3-19, 1997". December 19, 1997.

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Government of Indonesia. 1997. "Project Implementation Plan."

Letter dated June 16, 1995, from Triono Soendoro to Mr. Kenneth Newcombe, GEF, on proposal to GEF.

Negotiation Documents

Letter dated October 9, 1997, from Dr. Budhy Soegijoko. Letter of Development Program from Government of Indonesia.

Letter dated January 21, 1998, from Dr. Agus Pakpahan. Supplement to letter of Development Program from Government of Indonesia (Description of COREMAP Program).

Letter dated January 21, 1998, from Dr. H. Hidayat Syarief on fulfillment of Negotiations Conditions.

Notice of Invitation to Negotiate

Negotiations Telex

Global Environment Facility Trust Fund Grant Agreement between GOI and IBRD

Loan Agreement between GOI and IBRD

Annex 9

INDONESIA: Statement of Loans and Credits (as of September 30, 1997)

(in Millions of US Dollars)

Loan/Credit	Fiscal Year	Borrower	Purpose	Amount in US$ million (less cancellations) Bank	IDA	Undisbursed	Closing Date
Credits							
48 Credit(s) closed					901.6		
Total Number of Credits = 0					0		
Loans							
204 Loans(s) closed				14,539.88		24.31	
31580	1990		SECONDARY EDUC.II	154.2		15.25	12/31/97
32090	1990		GAS UTILIZATION	86		27.17	3/31/98
32190	1990		JABOTABEK SECOND URB	190		21.66	12/31/97
32460	1991		THIRD JABOTABEK URB	61		14.24	12/31/97
33020	1991		PROV IRR AGRIC DEVT	103.5		12.78	3/31/98
32820	1991		FERT. RESTRUCTURING	221.46		6.95	12/31/97
33050	1991		YOGYAKARTA UPLAND AR	14.2		0.62	12/31/97
34020	1992		AGRICULTURAL FINANCING	106.1		40.59	12/31/98
34960	1992		PRIMARY SCHOOL TEACH	36.6		9.19	12/31/97
34480	1992		PRIMARY EDUC QUALITY IMPROVE	37		13.81	3/31/99
34640	1992		TREECROPS SMALLHOLDER DEV.	87.6		29.39	9/30/98
35010	1992		SURALAYA THERMAL POWER	323.6		95.81	9/30/99
34310	1992		NON-FORMAL EDUC III	69.5		6.23	3/31/98
34820	1992		TELECOM IV	375		154.99	12/31/98
35260	1993		FINANCIAL SECTOR DEV.PROJECT	267.19		41.22	3/31/98
35790	1993		E.INDONESIA KABUPATE	155		21.6	6/30/98
36020	1993		POWER (CIRATA II)	104		62.65	6/30/99
35880	1993		GROUNDWATER DEVT.	35.06		12.12	12/31/99
36290	1993		WTR & SANI FOR LOW I	80		45.27	9/30/99
35890	1993		EARTHQUAKE RECONSTRU	42.1		2.95	12/31/97
35860	1993		INTEGRATED PEST MGMT	32		14.78	9/30/98
35500	1993		THIRD COMM HEALTH &	93.5		32.43	9/30/99
37120	1994		HIGHWAY SECTOR II	350		199.95	12/31/99
37610	1994		SUMATERA & KALIMAN P	260.5		223.51	12/31/00
36580	1994		WTRSHED CONSERVATION & MGMT	56.5		44.97	9/30/00
37540	1994		UNIV RESEARCH FOR GR	58.9		33.83	2/29/00
37320	1994		KABUPATEN ROADS V	101.5		25.59	6/30/99
37620	1994		JAVA IRR IMP & W R M	165.7		109.87	12/31/00
37210	1994		SKILLS DEVELOPMENT	22.79		10.24	12/31/98
37420	1994		DAM SAFETY	55		38.25	9/30/00
37490	1994		SEMARANG-SURAKARTA U	174		113.79	9/30/99
37550	1994		INTEGRATED SWAMPS	65		39.14	9/30/00
37260	1994		SURABAYA URBAN	175		117.26	9/30/99
38886	1995		VILLAGE INFRASTRUCTU	47.1		3.9	9/30/98
39046	1995		TELECOM SECTOR MODER	325		309.3	6/30/01
38876	1995		BOOK & READING DEV	130.4		116.01	10/1/00
38866	1995		AG. RESEARCH II	61		56.23	4/30/02
38010	1995		ACCOUNTANCY DEV II	25		18.82	7/31/00
39136	1995		TA FOR INFRA. II	28		26.43	3/31/00
39050	1995		HEALTH IV:IMPR HEALT	1		0	3/31/01
38870	1995		BOOK & READING DEV	2.1		0.1	10/1/00
38540	1995		KALIMANTAN UDP	136		88.65	6/30/01

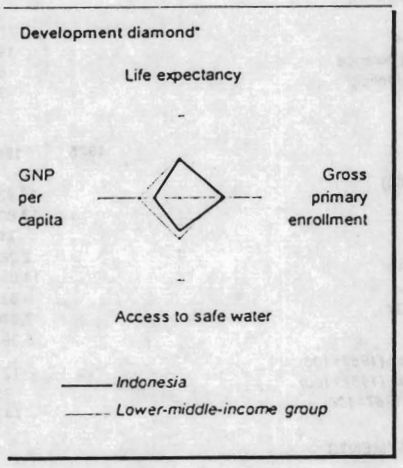
Loan/Credit	Fiscal Year	Borrower	Purpose	Amount in US$ million (less cancellations) Bank	IDA	Undisbursed	Closing Date
Credits							
48 Credit(s) closed					901.6		
Total Number of Credits = 0					0		
Loans							
204 Loans(s) closed				14,539.88		24.31	
38450	1995		RURAL ELECT II	398		262.72	12/31/98
38250	1995		PHRD II	69		42.18	9/30/00
37920	1995		LAND ADMINISTRATION	80		57.71	9/30/00
39056	1995		HEALTH IV:IMPR HEALT	87		79.98	3/31/01
39810	1996		STD/AIDS	24.8		23.73	9/30/99
39720	1996		IND'L TECHNOLOGY DEV	47		41	12/31/01
40070	1996		SULAWESI AGRI AREA	26.8		24.45	6/30/03
40170	1996		SECOND E. JAVA UDP	142.7		129.64	3/31/00
39790	1996		SECONDARY SCHOOL TEA	60.4		55.11	10/1/01
40430	1996		HIGHER EDUC SUP.(III	65		58.05	9/30/02
40420	1996		E.JAVA SEC.EDUC.	99		96.5	6/30/02
40300	1996		HR CAPACITY BUILDING	20		19.31	12/31/00
40080	1996		KERINCI SEBLAT ICDP	19.1		18.5	9/30/02
40540	1996		STRATEGIC URB. RDS I	86.9		80.1	9/30/01
39840	1996		NUSA TENGGARA DEV.	27		24.8	9/30/02
39780	1996		POW. TRANS & DIST II	373		372.21	9/30/00
41250	1997		IODINE DEF. CONTROL	28.5		27.5	6/30/02
41930	1997		QUAL OF UNDERGRAD ED	71.2		71.2	3/31/04
41000	1997		VILLAGE INFRA II	140.1		132.21	12/31/99
41550	1997		BALI URBAN INFRAST.	110		110	12/31/02
40950	1997		SUMATRA SEC EDUC	98		95	9/30/02
41940	1997		BEPEKA AUDIT MODER P	16.4		16.4	12/31/02
40620	1997		C.INDONESIA SEC EDU.	104		101.38	6/30/02
41050	1997		SULAWESI UDP II	155		150	12/31/01
41060	1997		RLWY EFFICIENCY	105		105	9/30/02
41320	1997		SOLAR HOME SYSTEMS	20		20	4/30/02
41980	1997		RENW. ENER SMAL PW P	66.4		66.4	10/31/01
42070	1998		SAFE MOTHERHOOD	42.5		42.5	5/31/03
Total Number of Loans = 70				7,497.89		4,581.14	
		Total***		22,037.77	901.6		
		of which repaid		7,198.47	180.2		
		Total held by Bank & IDA		14,839.30	721.4		
		Amount sold	88.08				
		of which repaid	88.08				
		Total Undisbursed				4,605.45	

Annex 10
Country at a Glance

Indonesia at a glance

8/15/97

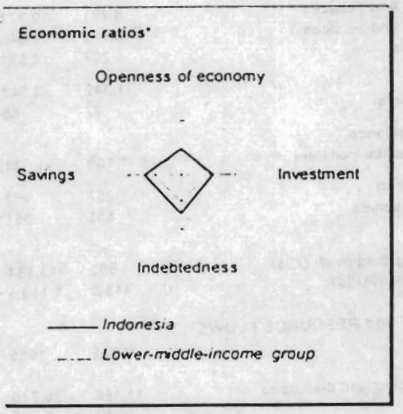
POVERTY and SOCIAL	Indonesia	East Asia	Lower-middle-income
Population mid-1996 *(millions)*	196.1	1,726	1,125
GNP per capita 1996 *(US$)*	1,090	890	1,750
GNP 1996 *(billions US$)*	213.7	1,542	1,967
Average annual growth, 1990-96			
Population *(%)*	1.6	1.3	1.4
Labor force *(%)*	2.5	1.3	1.8
Most recent estimate *(latest year available since 1989)*			
Poverty: headcount index *(% of population)*	11	..	..
Urban population *(% of total population)*	36	31	56
Life expectancy at birth *(years)*	64	68	67
Infant mortality *(per 1,000 live births)*	51	40	41
Child malnutrition *(% of children under 5)*	11	..	..
Access to safe water *(% of population)*	63	49	78
Illiteracy *(% of population age 15+)*	16	17	..
Gross primary enrollment *(% of school-age population)*	115	117	104
Male	117	120	105
Female	113	116	101



KEY ECONOMIC RATIOS and LONG-TERM TRENDS

	1975	1985	1995	1996
GDP *(billions US$)*	32.1	87.2	208.6	230.8
Gross domestic investment/GDP	23.7	26.1	32.4	32.7
Exports of goods and services/GDP	23.2	22.2	26.4	26.2
Gross domestic savings/GDP	25.9	27.8	33.5	34.0
Gross national savings/GDP	23.4	22.8	28.2	28.4
Current account balance/GDP	-3.4	-2.2	-3.4	-3.5
Interest payments/GDP	1.0	2.3	2.4	2.3
Total debt/GDP	35.8	42.1	51.7	46.9
Total debt service/exports	15.1	28.8	29.9	33.0
Present value of debt/GDP	..	..	51.0	..
Present value of debt/exports	..	..	187.7	..

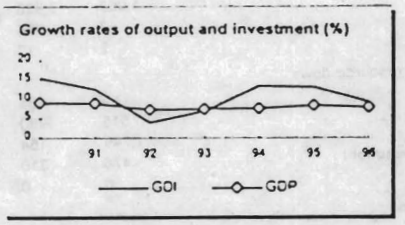
	1975-85	1986-96	1995	1996	1997-05
(average annual growth)					
GDP	7.0	7.9	8.2	7.8	7.7
GNP per capita	4.3	6.1	5.8	6.3	6.4
Exports of goods and services	-1.0	9.3	8.6	6.3	9.5

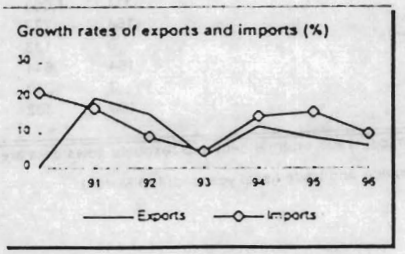


STRUCTURE of the ECONOMY

	1975	1985	1995	1996
(% of GDP)				
Agriculture	30.2	23.2	17.2	16.3
Industry	33.5	35.9	41.5	42.7
Manufacturing	9.8	16.0	24.2	25.2
Services	36.3	40.9	41.4	41.0
Private consumption	65.1	60.4	58.6	58.3
General government consumption	9.0	11.8	7.9	7.7
Imports of goods and services	21.0	20.5	25.2	24.9

	1975-85	1986-96	1995	1996
(average annual growth)				
Agriculture	4.2	3.4	4.2	1.9
Industry	7.0	9.9	10.4	10.4
Manufacturing	14.5	11.2	10.8	11.0
Services	9.0	8.1	7.7	7.4
Private consumption	9.8	6.9	9.7	9.2
General government consumption	10.5	4.8	1.3	3.8
Gross domestic investment	12.1	10.7	13.0	9.1
Imports of goods and services	8.8	9.4	15.8	9.6
Gross national product	6.5	7.9	7.4	7.5





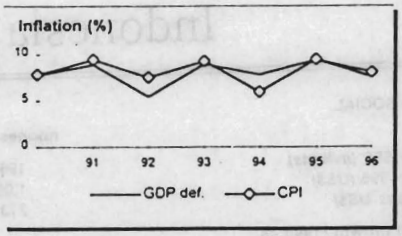
Note: 1996 data are preliminary estimates. Figures in italics are for years other than those specified.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will

Indonesia

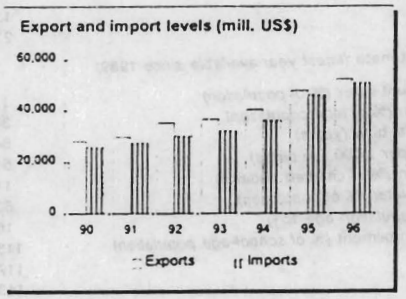
PRICES and GOVERNMENT FINANCE

	1975	1985	1995	1996
Domestic prices				
(% change)				
Consumer prices	19.1	4.7	9.4	8.0
Implicit GDP deflator	11.2	4.3	9.4	7.5
Government finance				
(% of GDP)				
Current revenue	..	19.2	14.7	15.4
Current budget balance	..	6.0	5.4	6.1
Overall surplus/deficit	..	-3.2	0.8	0.9



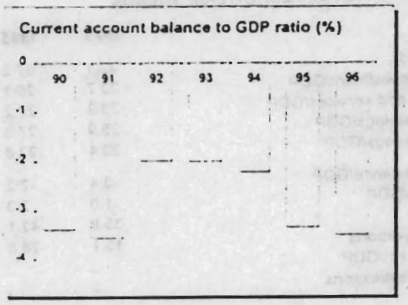
TRADE

	1975	1985	1995	1996
(millions US$)				
Total exports (fob)	..	18,823	47,754	52,192
Fuel	..	12,804	10,616	12,594
Rubber	..	714	2,330	2,388
Manufactures	..	2,287	29,054	31,617
Total imports (cif)	..	14,056	46,039	50,815
Food	..	812	3,397	3,852
Fuel and energy	..	2,870	3,563	4,414
Capital goods	..	5,394	18,957	21,135
Export price index *(1987=100)*	..	121	137	..
Import price index *(1987=100)*	..	85	127	..
Terms of trade *(1987=100)*	..	143	108	..



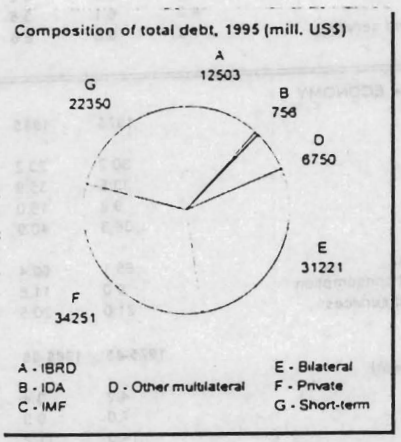
BALANCE of PAYMENTS

	1975	1985	1995	1996
(millions US$)				
Exports of goods and services	6,981	19,371	52,938	58,017
Imports of goods and services	6,775	17,840	51,589	57,050
Resource balance	207	1,531	1,349	968
Net income	-1,342	-3,542	-7,832	-8,766
Net current transfers	27	88	-504	-256
Current account balance, before official capital transfers	-1,108	-1,923	-6,987	-8,054
Financing items (net)	257	962	9,638	11,927
Changes in net reserves	851	961	-2,651	-3,873
Memo:				
Reserves including gold *(mill. US$)*	592	13,184	16,000	19,873
Conversion rate *(local/US$)*	415.0	1,110.6	2,255.0	2,362.0



EXTERNAL DEBT and RESOURCE FLOWS

	1975	1985	1995	1996
(millions US$)				
Total debt outstanding and disbursed	11,498	36,715	107,831	108,300
IBRD	57	3,590	12,503	11,138
IDA	318	844	756	736
Total debt service	1,060	5,823	16,419	18,672
IBRD	2	384	1,875	2,249
IDA	2	12	26	26
Composition of net resource flows				
Official grants	69	136	249	..
Official creditors	515	980	1,101	..
Private creditors	1,749	154	2,428	..
Foreign direct investment	476	310	4,348	..
Portfolio equity	0	0	4,873	..
World Bank program				
Commitments	311	1,068	1,312	1,194
Disbursements	164	777	1,045	905
Principal repayments	0	133	975	1,429
Net flows	164	644	69	-523
Interest payments	3	262	926	846
Net transfers	160	382	-857	-1,370



Development Economics. 1996 external debt and resource flows data are staff estimates (preliminary). 8/15/97

Note: Government finance and trade fiscal year (April to March).

Annex 11
Social Analysis and Participatory Approach

The project has invested considerable resources in social assessment and consultation activities during project preparation. These activities include participatory consultative workshops with key stakeholder groups, site surveys and participatory rural appraisals (PRAs), and development of pilot site-based activities with local NGO groups. These activities were implemented by the Government of Indonesia through the Indonesian Institute of Sciences (LIPI) and local Universities, a consulting company (AMSAT), and the Indonesian Biodiversity Foundation (Yayasan Kehati) in collaboration with a network of local NGOs. Site assessments were carried out in all COREMAP program provinces, including sites which will be the target of the Acceleration Phase (COREMAP II). The site information has been assembled in a CD-Rom database and monitoring tool.

Summary Activities Include:

AMSAT:
- literature review
- provincial level consultation with task force
- kabupaten-level Task Force consultation
- consultation with LKMD, Kepala Desa at location
- community meetings facilitated by village leaders (40-50 participants)
- focus groups with key stakeholders

LIPI
- questionnaire survey for 150 households per location
- in-depth interviews with 150 informants
  PRAs in selected sites (Padaido Islands, Irian Jaya, and Spermonde Islands, South Sulawesi)
- SA activities conducted by local universities (UNHAS, UNPATTI, UNCEN, UNDANA) with local NGOs in selected sites (LP3M-S.Sul, Rumsram-Irian)

KEHATI
- key NGOs identified for each province
- organized local workshops for proposal development
- reviewed and selected 21 proposals for funding in five COREMAP program provinces (S. Sulawesi, Maluku, Irian Jaya, NTB and NTT).

These participatory approaches will continue during project implementation through the following:

- ***Public awareness component*** - will support information dissemination and awareness about the project targeted at key stakeholders at the national, regional and local level. NGOs and local communities are expected to participate directly in these activities.

- ***Establishment of local committees***--to allow for feedback and information from stakeholders on project implementation

- ***Continued support for Social Assessment*** in new sites

- ***Support for community based management activities*** with local NGOs, including development of participatory zoning, management plans, PRAs to develop local development plans and participatory beneficiary monitoring of activities

Summary Social Assessment Activities

PROVINCES	SITES/ LOCATIONS	AMSAT	LIPI	KEHATI
S.SULAWESI	Taka Bone Rate (a) Rajuni Kecil	a. kab.meeting interviews	-	LP3M, Rajuni, Pemda Selayar (social preparation) Forum Konservasi Laut (awareness)
	Sinjai (a) Pulau Sembilan	secondary information	-	Lakpesdam (social preparation)
MALUKU	Kotania Bay (a) Osi (b) Kotania (c) Pelita Jaya	community meeting for 3 locations	a. household survey, in-depth interviews, PRA	Yayasan Siwa Lima (networking) Assosiasi Kriminolgi (adat documentation)
	Lease Islands (a) Haruku (b) Saparua (c) Nusa laut	a. comm.meeting (b+c) comm.meeting	c. household survey, in-depth interviews, PRA UNPATTI	a. Yayasan Learisa kayeli (mgt) b. Hualupu (mgt) b. Yayasan Arman (awareness)

Consultation Activities and Output

Consultation Activities	Stakeholders Involved	Duration	Output
National Workshop	National COREMAP Team Representatives from Prov. Steering Committee	3 days in April 1996	Agreed sites and locations, time schedule for field visits
Provincial Workshop	Prov. steering committee & working group	1 day each province except Irian Jaya (between April 17-June 15, 1996)	field programs, identification of specific issues, social and legal problems, NGO to facilitate field work
District/Kecamatan Workshop	MUSPIDA or Kecamatan Staff	1/2 day workshop per location	plan for community meetings/consultations
Community participatory Workshop	Village government, village organization, traditional/adat leaders, religious leaders, community groups (fisheries, small traders, boat operators, etc.), local NGO, women group & leaders, school teachers, village cooperatives, etc.	1 day workshop per location	identification of potential coral related resources in each location, management problems related to social, economic & cultural issues, conflicts, illegal fishing activities, community expectation and willingness to participate in future COREMAP activities
National Workshop II	National COREMAP technical team, representatives from prov. steering committee, representatives from donors/ International Banks, NGOs	2 days in July 1996	feedback on TA team's field findings, identification of approach to implementation, identification of approach to implementation, identification of possible funding mechanism for implementation
National Workshop III	National COREMAP technical team, representatives from prov. steering committee, representatives from donors/ International Banks, NGOs	2 days in September 1996	agreement on approach on locally based management and strategy for finalizing report
National Workshop IV	National COREMAP technical team, representatives from prov. teams, project consultant	January 1997	discussion of draft PIP
National Workshop V	National COREMAP technical team, representatives from prov. steering committees, international donors, NGOs	2 days in July 1997	discussion of site PIPs
Various meetings with national COREMAP team	National COREMAP team	several times between April 1996 and August 1996	feedback on progress reports
Consultation meeting with national COREMAP team	National COREMAP team	October 5th and 11th, 1996	discussed AMSAT approach to final PPD

Annex 12
Indonesia: First Coral Reef Rehabilitation and Management Program
Summary Site Assessments and Implementation Strategy

Annex 12. 1 Lease Islands Site

Geographical:

Location:	ca. 3°35'S to 3°45'S; 128°30'E and 128°45'E The project site comprises the islands of **Saparua** and **Nusa Laut** in the Lease Island group, east of Ambon, Banda Sea.
Size:	24,300 ha (land area); 5,000 ha (coral area)
Population:	43,200.
Status:	The site is not currently a protected area.
District:	Maluku Tengah, Maluku
Sub-Districts:	Pulau Saparua

Ecological:

Coral:	135 species, 52 genera.
Reef habitats:	primarily fringing.
Dominant coral:	*Porites*
Other species:	Unknown (21 target fish identified); high diversity of mollusks.

Coral Reef Condition:

	Range
% Life Coral Cover (*Saparua, 3 m*):	25-50%
% Life Coral Cover (*N. Laut, 3 m*):	25-75%

Recovery Prospects: Good potential for CBM. If damage eliminated, reef recovery could be expected in 15-20 years.

Key Threats:

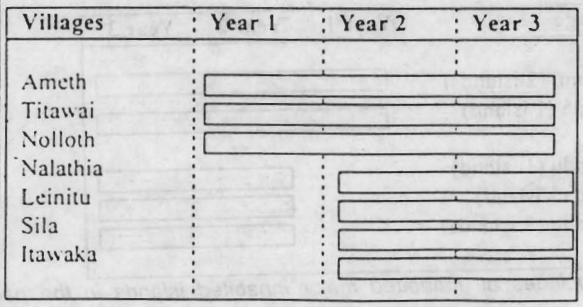
Threat	Degree	Trend
Bombing	• • •	Declining
Traps	• • •	Increasing
Coral extraction	• •	Declining
Wading (reef flat only)	• • •	Increasing
Anchor damage	• •	Increasing
Overfishing	• • •	Increasing
Crown-of-Thorns (Acanthaster)	•	Seasonal
Poison (live) fishery	•	Declining
Sedimentation (locally-based)	• •	Increasing

Social:

Saparua and Nusa Laut were originally populated by people from Seram. Some villages in Saparua and the neighboring island of Haruku are inhabited by Butonese Moslem migrants. The islands depend primarily on agriculture, such as cloves, nutmeg, and livestock. Fishing, primarily for skipjack, small pelagics, shellfish, sea cucumber and reef fish, is practiced for both subsistence and trade. The site has good potential for community-based management due to the prevalence of customary marine rights (*petuanan laut*) on coastal waters, where access to some fishing grounds and seasons are regulated by customary practices (*sasi*). For resources with commercial value such as trochus and sea cucumber, however, traditional sasi, practiced by both the kewang (*sasi adat*) and the church (*sasi gereja*), has increasingly been replaced by government-led open seasons and auctioning systems (*sasi lelang*). Increasing commercial pressures have also resulted in sub-optimal closures and declining productivity. User conflicts sometimes arise between local residents and seasonal fishers who fail to recognize traditional user rights. In addition, there have been recent conflicts in Haruku over a mining exploration concession claimed to affect the productivity of coastal grounds. In Ameth, Nusa Laut, the village government has institutionalized a user pay system with diving operators, where Rp. 25,000 per boat is collected in exchange for reef protection. Marine tourism is expected to increase in Nusa Laut, and may require arrangements to ensure that a larger proportion of the benefits are retained by island communities. Yayasan Hualopu, a local NGO, has been working with island communities in developing participatory resource mapping and strengthen community organization. At present, the main threats to local reefs include bombing, traps, overfishing, mining, and wading on reef flats.

Project Strategy: COREMAP I will start with two locations in Saparua and Nusa Laut, where community-based management efforts are on-going. These locations would constitute a model for expansion into island-wide management during COREMAP II.

Key Issues	COREMAP I Strategy	Level
1. Low awareness	Public awareness campaigns; cross visits	National, Provincial, District, site.
2. Limited economic opportunities	Development of AIGs linked to reef management	District, site.
3. Destructive/illegal fishing practices	Implement and legally recognize local mng plans	District, site.
4. Weak law enforcement	Strengthen surveillance/reef watchers' system.	Province, site.
5. Weakening of customary marine user rights	Revitalize customary rights at village level; Issue Perda Tk. I and II recognizing user rights over reef areas	Province, District
6. Coral mining	Public awareness and AIGs	Site



Village	Area (Km2)	Population	Density
Nusa Laut:			
Ameth	6	1,140	190
Titawai	6	1,905	318
Nalathia	6	660	110
Leinitu	3.5	514	147
Sila	3.5	340	97
Saparua:			
Nolloth	15	2,693	180
Itawaka	10	2,025	202

Annex 12.2 Taka Bone Rate National Park Site

Geographical:

Location:	7°10'S to 7°20'S; 120°55'E and 121°20'E 21 islands in Flores Sea.
Size:	530,800 ha (national park area)
Population:	4,200 in 7 inhabited islands.
Status:	National Park since 1992.
District:	Selayar, South Sulawesi
Sub-Districts:	Pasimasunggu and Pasimarannu

Conservation Importance:

Indonesia's largest atoll and world's third largest. Identified as first order conservation priority under *Indonesia's Marine Conservation Atlas*, and as a priority under *the Global Representative System of Marine Protected Areas.*

Ecological:

Coral:	200 species, 52 genera.
Reef habitats:	atoll, patch, barrier, fringing.
Dominant coral:	*Acropora*
Fish genera:	325
Gastropod spp:	121
Bivalve sps:	78

Coral Reef Condition:

	Avg all stations	*Range*
% Life Hard Coral (3 m):	21%	4-72%
% Soft Coral (3 m):	11%	0-33%
% Dead Coral (3 m):	8%	0-34%
% Abiotic material (3 m):	22%	2-82%

Recovery Prospects: If damage eliminated, reef recovery could be evident in 5 years, due to fast-growing *Acropora.*

Key Threats:

Threat	Degree	Trend
Bombing: External Fishers	• • •	Stable
Internal Fishers	• • •	Stable
Cyanide Fishing: External Fishers	• • •	Increasing
Internal Fishers	• • •	Increasing
Traps: External Fishers	•	Decreasing
Overfishing	• •	Stable
Wading	• •	Increasing
Anchor Damage	• • •	Stable
Garbage/Waste	• •	Stable

Social:

The atoll (15-18 hours by boat from Ujung Pandang) is inhabited by a mixture of Bajau and later-arriving Buginese, many of whom are involved in patron-client (*ponggawa-sawi*) systems. Up to 75-80 percent of the fishing effort comes from external fishers, originating from Sinjai, Flores, Buton, Ujung Pandang and Bali. Fishing, including squid, live food (cyanide), bombing, shellfish collection, gleaning, traps, and fish processing, is the main economic activity in the islands. Women play important roles in reef gleaning and processing. There is no fresh water and transportation and communications with other areas are limited. This, associated with a high dependence on *ponggawa* for credit, contributes to low socio-economic standards and limited income opportunities outside fishing. The area has been hard hit by the cyanide fish trade and increased external pressures. Enforcement efforts have been stepped up in recent years, but institutional coordination remains a problem, and individual abuses of authority have been reported. Recent efforts by NGOs active in the park (LP3M, WWF), the district government, and Hasanuddin University, have helped strengthen community groups, and raise local awareness, leading to declines in fish bombing and coral mining; however, much remains to be done in controlling external fishing, improve the coordination of institutions involved in the park, optimize park zonation, and develop sustainable income opportunities for atoll residents.

Project Strategy

Key Issues	*COREMAP Strategy*		*Responsibility*
	COREMAP I	*COREMAP II+*	
1. Lack of coordinated actions and policies	• Operationalize Coordination Team for TBR • Develop park management framework	Kepres establishing Conservation Institution w/ authority for park management and regulation	PMO, Provincial and District Teams
2. Destructive/illegal fishing	• Strengthen joint surveillance patrols and reef watch system in park entry gates. • Design vessel licensing system	Stop all illegal fishing in the park.	Provincial and District
3. Overfishing	• Establish reef sanctuaries; • Optimize park zonation.	Strengthened management for (a) conservation; and (b) fisheries manag.	District and site.
4. Limited Income Opportunities	• Strengthen POKMAS, introduce post-harvest, and facilitate private sector links	Ensure links between AIGs and reef mng; retain revenues within the park	Site
5. Low awareness	• Public awareness campaigns	CRITC to provide full mng information	Prov. and site.

COREMAP I Villages and Project Phasing

Village	Island	Population
Radjuni	Radjuni Kecil	701
	Radjuni Besar	239
Tarupa	Tarupa	643
Latondu	Latondu	829
Jinato	Jinato	783
Pasitallu/Lambena	Pasitallu Tengah	556
	Pasitallu Timur	449
Total		*4,200*

Village	Year 1	Year 2	Year 3
Radjuni (2 islands)			
Tarupa (1 island)			
Latondu (1 island)			
Jinato (1 island)			
Pasitallu (2 islands)			

- Includes all inhabited major inhabited islands in the park.

Annex 12.3: Conflict Resolution Framework for Taka Bone Rate
Summary Description of Agents, Issues, and Conflict Resolution Mechanism

Agents	Issues/Causes	Conflict Avoidance Through	Conflict Resolution Through	Key Authorities	General Assumption
Local Fishers	Existing and future use patterns conflict with park restrictions (e.g. areas, species, seasons, gear types)	Participatory planning of park zones and restrictions (e.g through CBM), including: • Good dissemination of park rules; • Wide understanding and acceptance of rules • Alternative income	• Enforcement • Meetings at Park and Kabupaten level	Park management authorities Kabupaten	Efficient monitoring and information flow Effective representation of user groups Park rules and regulations are clearly understood
Outside Fishers	• Existing and future use patterns conflict with park restrictions; • Licensing;	• Good planning anticipating expected conflicts • Identifying leaders • Defining 'traditional' outside fishers; • Wide dissemination of park rules; • Effective enforcement of exclusion and licensing	• Good enforcement and licensing at four points of entry to park • Inter-provincial meetings and actions	Park management authorities Enforcement unit Kabupaten Province	Effective licensing system Senior agency staff are in touch with field situation and individual behavior of their staff
Enforcement Agents	• Improper enforcement of restrictions • Levy of unauthorized payments • Changes of personnel	• Good training in procedures, park rules and public relations • Career incentives • Good leadership • Public disclosure	Disciplinary action	Enforcement agencies Kabupaten and Province	
Outside Agencies	• Unauthorized licenses • Changes in personnel	• Wide dissemination of park rules and management system • Inter-agency collaboration	Effective enforcement (exclusion of vessels with unauthorized licenses)	Provincial Government	
Private Sector	• Existing and future commercial pressure encouraging unsustainable practices • Lobbying for inappropriate concessions	• Wide dissemination of park rules and management systems • Inter-agency collaboration	Enforcement Dialogue	Park management authorities Kabupaten Province	

Ideal Scenario: Park User Patterns and Park Restrictions Do Not Overlap

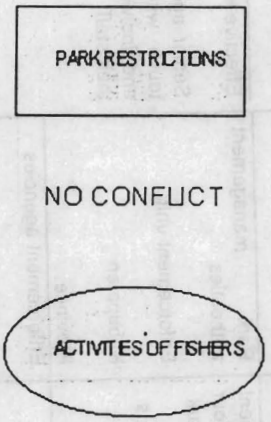
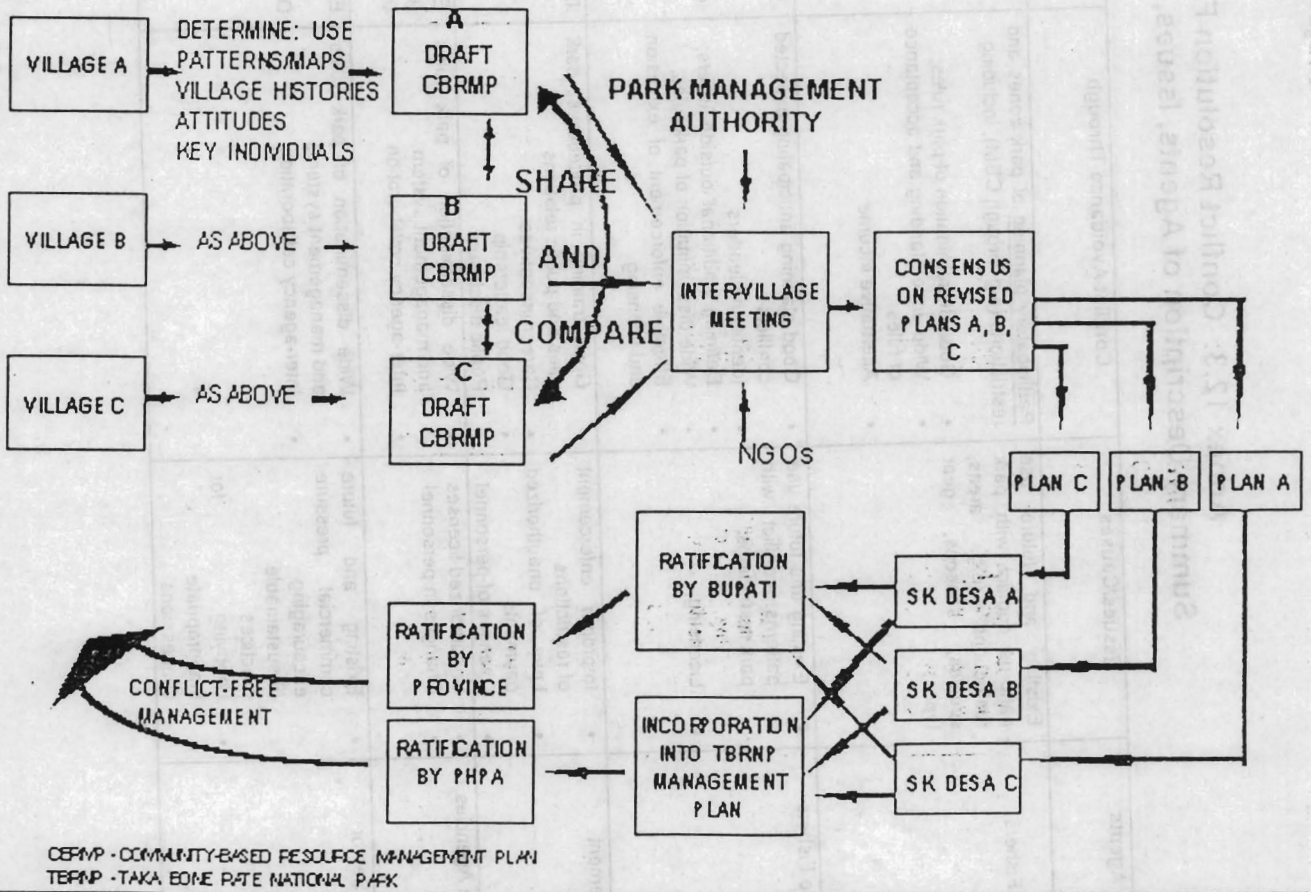


Diagram A: Process for Development of Community-Based Resource Management Plans to Minimize Conflicts in Implementation



CBRMP - COMMUNITY-BASED RESOURCE MANAGEMENT PLAN
TBRNP - TAKA BONE RATE NATIONAL PARK

Diagram B: Resolution of Conflict Between Different Groups of Local Fishers

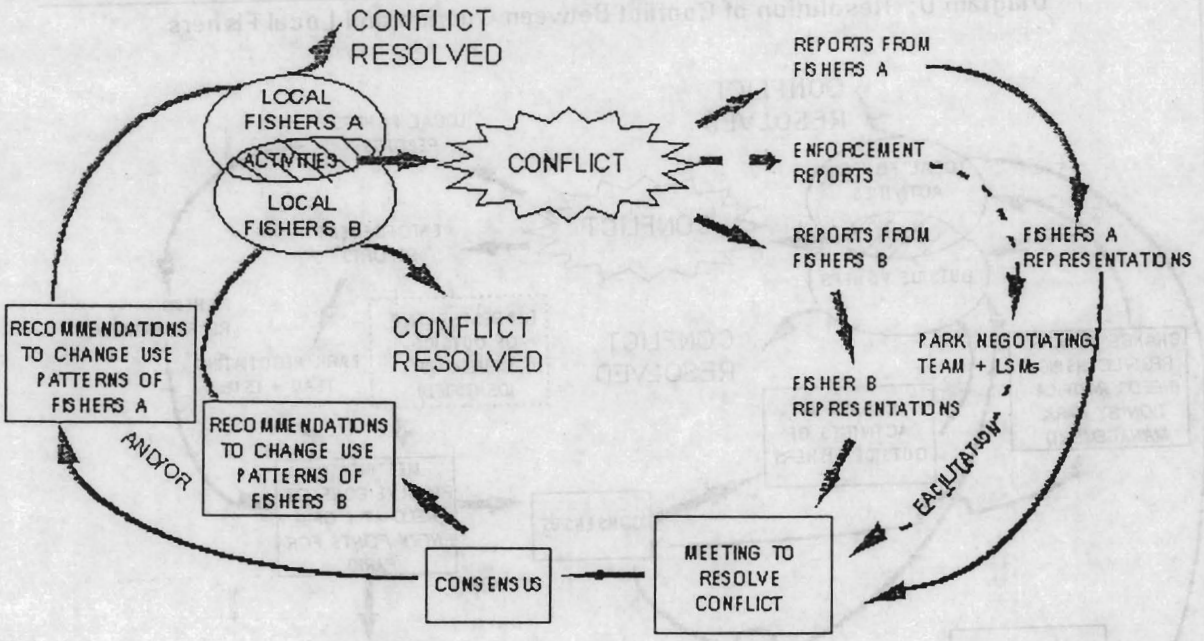


Diagram C: Resolution of Conflict Between Local Users With Park Management

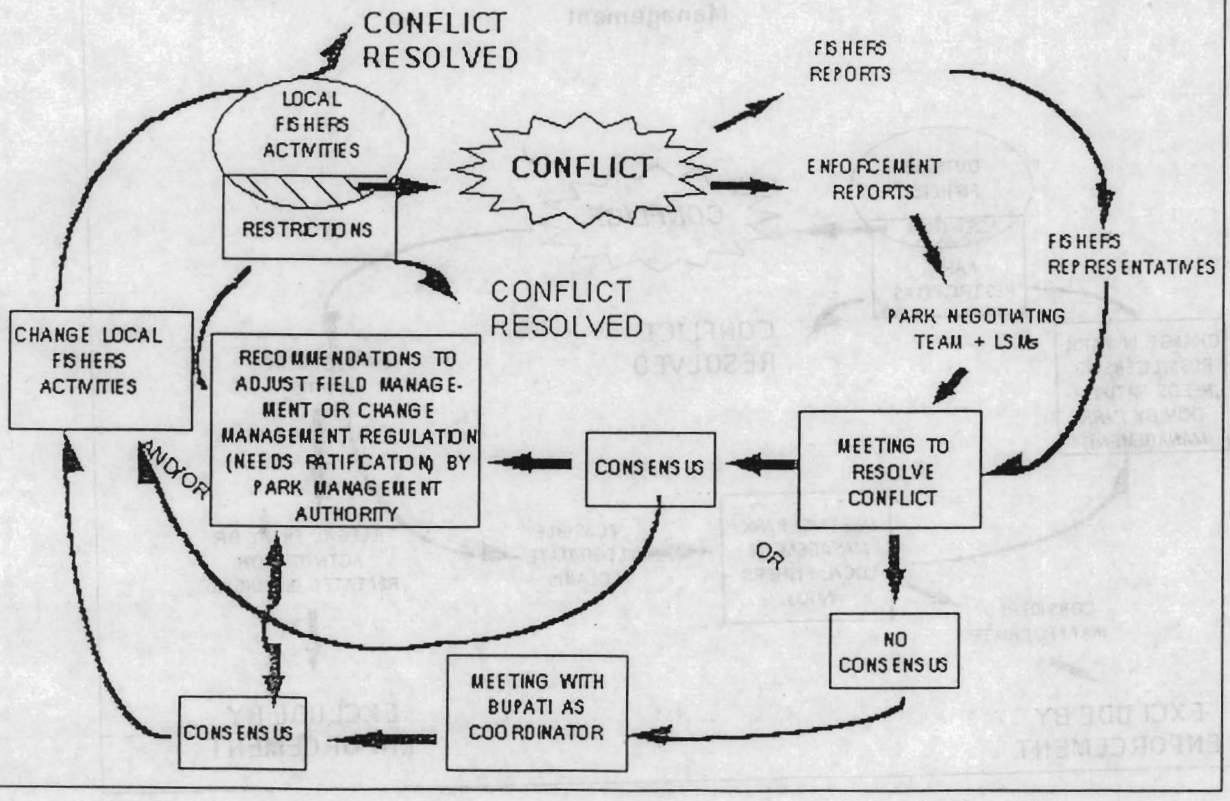


Diagram D: Resolution of Conflict Between Outside and Local Fishers

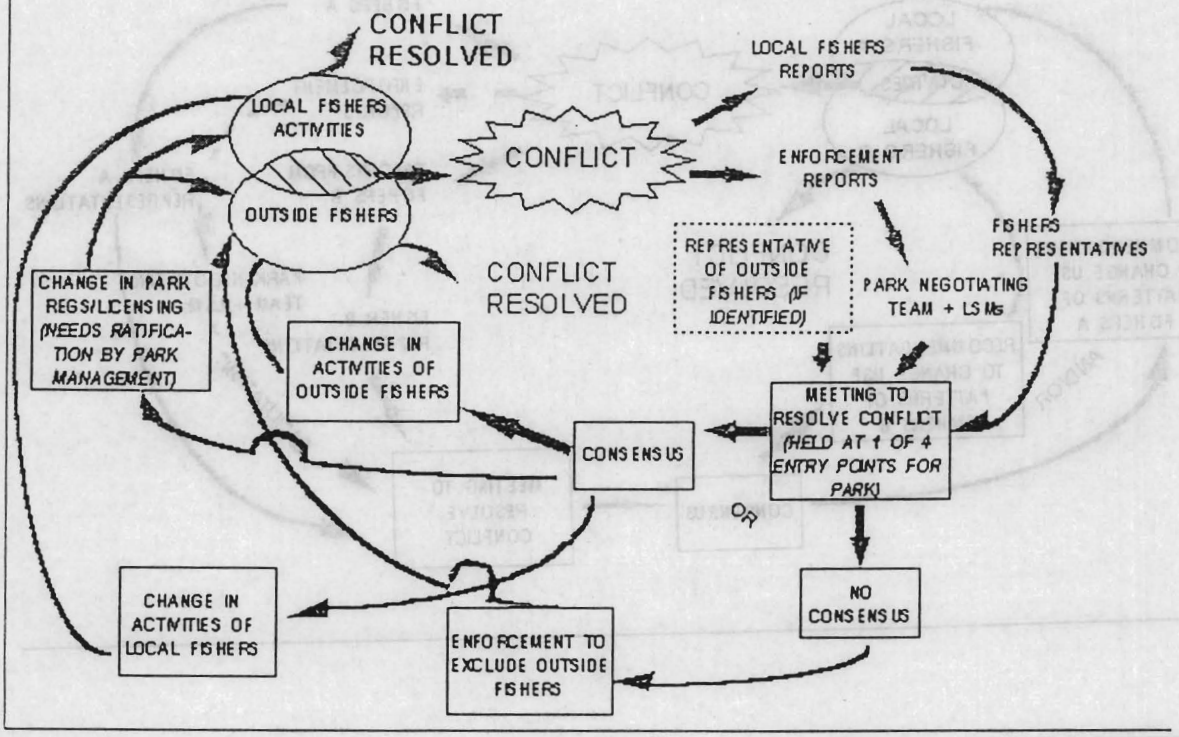
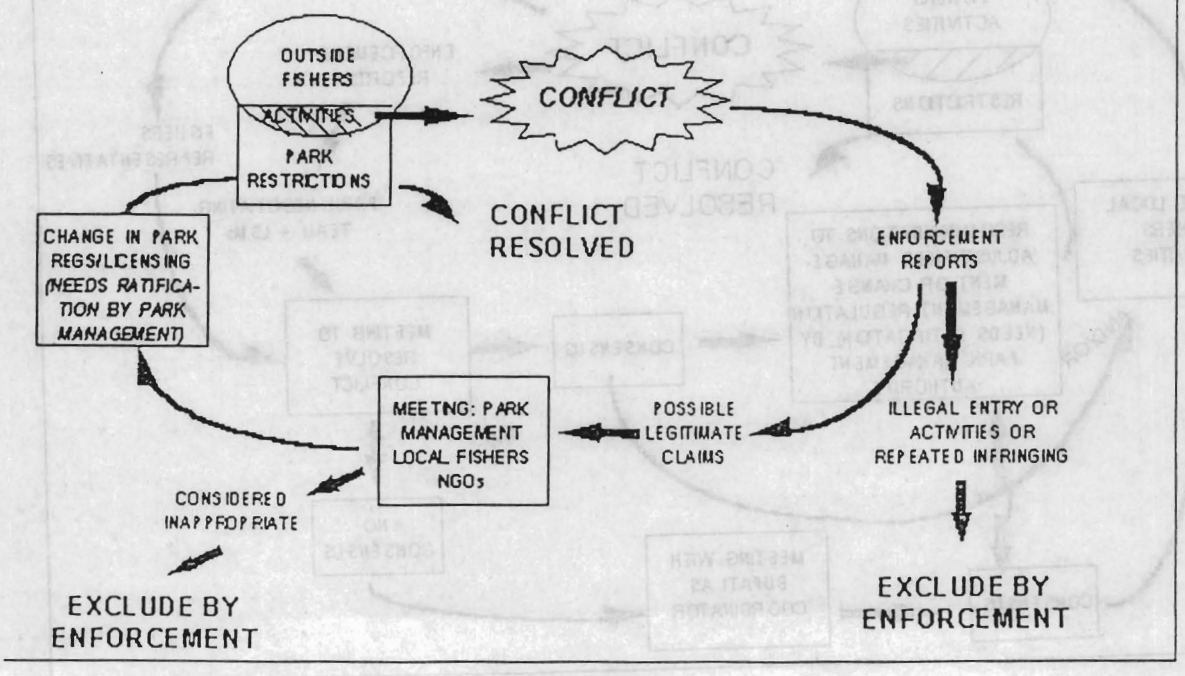


Diagram E: Resolution of Conflict Between Outside Fishers and Park Management



Annex 12.4: Sites Proposed for GEF Financing during COREMAP Phase II

Characteristics	Wakatobi (Tukang Besi)	Padaido Islands	Spermonde Islands*
Province	Southeast Sulawesi	Irian Jaya	South Sulawesi
Region	*Wallacea Region* Small-island ecosystem, between Flores and Banda Seas	*Northern Irian Jaya* 41 islands, southeast of Biak Island.	*Makassar Straits* 121 islands, west of South Sulawesi
Project Focus	Selected villages in the four major islands.	Padaido Bawah and Padaido Atas	Under discussion to rationalize site boundaries to include: (a) a representative portion of outer reef; or (b) key locations and conservation areas in inner, middle and outer reef.
Size	Reef area: 60,000 ha; National Park area: 1,390,000 ha	ca. 57,000 ha	to be discussed
Population	50,000	11,700	6,000 (in target locations)
GEF Justification	Site is COREMAP's closest to the perceived center of world's coral reef diversity; Identified as third order conservation priority under Indonesia *Marine Conservation Atlas*.	Extensive coral reefs and high coral diversity; may contribute to Western Papua New Guinea reefs' maintenance.	Highest coral reef diversity recorded in Indonesia, one of the highest in the world. Identified as second order conservation priority under *Marine Conservation Atlas*.
Biological Diversity	Site-specific coral diversity data not available, but nearby sites indicate one of the highest marine biodiversity in the world; Reef habitats: fringing and atoll Reef condition: 70 percent of reefs with >75% live coral cover. Butterfly fish sps: 38	Coral species: 192 Reef habitats: atoll, fringing Fish species: 71-107 Sea grass sps: 6 Algae sps: 5-20 Dominant corals: *Acropora*, alternating with *Porites*	Coral species: 262; coral genera: 78 Reef habitats: fringing Fish species: 210 Sea grass sps: 11 Algae sps: 200 Dominant corals: *Acropora/Pocillopora* in outer reef, *Porites*, soft corals in inner reef
Current Status	National Marine Park since 1996.	Proposed as Marine Recreation Park	Three reserves proposed: P. Kapoposang (Marine Recreation Park) P. Panambungan (Strict Nature Reserve) Togo-Togo (Wildlife Reserve)
Main Threats	Commercial bombing, cyanide, coral mining, overexploitation from external fishers.	Bombing and poison fishing Earthquake damage; potential for future tourism impacts if international flights resume	Bombing, cyanide fishing, overfishing Sedimentation in inner reefs
Key Interventions (proposed)	- Private sector-community partnership model, building upon Operation Wallacea and volunteer diver program. - Encourage self-financing through entrance fees, sponsorships and volunteer diver contributions into a park management fund. - Strengthen enforcement of destructive threats by communities, Navy, and private sector.	- Community-based management building on customary tenure; - Strengthened awareness campaigns to stop bombing, by involving informal leaders; - Continue Biodiversity Conservation Network's program to involve local communities in eco-tourism development.	- Strengthen Navy/provincial collaboration with local communities to stop illegal fishing. - Strengthen self-help groups for alternative income generation (micro-enterprise development). - Awareness program on impacts of destructive fishing.; - Link COREMAP with urban environmental project to control urban pollution in Ujung Pandang.
Cultural Features	Inhabited by indigenous and Bajau communities, primarily subsistence fishers/farmers and traders.	Inhabited by indigenous communities, Kinship groups (*keret*). Existing customary marine tenure and management systems (*sasisen*)	Buginese, Makassarese communities Patron-client relationships, and traditional user rights systems around fish aggregation devices (*Ongko*)
Existing or Proposed Programs	- Operation Wallacea, a partnership between Wallacea Development Institute, PHPA, LIPI, LH, and Hong Kong Bank Care for Nature Trust Fund, focuses on reef monitoring and management, with US$600,000 secured in sponsorship funds to date. - Conservation International and Yayasan Sama have a small collaboration program to assist Bajau communities.	- Local NGO program (Yayasan Rumsram) focuses on biological monitoring and income generation. Assisted by a US$300,000 3-year grant from Biodiversity Conservation Network (1996-98). - Local collaboration program between Army, police and district to stop bombing.	- Local NGO program focuses on awareness and community development in two villages. - Hasanuddin University conducts mariculture research in the area. - Local Navy and province have collaborative program to stop illegal practices and provide alternative income. - Local diving company has proposed management partnership agreement for Kapoposang.

* *GEF financing conditioned on site rationalization*

Annex 13
Indonesia: First Coral Reef Rehabilitation and Management Project
Letter of Development Program from Government of Indonesia

REPUBLIK INDONESIA
BADAN PERENCANAAN PEMBANGUNAN NASIONAL
JALAN TAMAN SUROPATI 2, JAKARTA 10310
TELEPON : 324207 — 3905456

Our Ref. : 6648 /D.VII/11/1997
Subject : COREMAP

Jakarta, // November, 1997

Mr. Dennis de Tray
Country Director
World Bank Resident Mission
Jl. Rasuna Said,
Kav. B-10, Suite 301, Kuningan
Jakarta 12940

Dear Mr. Dennis de Tray,

In our discussion with the World Bank mission, the Government of Indonesia expressed interest in applying for Adaptable Program Loan (APL) to support our initiative in the implementation of Coral Reef Rehabilitation and Management Program (COREMAP), especially for the conservation of areas with high biodiversity richness. Following the discussion, we have prepared the attached proposal for COREMAP Implementation which we are now seeking your assistance to obtain APL support.

Coral reef rehabilation and management issues are stated in both our Marine Biodiversity Action Plan and the Sixth Five-Year Development Plan (REPELITA-VI) as our priority. The ultimate goal of the COREMAP program is the protection, rehabilitation and sustainable utilization of coral reefs and associated ecosystems in Indonesia, which will, in turn, enhance the welfare of coastal communities.

COREMAP has three phases and is proposed as a 15 year program: Initiation Phase (COREMAP I/Years 1-3), Acceleration Phase (COREMAP II/Years 4-9), and Institutionalization Phase (COREMAP III/Years 10-15). The objective of COREMAP I is to establish a viable framework for implementation of a national coral reef management system. The objective of COREMAP II is to establish viable reef management systems in priority sites in ten provinces (South Sulawesi, Southeast Sulawesi, North Sulawesi, Maluku, Irian Jaya, North Sumatra, West Sumatra, Riau, West Nusa Tenggara, and East

Nusa Tenggara) The objective of COREMAP III is to establish viable management systems in priority sites, which are operational, fully decentralized to regional governments, and institutionalized (through specific block grants to regional governments)

COREMAP is an inter-sectoral and inter-agency project. In initiation stage, Bappenas has been proposed as the coordinating agency, the Indonesian Institute of Sciences (LIPI) will be doing as executing agency, and involving Directorate General for Regional Development (BANGDA), the Office of the State Ministry of Environment and other relevance agencies, both at the national and local levels. Implementation responsibilities for the program area expected to be devolved progressively to district governments during phase II and phase III. During the preparation stage, high commitment for community participation and inter-agency collaboration has been achieved.

Your agreement to the inclusion of this project in the APL funding is now sought in order that following activities can be implemented Enclosed, please find the indicative financing plan (attachment I), policy framework, benchmark indicators and institutional arrangement proposed for COREMAP I, II and III (attachment II, III and IV), and summary of project design for COREMAP I (attachment V).

Thank you for your continued cooperation.

Yours sincerely,

Dr. Ir. Tjahyati S. Soegijoko, PhD
Deputy Chairman
for Foreign Cooperation
Cooperation

NOTE:

Attachment I: Annex 14 of PAD
Attachments II, III and IV: Annex 14 of PAD
Attachment V: Annex I of PAD

Note: This letter is complemented by a Supplementary Program Letter No. 424/B.16/1/1998, dated January 21, 1998, from Dr. Agus Pakpahan, Chief, Bureau for Marine, Aerospace, Environment, Science and Technology, Bappenas. The letter is available in the project files.

Adaptable Program Loan/GEF Grant
Indonesia: Coral Reef Rehabilitation and Management Program

Annex 14.1: First Coral Reef Rehabilitation and Management Project Initiation Phase (COREMAP I)

A. COREMAP I

COREMAP I Development Objective: To establish a viable framework for a national coral reef system in Indonesia.

The IBRD/GEF-Funded Project (US$13.6 million) would finance: two pilot sites and the (i) policy, strategy and legal, (ii) surveillance and enforcement, and (iv) awareness components of the national COREMAP program framework.

Other donors would finance, under parallel projects (US$21.6 million): two pilot sites, and the (i) monitoring and research; and (ii) capacity building components of the national COREMAP program framework.

GOI would finance, under separate interventions: initial program activities in the remaining six program provinces.

Financier	Phase I Parallel Projects (Indicative)			
	IBRD/GEF	ADB	AusAID[1]	Total Phase I
National Components	Policy, Legal Enforcement Awareness	Research and Monitoring	Training	
Pilot Sites	T. Bone Rate (S. Sulawesi) Lease Is. (Maluku)	Senayang (Riau)	Kupang Bay (NTT)	
Estimated Costs	US$13.6 million	US$13.3 million	US$8.3 million	US$35.2 million

1 - AusAID financing is subject to confirmation.

B. The IBRD/GEF Funded Project

IBRD/GEF Project Description: The project would (I) strengthen the national policy, strategic planning and legal framework for coral reef management, by helping produce a national COREMAP program policy, strategy and action plan, and helping revise key legislation supporting coral reef management; (ii) launch a national awareness campaign to increase public support for coral reef management; (iii) improve the national enforcement framework, and pilot surveillance and enforcement activities in Maluku and South Sulawesi (Irian Jaya may be considered if found justified); (iv) implement pilot community-based management plans in two sites (Taka Bone Rate National Park in South Sulawesi, and Lease Islands in Maluku); and (v) complete the design of COREMAP II.

Project Financing Data:		Processing Time Table:	
		GEF Council:	May 1997
IBRD Loan:	US$6.9 million	Appraisal:	December 1997
GEF Grant:	US$4.1 million	Negotiations:	February 1998
GOI:	US$2.6 million	GEF CEO:	February 1998
		Board:	March 1998
Total:	US$13.6 million	Effectiveness:	April 1998

B. The IBRD/GEF Funded Project (Cont'd)

Estimated Disbursements (US$ million)	FY1999	FY2000	FY2001
IBRD Loan:			
Annual	1.0	3.9	2.0
Cumulative	1.0	4.9	6.9
GEF Grant:			
Annual	0.6	1.9	1.6
Cumulative	0.6	2.5	4.1

Conditions to Proceed to APL II:

- Complete national COREMAP program policy and strategy discussed with key stakeholders. Ministerial letter from BAPPENAS issued, recommending the implementation of the strategy to the involved agencies. COREMAP II sites and design in accordance with the strategy.
- Institutional capacity evaluated as sufficiently improved to enable expansion of COREMAP program;
- Compliance rates (no. of patrol days without violations/total patrol days) increasing by 10 percent in pilot sites, following introduction of surveillance and enforcement system;
- Community-based management pilots evaluated as workable models, and lessons of experience incorporated into design of Phase II.
- COREMAP I implemented satisfactorily, with 75 percent of outputs and disbursements reached.

Annex 14.1. a. Checklist for Evaluation of Fulfillment of Conditions to Proceed to COREMAP II[11]

A. Complete national COREMAP program policy and strategy discussed with key stakeholders. Ministerial letter from BAPPENAS issued, recommending the implementation of the strategy to the involved agencies. COREMAP II sites and design in accordance with the strategy.

1. Draft COREMAP policy and strategy presented and discussed at a series of national and regional workshops, with separate sessions for at least three groups: government officials, private sector (especially fishing and tourism), and NGO's.

National Workshop (Jakarta); _____ dates

Eastern Indonesia Workshop (Maluku): _____ dates

Western Indonesia Workshop (Sumatra): _____ dates

2. Ministerial letter issued from BAPPENAS. _____ dates

B. Institutional capacity evaluated as sufficiently improved to enable expansion of COREMAP program.

The capacity of the agencies that would play key roles will be rated. Except as noted, ratings will be on a scale of 1 to 5, with 5=fully adequate, 4=exceeds minimum level, further improvement possible, 3=at minimum acceptable level, 2=inadequate but improving, 1=completely inadequate. Three sets of ratings will be compared for each agency: GOI (BAPPENAS and LIPI), joint donors' supervision mission, and independent evaluation team.

3. Rate the capacity of the PMO to handle an expanded program, based on the aspects listed below:

number of staff (GOI and consultants) _____
skills and experience of staff _____
staff understanding of COREMAP objectives and procedures _____
equipment (e.g., communications, computers, vehicles) _____
communication with and cooperation from other involved agencies _____
clarity/effectiveness of communication with provinces (rated by provinces) _____
quality and timeliness of progress reports and annual plans _____
average time to process key contracts (TA, Awareness, ICB) _____ (# months)

4. Rate the following aspects of each Provincial Steering Committee to handle an expanded program in its province:

number of staff _____
skills and experience of staff _____
staff understanding of COREMAP objectives and procedures _____
communication with and cooperation from other involved agencies _____
average time to process disbursement requests _____ (# months)

[11] These indicators could be reviewed and modified if appropriate at mid-term.

5. Rate the following aspects of each provincial Surveillance and Enforcement Agency to handle an expanded program:

number of staff _____
skills and experience of staff _____
staff understanding of COREMAP objectives and procedures _____
equipment (e.g., communications, computers, vehicles, boats) _____
communication with and cooperation from other involved agencies _____

C. Compliance rates improving in pilot sites, following introduction of surveillance and enforcement system, as measured by a range of standard indicators, such as:

6. Ratio of violation-free days to total patrol days increasing by ≥ 10% _____ (%)

7. Frequency of infractions decreasing by ≥ 20% _____ (%)

8. Disposition made and documented for ≥ 65% of observed infractions _____ (%)

D. Community-based management pilots evaluated as workable models, and lessons of experience incorporated into design of Phase II.

The individual CBM's will be rated separately by village stakeholder groups (village authorities, fishing groups and women's groups), Provincial Steering Committee, and the independent evaluation team, and ratings will be compared. Three aspects of the CBM will be rated: village guidelines, alternative income generation activities (AIG's), and overall impacts on fishing activities. Except as noted, a 1-to-5 scale will be used, with 5=completely adequate, effective or appropriate/useful, 4=mostly adequate, effective or appropriate/useful, 3=minimum acceptable level, 2=somewhat adequate, effective, or appropriate/useful, but not up to minimum acceptable level, and 1=completely inadequate, ineffective, inappropriate or useless.

9. Is knowledge of the village guidelines adequate? _____

10. Are the village guidelines appropriate and useful? _____

11. How well are the reef management plans following the guidelines? _____

12. How strong is the level of support from local officials _____

13. What percentage of the AIG's implemented are still operating? _____ (%)

14. Are there indications that AIG's will contribute to improved reef management? _____

15. Has there been a change in the amount of illegal or destructive fishing practices? (5=much better, 4=somewhat better, 3=no change, 2=somewhat worse, 1=much worse) _____

E. COREMAP I implemented satisfactorily, with 75 percent of output indicators listed in Annex 1 completed and 75 percent of disbursements reached.

16. Percentage of output indicators completed _____ (%)

17. Percentage of disbursements _____ (%)

Adaptable Program Loan/GEF Grant
Indonesia: Coral Reef Rehabilitation and Management Program

Annex 14.2: Second Coral Reef Rehabilitation and Management Project Acceleration Phase (COREMAP II)

A. COREMAP II

COREMAP II Development Objective: To establish viable reef management systems in priority sites in ten provinces (South Sulawesi, Southeast Sulawesi, Maluku, Irian Jaya, West Sumatra, North Sumatra, Riau, East Nusa Tenggara and West Nusa Tenggara)

The IBRD/GEF-Funded Project (US$42.5 million) would likely finance: management of priority sites in South Sulawesi, Southeast Sulawesi, Maluku and Irian Jaya, and program support at the national level.

Other donors would likely finance, under parallel projects (US$67.5 million): management of priority sites in Riau, North Sumatra, West Sumatra, North Sulawesi, and West and East Nusa Tenggara; expansion of research and monitoring to all ten program provinces; and two research stations in North Sulawesi and Lombok.

Financier	Phase II Parallel Initiatives (Indicative)			
	IBRD/GEF	ADB[1]	Bilateral[1]	Total Phase II
National Components:	Guidelines Support	Research and Monitoring	Research stations in N. Sulawesi and Lombok (JICA)	
Priority Sites in:	S. Sulawesi SE Sulawesi Maluku Irian Jaya	Riau N. Sumatra W. Sumatra	NTT NTB	US$110.0 million

[1] - *Subject to confirmation.*

B. The IBRD/GEF Funded Project

Project Development Objective: To establish viable reef management systems in priority sites in four provinces (South Sulawesi, Southeast Sulawesi, Maluku, and Irian Jaya)

Project Description (Indicative): The project would (i) strengthen project management capacity at the district and provincial levels; (ii) strengthen site-based enforcement and containment of national mobile threats; (iii) raise local awareness and participation; (iv) implement coral reef management plans in priority sites; and (v) prepare for COREMAP III. Site interventions are expected to include, among others, the Spermonde Islands, Wakatobi Islands and Padaido Islands, which have global biodiversity importance.

Project Financing Data (Indicative):		Processing Time Table (Tentative):	
IBRD Loan:	US$25.0 million	**Appraisal:**	December 2000
GEF Grant:	US$7.5 million	**Negotiations:**	January 2001
GOI:	US$10.0 million	**RVP Approval:**	February 2001
Total:	**US$42.5 million**	**Effectiveness:**	April 2001

B. The IBRD/GEF Funded Project (Cont'd)

Estimated Disbursements (US$ million)	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007
IBRD Loan:						
Annual	1.25	3.75	6.25	6.25	5.0	2.5
Cumulative	1.25	5.0	11.25	17.5	22.5	25.0
GEF Grant:	0.38	1.13	1.87	1.87	1.5	0.75
Annual	0.38	1.50	3.37	5.25	6.75	7.5
Cumulative						

Likely Conditions to Proceed for APL III:

- Satisfactory institutional capacity at the provincial and district levels
- Compliance rates increasing, with incidence of destructive practices declining in program sites.
- Declining trends in mobile threats to coral reefs.
- Coral reef management plans implemented satisfactory according to COREMAP program indicators in at least 60 % of the sites.
- COREMAP II implemented satisfactory, with 75 % of outputs and disbursements reached.

Adaptable Program Loan
Indonesia: Coral Reef Rehabilitation and Management Program
Annex 14.3: Third Coral Reef Rehabilitation and Management Project Institutionalization (COREMAP III)

A. COREMAP III

COREMAP III Development Objective: To establish viable reef management systems in priority sites which are operational, fully decentralized to regional governments and institutionalized

The IBRD-Funded Project (US$50.0 million) would likely finance: expansion of site management to priority areas in Eastern Indonesia, and strengthened capacity for program management at the district level.

Other donors would likely finance, under parallel projects (US$70.0 million): expansion of site management and support in other priority areas in Indonesia.

Financier	Phase III Initiatives (Indicative)			
	IBRD	ADB	Bilateral	Total Phase III
Priority Sites in:	tbd	tbd	tbd	US$120.0 million

B. The IBRD Funded Project

Project Description (Indicative): The project would (i) institutionalize and ensure the sustainability of the program through user pay schemes and/or a system of block grants to provincial and district governments; (ii) strengthen COREMAP integrated planning and implementation support capacity at the district levels; and (iii) expand COREMAP implementation to other priority sites in Eastern Indonesia.

Project Financing Data (Indicative):		Processing Time Table (Tentative):	
IBRD Loan:	US$35.0 million	Appraisal:	December 2006
GOI:	US$15.0 million	Negotiations:	January 2007
		RVP Approval:	February 2007
Total:	US$50.0 million	Effectiveness:	April 2007

Estimated Disbursements (US$ million)	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013
IBRD Loan:						
Annual	1.75	5.25	8.75	8.75	7.0	3.5
Cumulative	1.75	7.0	15.75	24.5	31.5	35.0

End-of-Program Indicators (Indicative):

- Program strategy incorporated into national policy
- Site planning and implementation following the program's strategic priorities, and fully decentralized to the regions.
- Program sustainability ensured through user-pay schemes, local government financing, and/or a system of block grants *(Inpres Pengend. Damp. Lingkungan)* linked to program priorities and local performance.
- At 75 % of COREMAP sites, coral reef management plans endorsed by local authorities, and implemented satisfactorily by local communities according to program indicators.