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Report No:

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US\$ 47.38 MILLION

AND A GRANT FROM THE GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF US\$ 10.0 MILLION

TO THE

REPUBLIC OF INDONESIA

FOR THE

CORAL REEF REHABILITATION AND MANAGEMENT PROJECT  
SUPPORT TO THE CORAL TRIANGLE INITIATIVE  
(COREMAP-CTI)

December 10, 2013

Indonesia Sustainable Development Department  
East Asia and Pacific Region

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective November 15, 2013)

Currency Unit = IDR  
IDR 11,600 = US\$1  
US\$1.53 = SDR 1

## FISCAL YEAR

January 1 – December 31

## ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AIG	Alternative Income Generation
APL	Adaptable Program Loan
BAPPEDA	District Planning and Development Agency
Bappenas	Badan Perencanaan Pembangunan Nasional
BKKPN	Balai Konservasi Kawasan Perairan Nasional
BPSDM	Badan Pengembangan Sumber Daya Manusia
BLU	Badan Layanan Umum
CCRES	Capturing Coral Reef and Related Ecosystems Services
CIG	Common Interest Group
COREMAP	Coral Reef Rehabilitation and Management Program
COREMAP-CTI	Coral Reef Rehabilitation and Management Program Support to CTI
CPS	Country Program Strategy
CRBA	Community Rights Based Approach
CRTIC	Coral Reef Information and Training Centre
CRMIS	Coral Reef Management Information System
CTI	Coral Triangle Initiative
CTI-CFF	Coral Triangle Initiative on Coral Reefs, Fisheries, and Food Security
DG CF	Directorate General Capture Fisheries
DG MCSI	Directorate General Marine, Coastal and Small Islands
DJPT	Direktorat Jendral Perikanan Tangkap
DJKP3K	Direktorat Jendral Kelautan Pesisir dan Pulau-Pulau Kecil
DKP	Marine and Fisheries District Office
DPMU	District Program Management Unit
EA	Executing Agency
EAFM	Ecosystem Approach Fisheries Management
GEF	Global Environment Facility
GOI	Government of Indonesia
HRD	Human Resources Development
ICM	Integrated Coastal Management
IDA	International Development Association
IFAD	International Fund for Agricultural Development
KKLD	Kawasan Konservasi Laut Daerah (District Marine Conservation Area)
KKP	Kementerian Kelautan dan Perikanan (MMAF)
LIPI	Indonesian Institute of Science
LPSTK	Community-based Coral Reef Management Committee

MCA	Marine Conservation Area
MCS	Monitoring, Control, and Surveillance
ME	Management Effectiveness
MIS	Management Information System
MMAF	Ministry of Marine Affairs and Fisheries
MCA	Marine Conservation Area
MPA	Marine Protected Area
MSP	Marine Spatial Planning
NPIU	National Project Implementation Unit
NSC	National Steering Committee
PDO	Project Development Objective
PIM	Project Implementation Manual
PNPM	National Program for Community Empowerment in Rural Areas
PMU	Project Management Unit
RCO	Research Center for Oceanography
SEA	Sustainable Enterprise and Alliance
SPP	Sea Partnership Program
SSF	Small Fisheries Program
TURF	Territorial Use Rights in Fisheries
UPT	Unit Pelaksanaan Teknis (Technical Implementing Unit)
UPTD	Unit Pelaksana Teknis Daerah (District Technical Implementing Unit)

Vice President:	Axel von Trotsenberg
Country Director:	Rodrigo A. Chaves
Sector Director:	John A. Roome
Sector Managers:	Nathan Belete/Iain Shuker
Task Team Leaders:	Harideep Singh/Ina Pranoto

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## PAD DATA SHEET

*Indonesia*

*CORAL REEF REHABILITATION AND MANAGEMENT PHASE III PROJECT:  
SUPPORT TO THE CORAL TRIANGLE INITIATIVE (COREMAPIII – CTI)*

### PROJECT APPRAISAL DOCUMENT

*EAST ASIA AND PACIFIC*

Basic Information		
Date:	November 16, 2013	Sectors: General agriculture, fishing and forestry sector (50%), Public administration- Agriculture, fishing and forestry (25%), Sub-national government administration (25%)
Country Director:	Rodrigo A. Chaves	Themes: Biodiversity (60%), Climate change (20%), Micro, Small and Medium Enterprise support (20%)
Sector Manager/ Director:	Nathan M. Belete/ John A. Roome	
Project ID:	P127813 (IBRD loan) P130389 (GEF grant)	EA Category: B - Partial Assessment
Lending Instrument:	Investment Project Financing	
Team Leader(s):	Harideep Singh/ Ina Pranoto	
Does the project include any CDD component? Yes		
Joint IFC: No		
Borrower: Republic of Indonesia		
Responsible Agency: Ministry of Marine Affairs and Fisheries (Kemnterian Kelautan dan Perikanan)		
Contact:	Dr. Agus Dermawan	Title: Director of Marine and Aquatic Resources Conservation Directorate General of Marine, Coastal and Small Islands Ministry of Marine Affairs and Fisheries
Telephone No.	+62-21-3522045	Email: <a href="mailto:agusder12@yahoo.com">agusder12@yahoo.com</a> >
Project Implementation Period: Start Date: March 1, 2014 End Date: March 31, 2019		
Expected Effectiveness Date: April 1, 2014		
Expected Closing Date: September 30, 2019		
Project Financing Data(US\$M)		
<input checked="" type="checkbox"/> Loan	<input checked="" type="checkbox"/> Grant	<input type="checkbox"/> Other
<input type="checkbox"/> Credit	<input type="checkbox"/> Guarantee	

**For Loans/Credits/Others**

Total Project Cost (US\$M): 63.08

Total Bank Financing (US\$M): 57.38

Financing Source	Amount(US\$M)
BORROWER/RECIPIENT	5.70
International Bank of Reconstruction and Development (IBRD)	47.38
Global Environmental Facility	10.00
Total	63.08

**Expected Disbursements (in USD Million)**

Fiscal Year	2014	2015	2016	2017	2018	2019
Annual (IBRD/GEF)	4.00/1.00	6.00/2.00	16.00/2.50	10.00/2.50	8.00/1.50	3.38/0.50
Cumulative (IBRD/GEF)	4.00/1.00	10.00/3.00	26.00/5.50	36.00/8.00	44.0/9.50	47.38/10.0

**Project Development Objective(s)**

*To institutionalize the COREMAP approach of a viable, decentralized and integrated framework for sustainable management of coral reef resources, associated eco-systems and bio-diversity for the welfare of the communities in seven selected districts of five provinces in Indonesia.*

**Components**

Component Name	Cost (USD Millions)
Institutional Strengthening	15.83
Ecosystem-Based Resource Management	16.62
Development of Conservation-based Livelihood and Economy	22.76
Project Management	7.87

**Compliance****Policy**

Does the project depart from the CAS in content or in other significant respects?	Yes [ ]	No [ X ]
Does the project require any exceptions from Bank policies?	Yes [ ]	No [ X ]
Have these been approved by Bank management?	Yes [ X ]	No [ ]
Is approval for any policy exception sought from the Board?	Yes [ ]	No [ X ]
Explanation:		
Does the project meet the Regional criteria for readiness for implementation?	Yes [ X ]	No [ ]

<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b>	<b>No</b>
Environmental Assessment OP/BP 4.01	X	
Natural Habitats OP/BP 4.04	X	
Forests OP/BP 4.36		X
Pest Management OP 4.09		X
Physical Cultural Resources OP/BP 4.11		X
Indigenous Peoples OP/BP 4.10	X	
Involuntary Resettlement OP/BP 4.12	X	
Safety of Dams OP/BP 4.37		X
Projects on International Waterways OP/BP 7.50		X
Projects in Disputed Areas OP/BP 7.60		X

### **Legal Covenants**

<b>Name</b>	<b>Recurrent</b>	<b>Due Date</b>	<b>Frequency</b>

### **Description of Covenant**

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### **Team Composition**

#### **Bank Staff**

<b>Name</b>	<b>Title</b>	<b>Specialization</b>	<b>Unit</b>
Marea E. Hatzios	Senior Environmental Specialist	Coastal and Marine Resources	EASER (retired 10/30/2013)
Christina Donna	Financial Mgmt. Specialist	Financial Management	EAPFM
Enggar Prasetyaningsih	Procurement Analyst	Procurement	EASR1
Mariangeles Sabella	Senior Counsel	Legal	LEGES
Ina Pranoto	Task Team Leader	Environment	EASIS
Stefanie Sieber	Environmental Economist	Economic	EASER
Juan Martinez	Social Safeguards Specialist	Safeguard	EASIS
Harideep Singh	Task Team Leader	Rural Areas	EASER (since 11/01/2013)
Yulita Soepardjo	Team Assistant	Administration	EACIF
Cynthia Dharmajaya	Program Assistant	Administration	EASER
Randall Brummett	Senior Aquaculture Specialist	Rural Development	AES -SDN

#### **Non-Bank Staff**

<b>Name</b>	<b>Title</b>	<b>Office Phone</b>	<b>City</b>
Takayuki Hagiwara	Senior Rural Development	+39-06-570-55160	Rome



	Officer (FAO/CP)		
Harjunani Kumoloraras	Microfinance Specialist		Jakarta
Andrew Kaelin	Aquaculture specialist/Private Sector		Washington DC
Dennie Stenly Mamonto	Environmental Safeguards		Jakarta
Ninin Kania Dewi	Social Safeguards		Jakarta

**Locations**

<b>Country</b>	<b>First Administrative Division</b>	<b>Location</b>	<b>Planned</b>	<b>Actual</b>	<b>Comments</b>
Indonesia		Eastern Indonesia			

## I. STRATEGIC CONTEXT

### A. Country Context

1. Indonesia has achieved remarkable economic development in the past decade. It is the largest economy in Southeast Asia with a population of over 240 million (in 2011) and is one of the emerging economies of the world and a member of G-20 major economies. It experienced a rise in gross national income per capita from US\$800 in the year 2000 to US\$3,495 in 2011 with an annual economic growth of more than 5 percent on average since 2000. It also recently graduated from the International Development Association. Despite its macroeconomic successes, Indonesia is facing an array of challenges such as poverty, disparity between rich and poor as well as urban and rural, slow employment growth, high infant and maternal mortality, poor sanitation conditions, all of which could make achievement of several of the country's Millennium Development Goals (MDGs) difficult.

2. Equally important is the continuous threat that the natural resources and environment of Indonesia face, notably, deforestation, soil depletion and coastal/marine degradation. Its natural capital, which is estimated to be a quarter of its national wealth, is being rapidly depleted. The impact of climate change is expected to add to the country's development challenges.

### B. Sectoral and Institutional Context

3. From an economic stand-point, the Indonesian coastal and marine sector, and in particular the small-scale fisheries supported by coral reef ecosystems, is a significant productive asset for the country and the millions of poor fishers that depend on it. From a bio-diversity stand-point, coral reefs in Indonesia are the most diverse in the world and are considered the epicenter of marine biodiversity in the Coral Triangle. This area extends from the South China Sea at the apex, to the Timor Sea and Solomon Sea at the base, and is surrounded by six countries (Malaysia, the Philippines, Indonesia, Timor Leste, Papua New Guinea and the Solomon Islands). Second only to the Great Barrier Reef in total area, Indonesia's coral reefs span some 5.1 million ha (51,000km<sup>2</sup>), or about 18% of the world's coral reefs<sup>2</sup>. Indonesian reefs are diverse in both physical structure (ranging from fringing reefs and atolls to barrier reefs) and in biological community structure, supporting an unparalleled array of coral species (590 species of stony coral), reef fish (2,500 species), mollusks, crustaceans, and associated fauna and flora.

4. Almost two-thirds (65 percent) of Indonesia's coral reefs are considered threatened from overfishing, and almost half are considered threatened specifically from destructive fishing practices. Local pollution and global factors such as climate change and escalating atmospheric CO<sub>2</sub> levels leading to warming and acidifying ocean waters are also increasingly becoming sources of concern. The Government of Indonesia (GOI) and the Bank (WB), with Global Environment Facility (GEF) grants, embarked on a partnership in 1998 to conserve these coral reefs through a three-phase Adaptable Program Loan (APL). This project is the third and final phase of this initiative.

5. The first phase of COREMAP (1998-2004) laid the foundation for a decentralized, community-based approach to management of coral reefs and associated resources in a number of pilot sites in eastern and western Indonesia. The project had three main outcomes: (a) *support for legislation* - conceptualizing, drafting, disseminating and gaining acceptance for key elements of the legal framework needed to support the implementation of community-based coral reef management, including the National Policy and Strategy for Coral Reef Management of 2004, support for drafting the revised Fisheries Act and the Coastal and Marine Resources Management Act, models laws defining permitted and prohibited activities, zoning of marine parks and coordination of monitoring, control and surveillance activities, and institutionalization of local rules for community-based marine resources management; (b) *reduction in destructive fishing* - very high level of community involvement in coral reef resource management, resulting in a significant reduction in illegal and destructive fishing and coral mining in the pilot sites by

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<sup>1</sup> Country Environmental Analysis, 2009

<sup>2</sup> Based on an estimate by LIPI

more than 50 percent; and (c) *development of tested and workable models for scaling up* - the two pilots, in Selayar and Biak, were assessed as workable models, whose lessons provided an opportunity for incorporation into the design of COREMAP II.

6. The COREMAP I approach was scaled up in COREMAP II (2005-2011), the Acceleration Phase, in which an institutional framework, including supporting regulations, human capacity building, and a decentralized architecture for administration of coral reefs, was embedded at the district level across some 358 villages in eastern Indonesia. COREMAP II had five main achievements: (a) *preparation of collaborative management plans* - local community groups in partnership with local governments established a total of 358 Coral Reef Management Plans, meeting the objectives of establishing fully protected, collaboratively managed, decentralized reef management systems; (b) *increased awareness about healthy coral reefs* - high awareness that healthy coral reefs were key to the lives of the community members, resulting in a decline in the incidence of illegal and destructive fishing decreased by 60 percent and higher level of successful prosecutions; (c) *improved coral cover* - fifteen percent of the total project managed area of 450,000 hectares was designated as no-take zone, and there was an average 17% growth in coral cover growth in six of the seven districts; (d) *enhanced productivity and bio-diversity* - community members reported increased biomass in no-take zones, as well as the return of rarer species which had not been seen in years in some places; and (e) *increased income of beneficiary group members* - the beneficiaries who received project financing improved incomes by an average of 20 percent.

7. COREMAP II also played a key role in establishing the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI) in 2009 in partnership with five neighboring countries. It set a 10-year plan of action to address the urgent threats facing the coastal and marine resources of one of the most biologically diverse and ecologically rich regions on Earth. As a part of the conservation commitment embodied in the CTI, the Government of Indonesia (GOI) pledged to place 20 million hectares of marine space under Marine Conservation Area management by 2020 to meet its obligations to the Convention on Biological Diversity and other international agreements. So far, approximately 14 million hectares have been demarcated and 5.5 million hectares have been brought under management plans. This project, COREMAP-CTI, will constitute the main source of support (with loans from both the WB and Asian Development Bank - ADB, and GEF grants) to implement Indonesia's National Plan of Action under the CTI.

8. The legacy of COREMAP phases I and II will continue on in this final Institutional Phase of the APL to help mainstream the decentralized COREMAP co-management model into local government/village programs and community mobilization activities in seven coastal districts across eastern Indonesia<sup>3</sup>. Additionally, four key developments have occurred during the implementation of COREMAP II that now make it worthwhile for complementary initiatives to be piloted for integrated coastal management and sustainable fisheries:

- (a) Given the country's vast marine space and territorial waters which extend out to 12 nautical miles (nm) from the High Tide Line, the GOI has passed a law<sup>4</sup> requiring all coastal districts (about 450) as well as provinces to map and plan the use of their marine space through Zoning Plans<sup>5</sup>. As part of COREMAP-CTI's support for a decentralized approach to coastal (and coral) resources management, the project will help the seven project districts develop these Zoning Plans;
- (b) While building on the strong foundation for community-based co-management of coral reefs, COREMAP-CTI will expand this focus to include coastal eco-systems (e.g., sea-grass beds and their associated fisheries). It will reinforce this ecosystems-based approach to protect biodiversity by enhancing management at marine spatial scales that are ecologically significant;
- (c) Activities to enhance management effectiveness of district and national level Marine Conservation Areas (MCAs) are crucial for longer term sustainability of reefs.

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<sup>3</sup> A similar program in Western Indonesia is being implemented with ADB support.

<sup>4</sup> Act no 27 year 2007 concerning the management of coastal zones and small islands obligate the provincial and district government to prepare *Zoning Plan* within their jurisdiction i.e. 12 nm for province and 4nm for district.

<sup>5</sup> In this document, the terms Marine Spatial Planning (MSP) and Zoning Plan convey the same meaning and have been used interchangeably.

COREMAP-CTI will endeavor, along with support for zone planning, to balance protection with sustainable production activities; and

- (d) Finally, an important new approach taking root is the development of a sustainable marine-based economy in target coastal districts and MCAs, taking advantage of the potential that coastal and marine resources offer to transform poor, remote coastal communities into nodes of growth, reducing pressure on fisheries and reefs. COREMAP-CTI will attempt to achieve this by creating enabling conditions for development of marine based investments and enterprise.

9. This project will bring together three strands of support for healthier coral reef ecosystems in seven districts in Indonesia: (a) it will strengthen stakeholder institutions for management of defined coral reef fisheries and ecosystems; (b) it will enhance wider regulatory frameworks for these ecosystems through tools such as marine spatial planning, and zoning and management plans for marine conservation areas; and (c) it will support the development of local marine-based enterprises that can capitalize upon the services these ecosystems can provide when healthy. In relation to the first two strands, experiences in coastal fisheries in West Africa through the West Africa Regional Fisheries Program, in Tanzania through the Marine and Coastal Environmental Management Program, and in Vietnam in the Coastal Resources for Sustainable Development Project, have all highlighted the importance of empowering stakeholders to co-manage defined fisheries resources. Similarly, the India Coastal Zone Management Project currently under implementation, and the Brazil Marine Protected Areas Project under preparation, supports the development and implementation of regulatory frameworks for more sustainable management of the wider coastal ecosystem services, and increased opportunities for economic growth based on these services.

10. The third strand to help incubate local enterprises that can capitalize on healthy coastal ecosystem services is a newer element in the Bank's fishery portfolio, but a natural evolution of the previous work and experiences of COREMAP, and in many of these countries. The Bank and many partners are increasingly supporting public and private partnerships to help reinforce healthy coastal ecosystems that make more sustainable contribution to economic growth. The Bank is also currently working with a number of NGOs and philanthropic groups to develop a model for evaluating and testing potential investment options for fisheries reform to provide sustainable economic returns for fisheries. There is a clear opportunity to link this work to the COREMAP-CTI project.

11. At this stage, therefore, this is one of the first projects that will be trying out the sustainable co-managed fishery model alongside the rights-based approach pilot, and also supporting the broader physical marine spatial planning, preparation of related marine resource management plans for their sustainable use, and marine eco-businesses, all under one umbrella, to develop blueprint for dealing with sustainable fishery on an integrated eco-system-wide basis. It would provide learning opportunities to other countries moving ahead in this direction.

### **C. Higher Level Objectives to which the Project contributes**

12. The COREMAP-CTI Project is closely aligned with priorities stated in the 2013-2015 Indonesia Country Partnership Strategy (CPS) (Report Number 72906, dated December 13, 2012), which is focused on pro-growth, pro-jobs, pro-poor, and pro-environment, with the private sector as the engine for sustainable economic growth. The Country Partnership Strategy aims to enhance Indonesia's domestic capacity for reducing poverty and boosting equitable and sustainable prosperity. Its main thrust is to help public institutions implement and deliver, and to partner with the private sector for sustainable economic and job growth. In addition to incorporating these themes in the project design, COREMAP-CTI's focus on strengthening governance and decentralized, effective and accountable institutions at provincial, district and village levels is also strongly aligned with the CPS.

13. The CPS supports the country's Master Plan for "Acceleration and Expansion of Indonesia's Economic Development 2011-2025", which has now become a focal point for how green growth fits into sustainable development needs. WBG engagement is expected to support development results that will help implement Indonesia's pro-green strategy to enhance protection for its critical coral and marine resources. Conserving biodiversity is also part of the pro-green agenda where the Bank has several strategic investments. The CPS has included this

project in the country program as support to community stewardship of natural and marine resources through promoting good governance at village, district and national levels.

14. Program Objective: The Government of Indonesia launched the Coral Reef Rehabilitation and Management Program (COREMAP) in May 1998 as a 15-year program financed by multiple donors and to be implemented over three phases, with the following objective “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”.

15. The objective of the *first (initiation) phase* of COREMAP was to establish a viable framework for a national coral reef management system in Indonesia by strengthening the legal framework, creating national awareness, testing monitoring and surveillance in three provinces, and laying the foundation for a decentralized, community-based approach to management of coral reefs and associated resources in two pilot sites, and carry out initial activities to prepare for the next phase. The objective of the *second (acceleration) phase* was to establish viable reef management systems in at least six priority districts, through a financially sustainable program that is nationally coordinated but decentralized in implementation, in order to empower and to support coastal communities to sustainably co-manage the use of coral reefs and associated ecosystem resources, which will revive damaged or preserve intact coral reef ecosystems and in turn, enhance the welfare of these communities in Indonesia. The *third phase* was expected to institutionalize the program at the regional level with a focus on sustainability ensured through government financing and district capacity building.

16. The performance of COREMAP II against the six specific triggers that were required to be met to proceed to the third and final phase was satisfactory, and is summarized below:

- (a) Institutional capacity at provincial and district levels created: *Achieved.*
- (b) Increasing rates of compliance with coral reef conservation regulations observed: *Achieved.* Perdes and perdas established along with Coral Reef Management Plans, compliance in observing No-Take Zone requirements observed, including use of sustainable fishing gear and fishing practices;
- (c) Declining trends in destructive fishing practices: *Partially Achieved.* Declining trends were seen in many, although not all, COREMAP locations;
- (d) Coral reef plans implemented satisfactorily in 60% of project sites: *Achieved.*
- (e) More than 75% of outputs and disbursement realized: *Achieved.*
- (f) COREMAP II rated Satisfactory: *Achieved.*

17. The already completed COREMAP I and II projects have prepared the ground for this last institutionalization phase. The COREMAP-CTI project contributes to the overarching program objective, and is the third and final project in the series of the projects supporting the program. In order for the project to be responsive to new developments that have occurred in the sector, it will pilot complementary initiatives (marine spatial planning, community rights-based fisheries, eco-system based approach to fisheries management, marine-based economy) to develop an integrated approach to sustainable coastal resources planning and management that will serve as a blueprint for broader extension in other parts of Indonesia. The ADB will support similar efforts in Western Indonesia.

## II. PROJECT DEVELOPMENT OBJECTIVES AND INDICATORS

### A. Project Development Objective (PDO)

18. The PDO of the third and final phase of COREMAP (COREMAP-CTI) is to institutionalize the COREMAP approach<sup>6</sup> of a viable, decentralized and integrated framework for sustainable management of coral reef resources, associated eco-systems and bio-diversity for the welfare of the communities in seven selected districts of five provinces in Indonesia.

19. The PDO will be achieved through a three pronged approach: (a) deepening co-management of marine and coastal resources through strengthening the capacity of communities

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<sup>6</sup> See Annex II: Project Description for the characteristics of a village adopting the COREMAP approach.

and local government; (b) improving management effectiveness in district and national marine conservation areas through marine spatial planning and co-management with local government to achieve biodiversity and sustainable use of these natural resources; and (c) increasing local income through development of sustainable marine-based enterprises and alliances between local communities, local government and private sector companies. COREMAP-CTI will also contribute significantly to implementation of Indonesia's National Plan of Action for the CTI.

## **B. Beneficiaries and Project Area**

20. The project will cover about 210 villages in the following seven districts spread out in five provinces: Sikka (East Nusa Tenggara), Selayar, Pangkep (South Sulawesi), Buton, Wakatobi (South East Sulawesi), Raja Ampat (West Papua) and Biak (Papua). It will also support seven national level and six district level MCAs with a total area of 5.7 million hectares<sup>7</sup>, and three fishery management areas.<sup>8</sup> The expected main categories of the project beneficiaries are:

- (a) fishers and households located in the 210 villages in project districts, and in the MCAs. They will benefit directly from the project's support in developing local institutions and marine-based natural resources management, as well as the project's investments in developing sustainable enterprise alliances;
- (b) communities, civil society organizations and private sector institutions, who are expected to benefit from the training and certification in monitoring protocols, and actually get involved in carrying out monitoring in a decentralized manner for the project;
- (c) teachers and students in the elementary-high school grades, who are expected to receive training and exposure to marine and coral reef modules through their curricula;
- (d) community members, local and national government staff, who will be strengthened with updated skills and knowledge, including best available practices, in fisheries and coral reef management, monitoring and evaluation, integrated coastal zone management and marine spatial planning. This will involve short course, training of trainers, degree level courses and collaborative research;
- (e) private sector operators, who would be the driving force behind SEAs by linking their production infrastructure with the project fishers and households functioning as out-growers; and
- (f) women, as a group, currently are major players in the local fish marketing value chains. These are expected to expand through some of the proposed enterprise alliances under the project. For example, as grouper farming goes from chopped fish to pellets, the chopped fish will get redirected through the human food value chain creating employment and income generating opportunities for women. Likewise, home-stays as a part of eco-tourism will also provide an opportunity for women participation.

21. A key group of fishers that is going to be affected under the project is one that is involved in destructive and illegal fishing. Such unsustainable fishing is carried out not only by local villagers, but also by fishers outside of the target villages. Awareness raising activities would target this group specifically and also the general public and small-mid size reef fishermen in key strategic ports as well as middle men and aggregators in the live coral reef fish trade, and domestic consumers in COREMAP-CTI sites.

22. The Project will have a proactive gender focus to ensure that women benefit from COREMAP-CTI to the maximum extent possible. This means that: (a) women participate in COREMAP specialized activities in ratios similar to their representation in the pool from which beneficiaries are selected; (b) women have greater access to coastal management and economic development opportunities in subsectors which have previously been male-dominated; and (c) more women are offered leadership opportunities in communities, businesses, governance and coastal management activities based on newly acquired skills and experience. These objectives would be achieved through a targeted approach by expanding the number of women beneficiaries in training and skills development well above previous rates of participation, and where feasible, at levels approaching parity.

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<sup>7</sup> See Annex II: Project Description Table 1 for a list of the thirteen project MCAs.

<sup>8</sup> Of the eleven fisheries management areas, WPP 718 and two other areas will be included for sustainable fisheries development pilot under the project.

### C. PDO Level Results Indicators

23. COREMAP-CTI will focus on achieving three key groups of outcomes: (a) improved health of coastal ecosystems and biodiversity protection; (b) more effective management of MCAs and their resources through the introduction of an ecosystem-based approach; and (c) sustainable, community-based enterprise development and alternative livelihoods linked to the blue economy. The key outcome indicators to assess the achievements of the PDO are listed below. The Results Framework is attached as Annex I:

- (a) Coral eco-system health, consisting of a composite indicator relating to reef health index improved from 2013 level for at least 70% of project sites, and at least maintained for the remaining sites (project sites: five districts and 13 MCAs);
- (b) Destructive fishing, consisting of a composite indicator, shows a declining trend over the project period;
- (c) MCA effectiveness indicators: (i) all 13 MCAs show an improvement in their overall management scores which cover a range of aspects including zoning, existence and implementation of management plans, consultations with communities and IP groups, enforcement, staffing, among others, to graduate to the Yellow level; (ii) 9 of the 13 MCAs reach 50% of the score for the Green level; and (iii) 4 of these 9 MCAs achieve 10% of the score for the Blue level;
- (d) Income increased for project beneficiaries: (i) those continuing to remain in fishing (15% net of inflation); and (ii) project affected persons (surrogate indicator) at least 20% financial rate of return on sustainable enterprises for alternative income generation<sup>9</sup>; and
- (e) At least 30% of project beneficiaries are women.

### III. PROJECT DESCRIPTION

#### A. Lending Instrument: Investment Project Financing

24. The project is supported by the use of the Investment Project Financing instrument<sup>10</sup> in the amount of US\$47.38 million.

#### B. Project Components under COREMAP-CTI

25. Component 1: Institutional Strengthening for decentralized coral reef management (US\$15.83 Million: \$13.89M Loan; \$1.04M GEF; \$0.90M GOI). This component will institutionalize best practices, interventions and approaches developed under COREMAP, and depending on legal requirements, the project will also provide support for policy and legal framework development. This component will finance the following sub-components and associated activities.

26. Sub-component 1.1: Strengthening and expansion of the COREMAP approach: (a) mainstream and embed a decentralized approach to coral reef ecosystem management within the local government and village program in the 210 project villages; (b) raise awareness through an outreach program to enable adoption of COREMAP approach in non-COREMAP villages, including support for a learning network of Coastal Mayors and Village Heads informed by project experience and personnel exchange visits; (c) link the project with country-wide CTI activities; and (d) transform the village level Coral Resources Management Plans to Coastal Resource Management Plans that link up with district level Zoning Plans.

27. Sub-component 1.2: Support for Robust Ecological and Socioeconomic monitoring: (a) upgrade Coral Reef MIS in terms of content, presentation, access, integration with CTI-based information databases, and to serve as the official repository for coral reef ecological and socio-economic monitoring information; (b) develop a certification and training program for coral reef monitoring incorporating best practice; (c) conduct monitoring in collaboration with other

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<sup>9</sup> Beneficiaries and project affected persons located in the 210 villages in the seven project districts, and in the 13 district and national MCAs.

<sup>10</sup> The APL instrument is no longer available in the project financing menu of options.

agencies including civil society organizations and private organizations; (d) develop and disseminate coral reef protection education modules for elementary through high schools; and (e) equip communities with adaptation measures to respond to coral reef-related climate change impacts.

28. Sub-component 1.3: Strengthening surveillance of coastal ecosystems: (a) develop best practice approaches to marine monitoring, control and surveillance (MCS), including regular joint patrols involving Navy, DINAS and community participation at the provincial level; (b) strengthen local level MCS institutions (pokmaswas) in project villages, districts, and MCAs; and (c) provide pokmaswas near “hot-spots” and MCS patrols with monitoring and communications equipment, and support training of civil investigators (PPNS-penyidik pegawai negeri sipil) to prosecute violators.

29. Sub-component 1.4: Strengthening Technical Capacity: (a) train MMAF staff in identified core competencies; (b) provide short-term training including internship (national and international) on a range of topics to national and district staff, community members, and extension agents; and (c) support advanced graduate degree programs on fisheries management for selected national staff of Director General, Capture Fisheries.

30. Component 2: Development of Ecosystem Based Resources Management (US\$16.62 Million; \$6.25M Loan; \$8.96M GEF; \$1.41M GOI). This component will improve management of national and district MCAs and create enabling conditions for sustainable use of the surrounding production seascape. This component will finance the following sub-components and associated activities.

31. Sub-component 2.1: Support Preparation of Zoning Plans: (a) support the preparation and finalization of the Zoning Plans for the seven districts<sup>11</sup> in the five project provinces; and (b) undertake activities required to draft the final perdas (official decree at district level).

32. Sub-component 2.2: Application of Integrated Coastal Management (ICM): (a) provide training and build awareness about integrated coastal management aspects across a range of stakeholders; and (b) support the preparation of an integrated ICM plan for the seven districts based on the village level coastal management plans.

33. Sub-component 2.3: Management Effectiveness of MCAs: (a) support the preparation and finalization of the zoning and management plans for the 13 district and national MCAs; (b) carry out investments and activities relating to conservation area management; and (c) support the preparation of a national strategic action plan for at least three threatened fish species, and implement protection and management plans in three selected pilot sites within the project area.

34. Sub-component 2.4: Piloting Community Rights-based Approach: (a) ascertain the feasibility of the two designated pilot areas for community rights-based approach; and (b) support the process of defining and establishing community rights over reef, fishery and associated resources through implementation of two pilots.

35. Sub-component 2.5: Sustainable Fisheries Management in select fisheries management areas<sup>12</sup>: (a) carry out stock assessments and status of selected coral reef fish; (b) develop a coral reef fish management plan based on the stock assessments and an eco-system approach to fisheries management (EAFM) for select coral reef fish species; (c) assess the district level fisheries performance in the selected areas using agreed district level EAFM indicators<sup>13</sup>; and (d) train MMAF staff and district fishery officers, and build awareness in relevant stakeholder groups on EAFM best practice.

36. Component 3: Strengthening Sustainable Marine-based Economy (US\$22.76 Million; \$22.12M Loan; \$0 GEF; \$0.64M GOI). This component aims to support the development of sustainable, ecosystem-based marine enterprises that reinforce links between healthy marine

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<sup>11</sup> This may eventually be six districts as preparation of a Zoning Plan for Wakatobi may not be required.

<sup>12</sup> Three fishing management areas are expected to be covered under the project, including WPP718.

<sup>13</sup> MMAF has developed 32 indicators relating to resources, fisheries, habitat, social, economic, and institutional aspects. DG-Capture Fisheries will select 4-5 key indicators to monitor the sites selected for the project.



ecosystems and economic benefits, and create an economic basis to sustain COREMAP local institutions. This component's primary focus is providing alternative income generation options to people affected by project interventions. Since it is not possible at this stage to identify the MCAs and districts, beneficiaries or infrastructure to be financed under this component, a process framework and a set of eligibility criteria have been developed to: (a) select MCAs for infrastructure development; (b) prioritize the required infrastructure; (c) select the districts for carrying out Sustainable Enterprise Alliance (SEA) feasibility studies; (d) determine the district, location, business options, and beneficiaries for SEA development; and (e) select private operators to partner with the producer groups. This is provided in Annex II (pages 24-27) and also in the Project Implementation Manual. This component will finance the following sub-components and associated activities.

37. Sub-component 3.1: Creation of basic infrastructure: (a) prioritize and finance basic infrastructure for the development of eligible district and national level MCAs; and (b) identify and create the prioritized enabling infrastructure to attract private investment and to support sustainable enterprise alliances development in the selected project districts.

38. Sub-component 3.2: Pilot program to test the development of sustainable enterprise alliances: (a) carry out a feasibility study for SEA development in selected districts, and identify and select district/location/business enterprise options based on an assessment of district development plans and district level feasibility studies; (b) support establishment of district level Association of the village Coastal Resources Management Committees; (c) support formation of producer groups of eligible beneficiaries; (d) promote SEAs with private partners selected through a competitive process; (e) finance specific identified business option related capital investment, one cycle of working capital required for these business enterprises to become functional, and key consultancies that may be required to support the business; and (f) support piloting of technological best practice approaches (building upon lessons learned from other sub-project successes and failures), market development and outreach activities related to the SEAs.

39. Component 4: Project Management, Coordination and Learning (US\$7.87 Million; \$5.12M Loan; \$0 GEF; \$2.75M GOI). This component will consist of the following activities: (a) Monitoring and Evaluation of Project Performance; (b) Learning Networks and Dissemination of Best Practices across COREMAP Program Area (including ADB Sites)<sup>14</sup>; (c) Compliance monitoring on safeguards and fiduciary management (including external audit); (d) Coordination with ADB and other partners; and (e) Incremental Operating Costs.

## Project Financing

40. The project is a fully-blended operation, financed through an IBRD loan of US\$47.38 million and a GEF grant of US\$10.0 million. The project will be implemented over five years. The total project cost is estimated at US\$63.08 million with government counterpart funding of US\$5.7 million. Component-wise and financier-wise breakdown is provided in Table 1.

Table 1: Project Cost and Financing Arrangement

Components	GOI	IBRD	GEF	Total	
	US\$ M	US\$ M	US\$ M	US\$ M	% of Total Project Cost
Institutional Strengthening for Coral Reef Management	0.90	13.89	1.04	15.83	25.10
Development of Eco-system based Resource Management	1.41	6.25	8.96	16.62	26.30
Strengthening Sustainable Marine-based Economy	0.64	22.12	0.00	22.76	36.10
Project Management	2.75	5.12	0.00	7.87	12.50
Total Project Cost	5.70	47.38	10.00	63.08	100.00
% of Total Project Cost	9.00	75.10	15.90	100.00	

<sup>14</sup> The equivalent of 1% of the GEF IW Grant (US\$20,000) will be allocated to support IW Learn activities related to South-South Learning and portfolio knowledge sharing, including production of IW experience notes, links to <http://iwlearn.net> and attendance at GEF IWCs.

## **C. Lessons Learned and Reflected in the Project Design**

41. The distinctive feature of COREMAP I and II was their support for decentralized coral reef management through the creation of local institutions at the village level and empowering communities to take responsibility for their reefs via community mobilization, technical capacity to monitor and protect portions of their reefs, environmental education, social infrastructure and support of district authorities. In supporting this approach, several important lessons were learned under COREMAP I and II which have been taken into account in the design of COREMAP-CTI:

- (a) Projects should adopt an ecosystem-based approach in addressing coral reef conservation but there has to be a strong focus on coral reef fish, recognizing that the fisheries the reefs support are the most important service they provide to coastal residents and that overfishing is one of the greatest threats to the conservation of the reef ecosystems. (COREMAP I);
- (b) A wide range of marine-based, alternative economic development activities should be a complementary focus, accompanied by adequate technical and financial support. Small supplementary incomes encourage unproductive fishers to stay in business. To be transformational, investments in alternative livelihoods must be profitable and designed for scale - incorporating adequate financing, technical assistance, and links to markets. (COREMAP II);
- (c) Formalizing rights of communities to manage their coral reefs and associated fishing grounds (i.e., closing open access) are critical to sustainable fishery but requires new institutional arrangements with local government and strong enforcement of limited access to community fishing grounds. (COREMAP II);
- (d) Supporting organizational structure and reinforcing institutional arrangements at all levels of government and strong ownership by local stakeholders is central to decentralized collaborative management. (COREMAP II); and
- (e) Along with economic development activities, investing in public awareness and environmental education to demonstrate the connection between coral reef health and human welfare is a cost-effective strategy to help drive behavioral change. (COREMAP I and COREMAP II).

## **IV. IMPLEMENTATION**

### **A. Institutional and Implementation Arrangements (see Annex III for details)**

#### **Project Coordination and Partnership**

42. Project Implementation Arrangements. The DG MCSI will assume full responsibility as the lead Executing Agency (EA) for project administration and management, and will host the Project Management Office (PMO) to manage the proposed project with the DG MCSI being responsible for appraising, guiding, supervising and monitoring the implementation of the project.

43. The director of DG MCSI will be appointed as the PMO Project Director. He will have reporting to him the PMO Project Manager responsible for overall project implementation, planning, budgeting, coordination with other government line ministries, operation of the main special account, preparation of consolidated quarterly project reports and activities/reports requested by the DG MCSI and the Bank.

44. The PMO Project Manager will be assisted by three Component Managers, each managing one component of the project, and supported by a chief accountant, a chief procurement officer, a training coordinator, an M&E officer, and a programmer for the MIS. A small team of specialists, comprising a mix of long- and short-term international and national consultants would be contracted to assist his team.

45. Three Project Implementation Units (PIUs) at the national level, each headed by a PIU Manager, will implement the project, as follows:

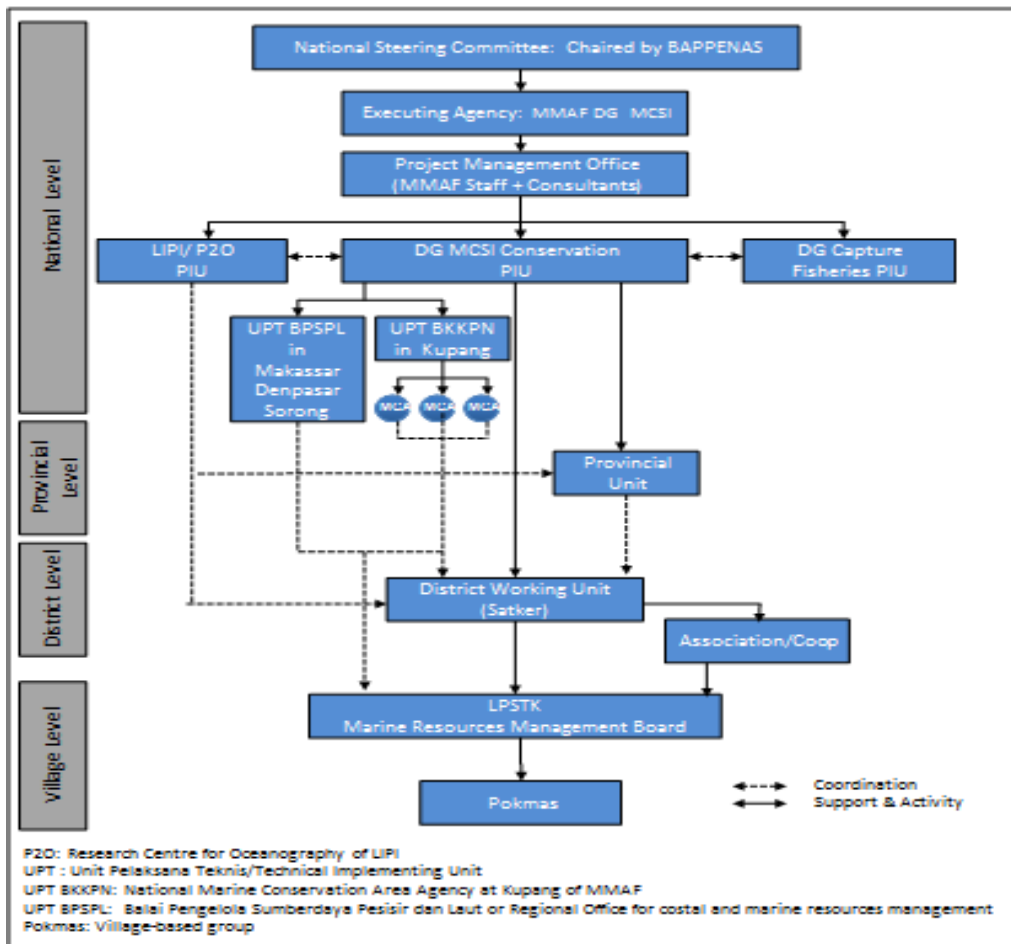
- (a) DG MCSI through the Directorate of Conservation of Area and Fish Species (CAFS) will implement most of the project activities in collaboration with other Directorates within MMAF and UPTs in the region, the provincial coordination units, and the district PIUs;
- (b) DG Capture Fishery (CF) through the Directorate of Fisheries Resources (FR) will implement activities relating to rights-based approach to coastal resources management (in collaboration with DG MCSI), and sustainable fisheries management; and
- (c) Research Center for Oceanography at LIPI will implement the monitoring component of the project.

46. The three PIUs will be responsible for day-to-day operation of project implementation. Each PIU shall be headed by a full time Manager who will report to the PMO Project Director and shall have appropriately qualified staff and adequate resources. The PMO Project Manager will also act as the CAFS PIU Manager.

47. The MMAF will also establish a National Steering Committee which will convene at least every six months to review overall project implementation progress and to address any outstanding issues. It will be chaired by Deputy Bappenas, with the Directorate of Marine Fisheries serving as its Secretariat. The NSC will be composed of members from: (a) Deputy Bappenas for Natural Resources and Environment; (b) DG, MCSI; (c) DG, Capture Fisheries; (d) LIPI; (e) DG, Aquaculture; (f) DG, Monitoring, Control, and Surveillance; (g) SG, MMAF; (h) DG, Treasury MOF; (i) DG, Budget MOF; and (j) Deputy Earth Science-LIPI.

48. Detailed implementation arrangements, including those at the provincial, district and village level, are provided in Annex III. A simplified organization structure for project implementation is provided in Figure 1.

**Figure 1. Overview of Organization Chart**



49. Collaboration with ADB. The WB and ADB will work closely during the implementation of COREMAP-CTI to create synergies and enhance learning across the implementation landscape through joint supervision missions, workshops, joint mid-term review, shared reporting systems and, where appropriate, sharing the costs of PMO consultant staff.

50. Collaboration with Other Agencies for Technical Assistance. Access to technical assistance to implement each of the project's components will be important to its success. Much of this technical expertise now resides in Indonesian institutions, both inside and outside of government. The Project will seek to identify sources of needed technical assistance within research organizations, NGOs, Sea Partnership Program and the private sector, as well as from the international community (e.g., via CCRE<sup>15</sup>) in cases where the necessary expertise resides outside Indonesia, or where institutional collaboration can help strengthen the development of knowledge and technical capacity of Indonesian institutions to make them more effective.

## **B. Results Monitoring and Evaluation**

51. The PMO will be responsible for monitoring and evaluation of the implementation progress and outcomes of the project components. A full time M&E officer will be recruited to carry out project M&E at the PMO. The M&E officer at the PMO will prepare quarterly progress reports for submission to the National Steering Committee and the Bank through the Executing Agency. In addition to the quarterly reports, the PMO would engage a dedicated person to monitor and report on the implementation of environmental and social safeguards, as described in the disclosed Integrated Safeguards Data Sheet. Mid-term and completion reports will be prepared for sustainable fisheries management, community rights-based approach to fisheries management, and the threatened species protection pilots with recommended guidance for scaling-up.

52. A simple but effective web-based MIS with a Village Profile Database has been initiated under COREMAP II. The project will continue maintaining and upgrading the MIS, including creating a web-based GIS platform for a spatially explicit display of data and tracking of project performance. The MIS will link to the Coral Reef MIS, housed in LIPI, and will be source of information for CTI monitoring and reporting. Key stakeholders including GOI staff and the Bank will be provided with an ID and passwords to monitor the performance of the project through the internet. The portal of the web will have a dashboard to give a quick overview of the project progress. This will allow project staff as well as the Bank offices both in the country and Washington, DC to obtain relevant information about status of project implementation in close to real time.

53. There will be two milestone evaluation exercises: one at mid-term of the project implementation (June 2016) to assess project performance and make mid-course corrections where required, and another at end-of-project (June 2019) to take stock of the contributions of the project and the achievement of development objectives.

## **C. Sustainability**

54. The project aims to institutionalize the COREMAP model in the seven project districts. Sustainability of this institutionalization process depends on four main factors: (a) communities understand the benefits of conserving coral reefs for increasing fish population to increase their incomes; (b) illegal and destructive fishing activities are controlled to conserve reef areas; (c) those affected by restriction of access to assets receive incomes that are not just supplementary but substantive to prevent them from returning to those closed areas; and (d) the process is embedded into the district governance system.

55. Communities will be made aware of the conservation benefits of coral reefs through a comprehensive dissemination program. The dissemination initiative is targeted at a range of stakeholders – fish traders, technical staff, government functionaries, politicians, judiciary officials, fish consumers, among others. The project also will support the development of education materials with local content and in native language on the benefits of coral reef conservation to be introduced in elementary through high schools in the districts to have a longer

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<sup>15</sup> Capturing Coral Reef and Related Eco-system Services Project funded by GEF, approved on September 30, 2013.

term impact. Three pilots will generate information on best practice approaches to sustainable fisheries and reef fish management – the eco-system based approach to sustainable fisheries, the community rights based approach to fisheries management, and the preparation and implementation of management plans to conserve threatened fish species. Another innovation under the project is decentralized monitoring of reef health indicators through communities, NGOs, private sector entities, academia, among others. This will enable the stakeholders to get first-hand experience and understanding of the impacts of project conservation efforts. These will provide rich information to the communities to collaboratively take on stewardship of their marine resources.

56. The project will provide a renewed and vigorous focus on illegal fishing through information dissemination and developing a joint monitoring and surveillance system involving local communities and citizens. Collaborative and participatory enforcement of zoning and other regulations governing resource use in MCAs will also help control illegal fishing practices beyond the control of local communities. Equipment and training will be provided to the institutionalized MCS groups at the village level that will be formalized and linked with the respective village Coastal Resources Management Committee. District governments have committed to support community-based co-management through sustaining many of the costs for extension and outreach to communities in maintaining their no take zones, including escalated monitoring, control and surveillance.

57. Compensating project affected persons with sources of income which are unable to match their pre-project incomes ends up driving the erstwhile fishers back to exploit the fishery resources to which their access has been closed. This renders the process of zoning unenforceable, once again increasing fishing pressure on the sites. The project specially focuses on marine-based economy to create more permanent jobs for affected persons that are financially viable, environmentally sound, and socially inclusive. The cut-off of 20% financial rate of return, a rigorous assessment of the viability of these income generating options, and a private partnership approach to bring in commercial experience and entrepreneurial spirit assures an income level that would make the zoning process and conservation more sustainable.

58. The upgrading of the coral resources management plan to a coastal resources management plan, and the integration of the village development plans into the district development plan with an agreement by the district to provide funding for the coastal management activities will ensure funding for these plans in the medium-long term. This intertwining of the village program with the district program will help sustain the institutions and activities in the medium-longer term.

59. Additionally, to enhance the potential for wider application and replication, COREMAP-CTI will coordinate with other GOI Programs, for example, USAID, CTI, IFAD, NORAD, Swiss Aid, as well as explore possible links to the National Program for Community Empowerment in Rural Areas.

## **V. KEY RISKS AND MITIGATION MEASURES**

60. Experience and lessons learned from implementation of COREMAP II would minimize a number of risks, including procurement, M&E, and disbursement. However, the following risks would require constant attention from both the GOI and WB.

61. Design complexity resulting from addition of new activities: Because of new emerging issues during the previous two phases, COREMAP-CTI has had to add new activities such as zoning plans/marine spatial plans at the district level, management effectiveness plans for 13 MCAs, community rights based approach to resources management, eco-system based approach to sustainable fisheries, and sustainable marine resources-based enterprise development. These new initiatives add to the riskiness of the project.

62. The following measures have been planned to mitigate this risk: (a) the project will deploy international agencies with solid technical and conceptual expertise in the areas of marine spatial planning and SEA development. The University of Queensland will be working closely with the implementing agencies under the CCRES project in select pilot districts to extend and finalize the already existing preliminary zoning plans that some districts have already prepared.

Another set of experts will carry out feasibility studies in select pilot districts for SEA intervention. This involvement will create the model for replication in other project districts for zoning and SEA activities; (b) the preliminary management plans for the MCAs are already prepared but these need substantial consultation and endorsement by the various stakeholders. The list of activities to be carried out is clearly spelled out in the Effectiveness Scorecards to avoid ambiguity; (c) the other two activities are introduced in the project as pilots to enable development of models that could be scaled up post-project in other parts of Indonesia. The ecosystem based approach to fishery management is confined to just three of the eleven fisheries management areas (WPPs), and the rights based approach will be piloted in two sites. Since these are the only two activities to be carried out by DG Capture Fisheries (rights-based approach in collaboration with DG MCSI) which has considerable expertise, it will therefore be able to provide good oversight.

63. MCA infrastructure and SEA investments under Component 3: This is a large component with an allocated amount of US\$22.76 million. The investment either in MCA infrastructure development or SEAs is to be defined during implementation, introducing risk and uncertainty in the component.

64. This risk will be mitigated through two specific measures: (a) preparation of comprehensive MCA Management Plans by expert consultants which will define the infrastructure investments required in the MCAs. A set of eligibility criteria will be used to select MCAs and to prioritize infrastructure to be supported under the project; and (b) selection of districts, on the basis of a set of eligibility criteria, to benefit from the preparation of detailed feasibility studies in the districts to determine the potential business propositions to develop alternative income generating options, and the investments required. Investments, locations and beneficiaries will be determined using pre-defined eligibility criteria. A pilot feasibility study will be carried out by experts under the GEF-financed CCRES project to develop a robust feasibility model based on the eligibility criteria which will then be replicated in other districts. (see pages 24-27 of Annex II).

65. Limited Capacity of the Technical Unit (UPT) in Kupang: The institutional capacity of the UPT to implement activities for effective management of national level MCAs is limited. The areas to cover from the Kupang office is huge, and distances to travel to MCAs are large. By using Management Effectiveness tool kit, project activities will be systematic, but limited experience and human resources in the office increase the risk that implementation may get delayed. In addition, the lack of experience in promoting co-management of MCAs through coordinating work between UPT officers and district officers could affect the quality of consultations for plan preparation and management of the sites.

66. To mitigate this risk, MMAF has plans to add to the number of UPT officers, and set up a team with specific project responsibility. Additionally, it will promote networks with experienced NGOs to share experiences for success, and also provide technically qualified consultants both to the UPT and to the MCA sites.

67. Funds Management at the Association of Village Coastal Resources Management Committees: For the SEA Sub-component 3.2, the flow of funds arrangement from MMAF to district and village level producer associations has been finalized, with project funds being transferred as grants. That the funds are to be transferred to newly created district associations that may not have the required staff in place creates a financial management risk.

68. The risk associated with this sub-component relating to funds flow is limited. The project will select districts using an agreed set of eligibility criteria, followed by feasibility studies in those selected districts to identify the most promising SEAs options at locations and for beneficiaries that meet the eligibility criteria. This selective approach will possibly reduce the number of project districts (and associations) in which this sub-component will be implemented to less than seven. A separate SEA Development Manual which provides details on the organization, membership, roles and responsibilities, nature of functions, accounting and auditing, funds flow, among other aspects, relating to the district level associations will be prepared by March 31, 2014 for review and approval by the Bank. Disbursement under Component 3.2 is conditional on Bank approval of the manual.

## **VI. APPRAISAL SUMMARY**

### **A. Economic and Financial Analysis**

69. The Economic and Financial Analysis for the overall project indicates an EIRR of approximately 15.6%. A summary analysis is provided in Annex VII.

70. The Cost Benefit Analysis captures the key monetary benefits of the project for a select number of sub-components, as follows: (a) Component 1.1: Strengthening and expansion of COREMAP approach; (b) Component 1.3: Strengthening surveillance of coastal eco-systems; (c) Component 1.4: Strengthening technical capacity; (c) Component 2: Development of eco-system based resources management; and (d) Component 3.1: Development of basic infrastructure on MCAs; and (e) Component 3.2: Pilot program to test development of SEAs.

### **B. Technical Aspects**

71. The design of COREMAP-CTI builds on the previous two phases, but rather than expand coverage to more districts, the focus is on deepening the level and quality of engagement with key stakeholders (from national to community levels). By building capacity for marine spatial planning, MCA management, conservation and sustainable use of fisheries and associated resources through community rights-based governance, and by introducing innovative and transformational alternative livelihood opportunities, COREMAP-CTI aims to institutionalize and demonstrate the capacity for decentralized co-management of coastal and marine resources. For these new activities, the project will encourage collaboration of reputed local institutions with some outstanding international technical agencies. The marine spatial planning and the SEA activity, for example, will be piloted in collaboration with the University of Queensland under the CCRES project. By developing an integrated model for sustainable coastal management through a positive change in communities that embrace it, the project will provide a blueprint for scaling up this approach across Indonesia in the post-project period.

### **C. Financial Management**

72. The Bank carried out a Financial Management (FM) assessment in accordance with OP/BP10.00. The assessment covered the financial management system of the national implementing agencies (DG MCSI and DG CF within MMAF; and LIPI). The overall conclusion of the assessment is that with the implementation of the agreed action plan, the proposed financial management arrangements will satisfy the Bank's minimum requirements and are adequate to provide, with reasonable assurance, accurate and timely information on the status of the loan and grant required by the Bank.

73. The agreed action plan consists of the following: (a) The PMO will set up database for on-line remittance orders, and all PIUs, UPTs and district PIUs would submit regular remittance orders which would form the basis for the reconciliation of the two Designated Accounts (DA), one for IBRD and another for GEF financing, and the preparation of separate consolidated project financial reports; (b) A consulting firm will be hired by the PMO to prepare Interim Financial Reports for each financing source on a quarterly basis; (c) Central database at the PMO will be used to monitor follow-up actions on audit findings; (d) Independent documentary evidence will be required to verify completion before payments are released to consultants. For workshop activities and other type of expenditures, payment validation procedures will require attachment of original supporting evidence of completion of these activities; and (e) A separate SEA Development manual will be prepared by PMO by March 31, 2014, detailing the arrangement for channeling financial assistance to the newly established district level associations for SEA activities. No disbursement will be made under the SEA Development component till the Bank approves this Manual.

### **D. Procurement**

74. The procurement capacity assessment of the national implementing agencies indicates that they have the basic capacity to carry out procurement activities under the project. MMAF and LIPI had earlier functioned as executing/implementing agencies at the national level under COREMAP I and II and are procurement proficient.

75. The agreed action plan consists of the following: (a) MMAF will hire a procurement specialist to assist the procurement committee in the preparation of procurement documents; (b) the Project Implementation Manual will provide details about the procurement procedures to be followed under the project. Procurement will be carried out in accordance with World Bank Procurement Guidelines and the provisions stipulated in the Loan Agreement. Procurement procedures and standard bidding documents to be used for each procurement method will be included in the manual; and (c) prior to Loan Effectiveness, the Bank will provide a special training session on procurement to the staff of implementing agencies, including for district level staff involved in procurement of goods and services.

#### **E. Environmental and Social Aspects (including safeguards)**

76. *Overall:* The project has been categorized and classified as a Category B (partial assessment) operation, which means no significant adverse environmental or social impacts are anticipated from project related investments. Any risks that may emanate from project supported interventions may be readily mitigated and are manageable at the local level. While social and environmental outcomes are generally expected to be positive given the nature of the project, the following Bank Safeguard policies are triggered by the project as the project may generate minor to moderate scale environmental and social impacts: (a) OP 4.01: Environmental Assessment; (b) OP 4.04: Natural Habitats; (c) OP 4.10: Indigenous Peoples; and (d) OP 4.12: Involuntary Resettlement. It is important to note that neither OP 4.36 on Forests nor OP 4.11 on Physical Cultural Resources are triggered by the project. For Forests (OP 4.36), the rationale is that the project will not finance any activities that would involve significant conversion or degradation of critical forest areas or related critical natural habitats as defined under the policy. No net loss of mangroves would occur as a result of project activities. And no investments will be financed by the project involving mangrove forests or community-based activities involving management regimes of mangrove forests. For Physical Cultural Resources (OP 4.11), the rationale is that there are no known physical or cultural resources in any of the project sites which are the same sites as under COREMAP I and II. The project will not finance any activities that will adversely affect archeological, paleontological, historical, religious, or unique natural values as defined under the policy. To address possible chance finds, the project ESSF includes on annex on standard chance finds procedure clauses that will be included in all construction contracts financed by the project.

77. *Social Impacts:* Potential adverse social impacts may include restricted access of fishers to areas zoned for full protection or reduced fishing and loss of land or assets due to the need for land acquisition for infrastructure works. With respect to Indigenous Peoples, the Bank completed an IP mapping exercise in Indonesia in 2010 (EGIMap-Strengthening IPs Screening in Indonesia", 2010, World Bank. Data from that effort indicate that IP communities are present in five of the seven districts where the project will be implemented. For the remaining two districts, IP presence has not been confirmed at this stage of project design. The locations indicating the geographical distribution of IP in Indonesia, as presented in the EGIMap, will be used by the implementing agencies as a reference for carrying out IP screening in the project areas. In locations in which IPs are present, district and sub-district staff responsible for implementation will ensure that the standard social mapping process applies cultural criteria in order identify IPs and involve them in program planning, decision-making, and implementation processes as stipulated in the ESSF.

78. *Environmental Impacts:* Potential adverse environmental impacts that may be generated by project activities include: soil contamination from waste material, vegetation loss, increased construction waste that would necessitate proper transfer to an appropriate final disposal site, water contamination from construction materials and chemicals, soil erosion and increased runoff, disturbance of wildlife, and/or loss of coastal habitat.

79. Under Component 1, no incremental areas are expected to be designated as no-take zones. As such, no restriction of access to assets will happen under this component. All of the other activities are expected to promote positive environmental impacts: implementation of coastal plans, generation of awareness, strengthening capacity for conservation, activities to reduce destructive fishing. Activities under Component 2, particularly the preparation of the MCA management plans would likely result in zoning and restriction of access to assets. The process of management plans preparation is deeply consultative and would generate a list of



project affected persons (including indigenous peoples) who would be supported for livelihood restoration under Component 3.2. Activities relating to eco-system based approach to sustainable fisheries, community rights based approach to fisheries management, and protection of three threatened reef fish species are all in the nature of pilots, and the social or environmental impacts are expected to be limited and generally positive. Under Component 3, environmental impacts are expected at the level of infrastructure development (under sub-component 3.1) or implementation of SEA sub-projects (under sub-component 3.2). The impacts in terms of promoting conservation are expected to be generally positive. No land acquisition will be done under the project.

80. To mitigate any and all potentially adverse environmental and social impacts associated with the requirement of the national legal and regulatory framework applicable to this project as well as the four World Bank Safeguard Policies triggered, an Environmental and Social Safeguards Framework (ESSF) has been prepared. The ESSF was discussed with stakeholders in Sorong on July 2-3, 2013, in Makassar on July 5-6, 2013, and in Jakarta on July 23, 2013. The consultations were attended by NGOs, district PIUs, community representatives, members of the village level institutions (LPSTK), and consultants of closed COREMAP II, and academia. Comments and inputs from these consultations were incorporated into the ESSF that was subsequently disclosed in Bahasa Indonesia on MMAF's and COREMAP's websites: [www.kkji.kp3k.kkp.go.id](http://www.kkji.kp3k.kkp.go.id) and [www.coremap.or.id](http://www.coremap.or.id) on July 26, 2013. The English version of the ESSF was publicly disclosed through the Bank's Infoshop at the same time.

81. The ESSF guides project implementation agents with how to screen, classify, mitigate, manage and monitor environmental and social impacts of each type of sub-project under sub-component 3.2. The ESSF includes a negative list of investments that will not be financed by the project as well as a detailed environmental and social safeguards screening checklist. The checklist provides a tool for PIU staff to identify potential risks and impacts of project activities and to identify which, if any, frameworks and plans are applicable and need to be developed to attend to the safeguards considerations of a specific subproject. The ESSF also includes a range of impact specific safeguard instruments. Each will guide project engagement with project beneficiaries and identification of safeguards issues alongside the definition and application of appropriate mitigation measures linked to specific activities, communities and/or locations so as to ensure that no net harm is caused by the project and that project benefits are inclusive and equitable. The specific safeguard instruments described in the ESSF are as follows:

- (a) Environmental Management Framework;
- (b) Land Acquisition and Resettlement Policy Framework;
- (c) Process Framework for Involuntary Resettlement; and
- (d) Indigenous Peoples' Planning Framework.

82. Guidance on application of the ESSF will be included in the Project Implementation Manual (PIM), which also includes a set of comprehensive Environmental and Social Codes of Practices, and applicable laws, regulations and policies of Government of Indonesia, as well as Bank's Operational Policies. Dedicated safeguards specialists will be embedded in the PMO at the national PIUs, and staff at district PIUs will be trained to monitor compliance with safeguard requirements, governance and anti-corruption measures. The PIM prepared by the Government of Indonesia and the guidance provided therein is a result of a series of discussions between MMAF project staff and the Bank safeguards team. The PIM will be disclosed in Bahasa Indonesia on the MMAF and LIPI websites prior to project approval. An English language executive summary of the PIM will also be disclosed on the Bank's InfoShop at the same time.

## **F. Governance and Anti-Corruption (GAC)**

83. A GAC action plan has been developed around the three pillars of transparency, accountability and participation to promote better public access to project information (physical activities and financial information), participation of external stakeholders (including local CSOs) in project oversight at regional level, transparency in selection of beneficiaries, and easy access to a complaint handling system. These are complemented by actions relating to good governance in both financial management and procurement related aspects. Beside the Bank Guidelines, some Indonesian Laws provide a strong legal basis for actions to mitigate fraud and corruption in implementation of government projects. These are a part of the GAC Action Plan.

## ANNEX I: RESULTS FRAMEWORK AND MONITORING

**Project Development Objective (PDO):** *to institutionalize the COREMAP approach of a viable, decentralized and integrated framework for sustainable management of coral reef resources, associated eco-systems and bio-diversity for the welfare of the communities in seven selected districts of five provinces in Indonesia.*

PDO Level Results Indicators*	Core	Unit of Measure	Baseline (Note 1)	Cumulative Target Values**					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				2014	2015	2016	3/2018	6/2019				
<b>Indicator One:</b> Coral reef Health Status in COREMAP-CTI areas improved	☒	Reef Health Index	2013 value	Maintained in 100% of project sites	Maintained or improved in all project sites	Maintained or improved in all project sites	Maintained or improved in all project sites	Improved in at least 70% of project sites	Annual	CRMIS	LIPI (P2O)	*% of live coral cover, macro-benthos, and indicator reef fish species; *20 project sites: 7 districts; 6 district MCAs, and 7 national MCAs
<b>Indicator Two:</b> Destructive Fishing shows a declining trend	☒	Various	Start of 2014	Baseline for the remaining project years	The composite indicator shows a declining trend in destructive fishing				Six-monthly	Survey	UPT BKKPN Kupang; UPT BPSPL, UPT MCS, District Dinas for Marine and Fisheries, UPT for district MCAs	(Note 2)
<b>Indicator Three:</b> Marine Conservation Area Management Effectiveness improved	☒	Number of MCAs	All 13 MCAs are Red with 80% of Red level score as baseline	All 13 MCAs are Red (100% score)	All 13 MCAs achieve at least 25% of the Yellow level score	All 13 MCAs achieve at least 50% of the Yellow level score	All 13 MCAs achieve at least 75% of the Yellow level score	All 13 MCAs achieve Yellow status; 9 have at least 50% of Green level score; Of these 9, four have at least 10% of Blue level score	Annual	Survey	BKKPN Kupang; District Dinas for Marine and Fisheries/ UPT for district MCAs	Indicators described in Management Effectiveness Scorecard (E-KKP3K) – Red, Yellow, Green and Blue with progressive improvement, not necessarily sequential

<b>Indicator Four:</b> Income of COREMAP-CTI beneficiaries increased (Note 3)	<input type="checkbox"/>	%	2015 income as baseline	-	Baseline for remaining project years	5% net of inflation	10% net of inflation	15% net of inflation	Annual	Household Surveys – 2015, 2017, and 2019	LIPI P2K-Research Center for Demography	*Income of those remaining in fishing; *At least 20% FRR for SEAs under Component 3.2
<b>Indicator Five:</b> Female beneficiaries participation	<input checked="" type="checkbox"/>	%	0	0	0	15	20	30	Annual	Household Surveys	LIPI P2K-Research Center for Demography	The proportion of female beneficiaries

### INTERMEDIATE RESULTS

PDO Level Results Indicators*	Core	Unit of Measure	Baseline	Cumulative Target Values**					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				2014	2015	2016	3/2018	6/2019				
<b>IR indicator 1:</b> Village Development Plans include line item for support for coastal resources management	<input type="checkbox"/>	Number	0	0	40	100	175	210	Annual	MIS	District PIUs/Coastal Resources Management Committees	No of Village Development Plans with updated Coastal Resources Management Plans (RPTK) receiving funding from district budget
<b>IR indicator 2:</b> Coral reef management at local level institutionalized	<input type="checkbox"/>	Number	0	0	40	100	175	210	Annual	MIS	MMAF-DG MCSI and District Dinas Marine and Fisheries	Villages with coastal plans, trained community for reef management and monitoring, and linked with village program
<b>IR indicator 3:</b> Joint Patrols for MCS between Navy, District and community groups	<input type="checkbox"/>	Number	2014 as baseline	-	7	14	21	27	Quarterly	Reports	Bupati, Governor, Dinas, Pokmaswas	Number of joint patrols per month; Patrols to collect data and report on destructive fishing
<b>IR indicator 4:</b> Zoning Plan for districts prepared	<input checked="" type="checkbox"/>	Number	0	0	3	6	9	12	Annual	MIS	DG MCSI, District Dinas Marine and Fisheries,	Districts and provinces where zoning compatible with conservation

											UPT BPSPL	and sustainable use is completed (7 districts + 5 provinces)
<b>IR indicator 5:</b> MCAs at District level legalized by Ministerial Decree	<input checked="" type="checkbox"/>	Number	0	1	3	5	6	6	Annual	UPT BKKPN, UPT BPSPL, District PIU	MMAF, DG MCSI	MCAs are today legalized by district level regulation only
<b>IR indicator 6:</b> Improved management plans prepared and/or regulations for threatened species promulgated	<input checked="" type="checkbox"/>	Number	0	0	0	1	2	3	Annual	MIS	MMAF DG MCSI	Number of marine species whose management and protection status is improved through management plans and ministerial decree)
<b>IR indicator 7:</b> Community rights-based fisheries management piloted	<input type="checkbox"/>	Number	0	0	1	1	1	2	Annual	CRMIS	MMAF	Only two sites being developed as pilots
<b>IR Indicator 8:</b> Management of bio-diversity conservation piloted	<input type="checkbox"/>	Number	0	Management Plans prepared for the three threatened species	Pilots implemented in selected sites within project area			Annual	Survey	DG-MCSI DG-CF		Pilots for three threatened species in three selected sites (Note 4)
					1	3	3					
<b>IR indicator 9:</b> Sustainable fisheries management implemented in three fisheries management areas (including WPP718)	<input type="checkbox"/>	Number	0	0	0	1	2	3	Annual	Survey	MMAF for DG-CF	(Note 5)
<b>IR Indicator 10:</b> No Net Loss on Mangrove and sea-grass habitat (Note 6)	<input type="checkbox"/>	%	% vegetative cover in 2014	Baseline	Maintained or improved during the project years			2014, 2016, and 2018 for national MCAs; Annual for district MCAs	CRMIS	LIPI		Area of sea-grass and mangrove cover (defined at the outset as sparse, medium or dense)

Note 1: 2013/14 baseline values are to be generated during the first six months of 2014.

Note 2: This is a difficult but important indicator. It could consist of a mix of any of the following: (a) survey reports at landing sites; (b) survey reports at fish markets; (c) reports from patrols on sea; (d) reports from divers; and (e) reports from underwater acoustic devices placed at hotspots. For this, the indicator will be a qualitative one, based on percentage of reports which indicate destructive fishing in (a) to (e) to get a sense of the trend in destructive fishing.

Note 3: Fishers who continue to remain in fishing will experience an increase in income due to project sustainable fishing strategy (reduced fishers, closed season, fishing gear, quantity of biomass extracted, etc.). Pre-project fishing income for these fishers will be compared with the "with project strategy" income, and expected to increase by 15% net of inflation. For those

participating in SEAs, pre-project fishing income information will be incorporated into the returns for these fishers in the SEA financial model. The viability of the SEA would ensure that their post-project incomes are higher than before, and the SEA with a 20% FRR assures financial sustainability.

Note 4: Indicative threatened species are: (a) shark (SAP Raja Ampat, TWP Laut Banda and KKPD Raja Ampat); (b) Baboo corals/ Bamboo laut (TWP Laut Banda); and (c) Seahorse (WP Kapoposang, KKPD Buton). Three species each for the WB and ADB project sites will be finalized at a national workshop.

Note 5: DG, Capture Fisheries has identified some 32 indicators covering resources, fisheries, habitat quality, economic, social, and institutional indicators. Since the importance and relevance of indicators vary across the fishery management areas, the key indicators (4-5) will be finalized for each of the sites selected through pre-assessment, and the baseline values collected.

Note 6: The project has no activity or investment relating to mangroves. This indicator monitors the mangrove cover for information only.

## ANNEX II. Detailed Project Description

The PDO of the third and final phase of COREMAP (COREMAP-CTI) is to institutionalize the COREMAP approach of a viable, decentralized and integrated framework for sustainable management of coral reef resources, associated eco-systems and bio-diversity for the welfare of the communities in seven selected districts of five provinces in Indonesia. The project will cover about 210 villages in the following districts/provinces: Sikka (East Nusa Tenggara), Selayar, Pangkep (South Sulawesi), Buton, Wakatobi (South East Sulawesi), Raja Ampat (West Papua) and Biak (Papua). Additionally, it will support seven national level and six district level MCAs with a total area of 5.7 million hectares<sup>16</sup>, and three fisheries management areas (including WPP 718).

### COREMAP-CTI Approach

The COREMAP-CTI approach is premised on a system of co-management in coastal villages to promote community-based management and control over the coastal resources in a decentralized manner. The COREMAP approach aims to support the communities by helping them to acquire characteristics of COREMAP-CTI villages and to continue to exercise decentralized resources management and sustainable use of coastal resources for their welfare.

At end of project, the 210 COREMAP-CTI villages have the following characteristics:

- A decentralized coastal resources management committee, which provides support to the village in governing the use of coastal resources.
- An Integrated Coastal Resources Management Plan which includes coral reef management actions.
- A community-based Monitoring, Control and Surveillance Committee (Community MCS-Pokmaswas) to coordinate with district and provincial MCS.
- Community-based producer associations that promote sustainable marine-based economic development.
- A line item in the annual Village Development Plan budget from the Bupati to support implementation of the coastal resources management actions.
- Environmental education activities for adults and children.
- No-Take-Zone (DPL) in community fishing grounds where applicable.
- Access to sustainable alternative livelihoods with improvements in community income and welfare.
- Sustainable fisheries and improved coastal resources governance in COREMAP districts through an Integrated Coastal Management Plan, zoning plans at the district level, including at for the district level Marine Conservation Areas.

The PDO will be achieved through a three-pronged approach: (a) reinforcing the capacity of communities and local government to co-manage marine resources; (b) improving management effectiveness in the administration of district and national Marine Conservation Areas through Zonal/Marine Spatial Planning and co-management with local government to achieve biodiversity and sustainable-use objectives; and (c) increasing incomes of project beneficiaries through development of sustainable marine-based enterprises and alliances (SEA) between local communities, local government and private sector companies. COREMAP-CTI will also contribute significantly to implementation of Indonesia's National Plan of Action for the CTI. These approaches are embedded in the following four components:

- (a) Component 1. Institutional Strengthening for Decentralized Coral Reef Management;
- (b) Component 2. Development of Eco-system Based Resources Management;
- (c) Component 3. Strengthening Sustainable Marine-based Economy; and
- (d) Component 4. Project Management and Coordination, and Learning.

<sup>16</sup> List of marine conservation areas attached at end of this annex.

The total project cost is estimated at US\$63.08 million, shared as follows: IBRD: US\$47.38 million; GEF: 10.0 million; and GOI: US\$5.7 million (detailed cost table is provided at end of this annex).

**Component 1: Institutional Strengthening for Decentralized Coral Reef Management (US\$15.83 Million: \$13.89M Loan; \$1.04M GEF; \$0.90M GOI).** This component will institutionalize best practices, interventions and approaches developed under COREMAP, and depending on legal requirements, the project will also provide support for policy and legal framework development. This component will finance the following sub-components and associated activities.

Sub-component 1.1: Strengthening and expansion of the COREMAP approach.

- (a) mainstream and embed a decentralized approach to coral reef ecosystem management within the local government and village program in the 210 project villages. This will include discussing with the stakeholders and expanding the role of the existing village LPSTKs from addressing just coral resource management to cover coastal resources, making it a part of the direct decision making process involving village heads, embedding the revised Coastal Resource Management Plan into the Village Development Plan, which would be integrated into the District Development Plan, securing funding for such plan from the district budget, upgrading the Village Information Center, and supporting activities for maintaining the coastal areas.
- (b) raise awareness through an outreach program to enable adoption of COREMAP approach in non-COREMAP villages, including support for a learning network of Coastal Mayors and Village Heads informed by COREMAP experience and personnel exchange visits. The project will not finance expenses relating to adoption of the approach in other non-COREMAP districts. The project will also support activities to link the project with country-wide CTI activities and widely disseminate the experiences, approach, and outcomes of the project; and
- (c) transform the village level Coral Resources Management Plans to Coastal Resource Management Plans that link up with district level Zoning Plan and the Integrated Coastal Management Plan<sup>17</sup>.

Sub-component 1.2: Support for robust ecological and socio-economic monitoring.

- (a) upgrade Coral Reef MIS in terms of content, presentation, access, integration with CTI-based information databases, and to serve as the official repository for coral reef ecological and socio-economic monitoring information. This will also include developing protocols to accommodate data from external sources, data quality assurance procedures, a GIS platform for a spatially explicit data display and project tracking, and partnerships with other CTI agencies in the region.
- (b) develop a certification and training program, including curricula, for coral reef ecosystem monitoring incorporating best practice. LIPI may use consultants or collaborate with other expert agencies to develop the monitoring protocol, establish training centers for the protocol within existing institutions (BPSDM-MMAF, SPP offices, regional universities) linked to district and provincial monitoring program under provincial/district Dinas Marine and Fisheries.

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<sup>17</sup> These plans are nested in a hierarchy: Village Development Plans (resulting from) Coastal Resources Management Plans (resulting from) Coral Reef Management Plans (upgraded to cover Coastal Resources) (resulting from) Village level no-take zones establishment. The Coastal Resources Management Plans at the village level will need to articulate with the district level zoning plans, which will include areas for marine conservation, sustainable economic development, traditional fishing, etc. The final plans will be the result of an iterative process. The District (Economic) Development Plans would incorporate the Integrated Coastal Management Plan (resulting from) the Zoning Plan/Marine Spatial Plan at district level (which will include) the district level Marine Conservation Area Management Plan.

- (c) conduct monitoring in collaboration with other agencies including civil society organizations and private organizations. While establishing a performance monitoring plan which includes coral reef health monitoring and its eco-systems (benthos, reef fish), sea-grasses, and socio-economic aspects, LIPI will carry out baseline surveys in project and non-project sites using remote sensing and in-situ surveys, repeated at mid-term and end-of-project. Its own monitoring program will be gradually supplemented by external and independent monitoring agencies as these get certified.
- (d) upgrade and/or develop, in collaboration with NGOs, local conservationists, teachers, and other stakeholders, coral reef conservation content in local language, and disseminate, coral reef protection education modules for learning in elementary through high schools. Teachers will also be trained on this curriculum; and
- (e) produce coral vulnerability maps for local sites, and develop climate change mitigation plans. This will also include training at various levels, and equipping communities with adaptation measures to respond to coral reef-related climate change impacts.

Sub-component 1.3: Strengthening surveillance of coastal ecosystems.

- (a) develop best practice approaches to marine control and surveillance (MCS), including regular joint patrols involving Navy and Police, district DINAS Marine and Fisheries (especially civil investigators), and community participation at the district and provincial level. This will be done through a national level MCS strategy workshop followed by development of provincial/district and national UPT MCS plans. This would also include a judiciary sensitization program to issues emanating from destructive and illegal fishing and developing programs for joint patrols involving local government and citizens;
- (b) strengthen local level MCS institutions (pokmaswas) in project villages and in MCAs through training and capacity building initiatives; and
- (c) provide pokmaswas near “hot-spots” and MCS patrols with monitoring and communications equipment, mobility, and support training of civil investigators (PPNS-penyidik pegawai negeri sipil) to prosecute violators.

Sub-component 1.4: Strengthening technical capacity.

- (a) train MMAF and other department staff in identified core competencies for a range of recipients. This would include training for conservation officers, extension agents, civil investigators, MCS groups, among others. The topics could cover technical and management aspects in conservation areas, marine spatial planning, eco-system approach to sustainable fisheries management, integrated coastal management, mangroves and sea-grass eco-system management, stakeholder engagement and consultations, among others;
- (b) provide short-term training including internship (national and international) on a range of topics to national and district staff, community members, and extension agents, as for example, management of rare, endangered and protected fish resources; and
- (c) support advanced graduate degree programs on fisheries management for selected national staff of DG CF.

**Component 2: Development of Eco-system Based Resources Management (US\$ 16.62 Million: \$6.25M Loan; \$8.96M GEF; \$1.41M GOI).** This component will improve management of national and district MCAs and create enabling conditions for sustainable use of the surrounding production seascape. This component will finance the following sub-components and associated activities.

Sub-component 2.1: Support Preparation of Zoning Plans.

- (a) support the preparation and finalization of the Zoning Plan for six districts (excluding Wakatobi), including the MCAs, in the five project provinces. This is a critical milestone as without these plans no funds would be allocated by the government for infrastructure



and development to districts under Component 3. The project will support the refinement and finalization of the plans to include adjacent coastal waters (up to 4 nm for districts) with mapping, studies, technical assistance, public consultations; and

- (b) undertake activities required to draft the final perdas (district regulation) for the Zoning Plan.

#### Sub-component 2.2: Application of Integrated Coastal Management (ICM).

- (a) provide training and build awareness about integrated coastal management aspects across a range of stakeholders; and
- (b) support the preparation of an ICM plan for the six district MCAs based on the village level coastal management plans. The iterative integration exercise could require a recasting of some MCA management plans.

#### Sub-component 2.3: Management Effectiveness of MCAs.

- (a) support the preparation and finalization of the zoning and management plans for the six district and seven national MCAs through public consultations, implement pilot MCA utilization activities, carry out investments and activities relating to conservation area management, provide office and field equipment and other basic facilities (boundary markers, scuba sets, surveillance, etc.) required by the MCA to graduate to the next level, and support the establishment of BLUs (Badan Layanan Umum) or Public Service Agency in the Technical Implementation Units under DG MCSI-MMAF for national MCAs and UPTD (District Technical Implementing Unit) under district Dinas Marine and Fisheries for district MCAs; and
- (b) prepare and implement protection and management plans for at least three threatened marine species in selected sites within the project area. This would include a national level workshop to identify the three threatened fish species, preparation of a national level Strategic Action Plan for the three threatened species, implementation of the plans in three sites selected within the project areas, and generating awareness in the areas with protected or threatened marine species.

#### Sub-component 2.4: Piloting Community Rights-based Approach<sup>18</sup>.

- (a) carry out coral reef fish stock assessment and environmental carrying capacity to determine the total allowable catch of key reef fish species/or ecological guilds of fish (e.g. grazers, predators, apex species), facilitate agreements with fishermen on total allowable catch to bring fishing effort in line with carrying capacity and sustained productivity of reef fish in exchange for formalization of community rights over the fishery so that resource rents can accrue to those who own and manage the resource, register fishermen or canoes in this area (part timer and full timer) to assess effort in relation to carrying capacity and introduce a system of licensing.
- (b) support the process of defining and establishing community rights over reef, fishery and associated resources through implementation of two pilots. This would include support for community consultations, mapping the boundary of the designated area, acquiring and strengthening the tenure of the designated area to avoid future conflicts, using the customary law to provide the legal structure to re-establish the designated area complemented with the local village level governance structures, managing local conflict as fishing rights are sorted out, and creating incentives for voluntary exit from fishery, including compensation from funds established by license fees collected from those who

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<sup>18</sup> The project will pilot this approach at two sites. A number of organizations have supported the development of marine conservation areas in Raja Ampat over the last several years. There are no sustainable revenue streams, making it difficult for these organizations to exit. One possible option that has been considered is more sustainable fishery using a rights-based approach. The project could collaborate with these partners to develop a sustainable financing model and institutional framework for the Raja Ampat marine conservation area, which could be a model for other marine conservation areas.

remain in the fishery, and/or developing alternative sources of income or value chain development as an incentive for reduction in fishing effort to achieve greater economic yields from fishery as a whole.

Sub-component 2.5: Sustainable Fisheries Management in select fisheries management areas<sup>19</sup>.

- (a) carry out stock assessment and trophic interactions of selected coral reef fish. As a part of the eco-system study, the project will identify some spawning areas and this will inform decisions relating to better protection and no-take-zone establishment. The project will seek partnerships with private sector, including fishers who catch coral reef fish, in conducting stock assessments to measure the size of the captured fish. This approach would also be used as a part of awareness raising campaign. The project will aim to institutionalize stock assessment activities not only within DG Capture Fisheries, but also among private sector;
- (b) develop a coral reef fish management plan based on the stock assessments and an eco-system approach to fisheries management (EAFM). The management plan will provide background information of the district spatial plans, and these two plans will be integrated to protect the eco-system that support sustainable coral reef fisheries;
- (c) assess the district fisheries management performance in the fishing area using district level EAFM indicators (which will be a subset from the universe of 32 indicators); and
- (d) train MMAF staff and district fishery officers, and build awareness in relevant stakeholders (such as fishers and traders) on EAFM best practice.

**Component 3: Strengthening Sustainable Marine-based Economy (US\$ 22.76 Million; \$22.12M Loan; \$ 0 GEF; \$ 0.64M GOI).** This component aims to support the development of sustainable, ecosystem-based marine enterprises that reinforce links between healthy marine ecosystems and economic benefits, and create an economic basis to sustain COREMAP local institutions. The guiding principle for this component is to provide support to those who are affected by project interventions, in other words, those who suffer loss of income or livelihood as a result of specific areas being designated as no-take zones (restriction of access to assets), or due to reduction in destructive or illegal fishing activities, or due to crowding out from the sites to reduce over-fishing under Component 2. Since it is not possible at this stage to identify the MCAs and districts, beneficiaries, or infrastructure and SEA investments to be financed under this component, a process framework and a set of eligibility criteria have been developed to select MCAs for infrastructure development, and districts, business options, and beneficiaries for SEA development. This component will finance the following sub-components and associated activities.

Sub-component 3.1: Creation of basic infrastructure at district and national level MCAs:

- (a) support the preparation of management plans for all MCAs, and identify infrastructure needs from these finalized MCA management plans for the district and national level MCAs covered by the project, and from the feasibility study for each district under Sub-component 3.2. Infrastructure investments at district level MCAs will be reviewed and endorsed by the Provincial Coordinating Unit and NPIU DG MCSI and the respective District Advisory Committees (DAC) to be in line with the other government priorities, perhaps even aligning other related district investment with the proposed investment. Infrastructure investments at national level MCAs will be reviewed and endorsed by the Technical Unit (BKKPN) and the respective MCA Management Boards;
- (b) select eligible MCAs for infrastructure funding support under the project. The following criteria would be used to determine district level MCA eligibility for project funding:

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<sup>19</sup> The project will cover three fisheries management areas (including WPP718). The other two WPPs will be selected to provide a range of possible situations on the ground. WPP 718 covers two national MCAs, one district MCA, and is linked with Raja Ampat district. WPP 711, which is being covered under ADB project, covers one national MCA and is linked with three districts.

- the project villages in the district should have initiated the process of preparing Coastal Resource Management Plans as a part of their Village Development Plans;
- an acceptance by the district administration that the Village Development Plans would be a part of the District Development Plan with incremental resources to be allocated for coastal management activities identified in the Village Development Plans;
- district level Zoning Plan preparation should have been initiated;
- the district is participating in monitoring, control and surveillance activities under the project;
- a list of potential project affected persons has been prepared;
- the process of legalizing the MCA through a Ministerial Decree should have been initiated.

The following criteria would be used to determine the national level MCA eligibility for project funding:

- a list of potential project affected persons has been prepared; and
  - the process of legalizing the MCA through a Ministerial Decree should have been initiated, if not already declared.
- (c) prioritize and finance basic infrastructure for eligible district and national level MCAs under Component 3.1 (b), including, inter alia, feeder roads, jetties, tourist information centers, and infrastructure required to attract private investment. The following prioritization criteria would be used to select the infrastructure to be supported under the project:
- the infrastructure should be included in the list of approved investment under Component 3.1 (a) above;
  - the prioritized list would consist of a sub-set of the approved infrastructure under Component 3.1 (a). This sub-set would include infrastructure required to upgrade the rating of the MCA by one level only at one time (for example, from red to yellow, yellow to green, or from green to blue);
  - there should be a time gap of at least 18 months in successive infrastructure investment approval to upgrade to the next level;
  - the infrastructure should be necessary to promote and attract private sector investment; and
  - the investments are in compliance with the requirements of the project Environmental and Social Safeguards Framework.

The project will not finance investments in private sector operated infrastructure facilities under this component. This will be encouraged under Sub-component 3.2 through long-term contracts offering an assured market.

Sub-component 3.2: Pilot program to test the development of sustainable enterprise alliances (SEA):

- (a) select districts eligible for SEA activities. The following criteria would be used to determine the district eligibility for the project-financed feasibility study:
- the project villages in the district should have initiated the process of preparing Coastal Development Plans as a part of their Village Development Plans;
  - an acceptance by the district administration that the Village Development Plans would be a part of the District Development Plan with incremental resources to be allocated for coastal management activities identified in the Village Development Plans;
  - district level Zoning Plan preparation should have been initiated; and
  - the district is participating in monitoring, control and surveillance activities under the project; and
  - the process of legalizing the MCA through a Ministerial Decree should have been initiated.

- (b) fund a feasibility study for SEA development in each eligible SEA district to identify business enterprise options, considering the requirements under district development plans too. The consultant would be required to use a range of criteria to shortlist the recommended business options in selected district level operational sites. The following would constitute the minimum criteria for shortlisting potential operational SEA options:
- a minimum financial rate of return of 20% per annum, with positive cash flows in year 2 of the business;
  - ecological issues are addressed: (i) siting – zones that are good for aquaculture identified (e.g., access to markets and production infrastructure, deep water, fast currents, protected from storms, unpolluted) and that are away or downstream of important ecosystem and biodiversity assets (e.g., coral reefs, beaches, eel grass beds); and (ii) carrying capacity – measure exactly what is happening in the ecosystem and how fast collective production within the zone would end up approaching unsustainable limits;
  - institutional issues are addressed: (i) set limits - establish the key criteria for impact assessment and acceptable limits of ecosystem change in light of the local culture and economy; and (ii) enforcement - recommend a system to enforce rules for sustainable aquaculture;
  - willingness of private operators to work with the project producer groups in the potential sites;
  - willingness of LPSTK and Village Head to conduct an open and transparent process which generates a list of eligible project affected persons (as per ESSF guidelines) to participate in the SEA, and willingness of the village to participate in the SEA; and
  - the SEA options are in compliance with the requirements of the project Environmental and Social Safeguards Framework.
- (c) support the establishment of district level Association of the village Coastal Resources Management Committees in the selected SEA districts. This is a critical requirement as the project funds would flow to the beneficiaries through the Association to the producers' groups. The Association would work with an aggregated bundle of specific production groups (for example, all grouper producers, or all seahorse producers) at the district level to provide benefits of scale operation. It will facilitate a direct link with private operators, which could take a range of forms from just pure output purchase agreement, to supply inputs too, to provision of technical assistance too, etc. The idea is for there to be flexibility and the role that the Association will play will depend on the arrangement with the private operator;
- (d) Support formation of producer groups of identified eligible project beneficiaries in the selected SEAs, including project affected persons - grouper hatchery producers, grouper grow-out producers (8 cm-20 cm, or 20 cm-30 cm), seahorse producers, homestay families, etc. For SEAs in district MCAs or villages, all these groups will necessarily have to be members of the village level Coastal Resources Management Committee. The Association could be handling a range of activities - grouper production activities, handicrafts, seahorses, all aggregated across its member village committees, and could thus even be structured along those lines of business. For national level MCAs, the producer groups would be associated at the level of MCA.
- (e) promote SEA partnership with private operators through a competitive Call for Partnership Proposal process. The solicitation of formal private sector partner would be based on a set of agreed principles to be transparent and to promote competition. The Association would seek proposals from the operators listed in the feasibility study and some others interested in participating in the opportunities offered under the project. The minimum criteria for selection of the private partner would be indicated in the Call for Partnership Proposal, and would cover the following:
- at least five years of experience in the business;
  - increasing trend in sales turnover;
  - willingness to adopt the project proposed principles of sustainable operation. It is important to ensure that the intervention is environmentally and financially

- sustainable, and socially inclusive. For grouper production, sub-projects would use hatchery grown fingerlings (as opposed to wild caught juveniles) and pelleted feed (as opposed to trash fish) and meet siting requirements, density and maintenance of the cages and fish; for seahorses, this could be pieces that are bio-marked to provide source of origin in terms of being farm-raised (as opposed to wild caught seahorses);
- willingness to provide the required technical support to the producer groups;
  - operate on paying a minimum wage to the producers keeping shared prosperity principle in perspective if it is not a partnership arrangement; and
  - an arrangement which provides an assured market to the groups, such as a buy-back arrangement based on a certain level of survival and fish size for grouper farming.

These and other more SEA-specific criteria would be included in the Call for Partnership Proposal, and weighted to determine the best competitive proposal for partnership;

- (f) finance specific identified SEA related capital investment (such as cages, storage, boat with engines, development of an aqua-zone plan for grouper grow-out operations), one cycle of working capital (seed and feed, fuel and supplies, netting, salaries for grouper grow-out operations) required for these business enterprises to become functional, and key consultancies that may be required to support the business (the project provides a technical assistance fund under this component which will finance technical, financial, business, and even social experts to nurture the alliance); and
- (g) support piloting of technological best practice approaches (building upon lessons learned from other sub-project successes and failures), market development and outreach activities related to the SEAs.

**Component 4: Project Management and Coordination, and Learning (US\$ 7.87 Million; \$5.12M Loan; \$0 GEF; \$2.75M GOI).** This component will consist of the following activities:

- (a) Monitoring and Evaluation of Project Performance, including improvement and launch of the Management Information System (MIS) initiated under COREMAP II, and a GIS-Web-based Database (linked to CRMIS and CTI ATLAS);
- (b) Learning Networks and Dissemination of Best Practices across COREMAP Program Area (including ADB Sites) with the Sea Partnership Program, the Bureau of Human Resources Development (BPSDM), the Mayors' National Association, and other partners such as the Coral Triangle Center, NGOs, among others. The equivalent of 1% of the GEF IW Grant (US\$20,000) will be allocated to support IW Learn activities related to South-South Learning and portfolio knowledge sharing, including production of IW experience notes, links to <http://iwlearn.net> and attendance at GEF IWCs;
- (c) Compliance monitoring on safeguards and fiduciary management (including external audit);
- (d) Coordination with ADB and other partners. This includes a single PMO for WB and ADB Projects, with some the sharing of some administrative and technical staff to ensure standard approaches and knowledge sharing, as well as occasional joint supervision missions between WB and ADB as time and funds permit. Coordination with other projects/programs includes support for TA from other technical and financial sources, such as CCRRES, CTI partners, and the Sea Partnership Program; and collaboration with USAID and US NOAA programs in Indonesia and more broadly under the Coral Triangle Initiative; and
- (e) Incremental Operating Costs (communications, office expenses, among other costs).

Table 1. List of Project Marine Conservation Areas

No	Marine Conservation Area	Size (Ha)	Legal Basis
01.	KKPN/TNP Laut Sawu (NTT)	3,521,130	Reserved by Ministry Decree (MMAF) – N
02.	KKPN/TWP Laut Banda (Maluku)	2,500	Reserved by Ministry Decree (MMAF) – N
03.	KKPN/TWP Padaido (Papua)	183,000	Declared by Ministry Decree (MMAF) – N
04.	KKPN/TWP Kapoposang (Sulsel)	50,000	Declared by Ministry Decree (MMAF) – N
05.	KKPN/SAP Aru Tenggara (Maluku)	114,000	Declared by Ministry Decree (MMAF) – N
06.	KKPN/SAP Raja Ampat (Papua Barat)	60,000	Declared by Ministry Decree (MMAF) – N
07.	KKPN/SAP Waigeo (Papua Barat)	271,630	Declared by Ministry Decree (MMAF) – N
08.	KKLD/Kabupaten Sikka (NTT)	42,250	Reserved by Decree of Bupati – D
09.	KKLD/Kabupaten Pangkep (Sulsel)	171,938	Reserved by Decree of Bupati – D
10.	KKLD/Kabupaten Selayar (Sulsel): Gusung and Kayuadi	9,001	Reserved by Decree of Bupati – D
11.	KKLD/Kabupaten Buton (Sultra)	283,577	Reserved by Decree of Bupati – D
12.	KKLD/Kabupaten Kepulauan Raja Ampat (Papua Barat)	993,740	Reserved by Decree of Bupati – D
13.	KKLD/Kabupaten Biak Numfor (Papua)	24,910	Reserved by Decree of Bupati - D
<b>Total MCA Area in COREMAP-CTI</b>		<b>5,727,676</b>	N – National; D - District

Table 2. Project Costs (US\$ million)

Component	IBRD	GEF	GOI	Total
<b>Institutional Strengthening for Decentralized Coral Reef Management</b>	<b>13.89</b>	<b>1.04</b>	<b>0.90</b>	<b>15.83</b>
• <i>Strengthening and expansion of COREMAN approach</i>	2.33	-	8.17	2.50
• <i>Support for robust ecological and socio-economic monitoring</i>	6.0	0.85	-	6.85
• <i>Strengthening surveillance of coastal eco-systems</i>	0.63	0.19	0.15	0.96
• <i>Strengthening technical capacity</i>	4.93	-	0.58	5.52
<b>Development of Eco-system based Resources Management</b>	<b>6.25</b>	<b>8.96</b>	<b>1.41</b>	<b>16.62</b>
• <i>Support zoning and marine spatial planning</i>	0.60	0.90	0.30	1.80
• <i>Application of integrated coastal management</i>	0.18	0.84	-	1.02
• <i>Management effectiveness of MCAs</i>	3.61	6.24	0.99	10.84
• <i>Piloting community rights-based approach</i>	0.36	0.18	0.12	0.66
• <i>Sustainable fisheries management</i>	1.50	0.80	-	2.30
<b>Strengthening Sustainable Marine-based Economy</b>	<b>22.12</b>	<b>0.00</b>	<b>0.64</b>	<b>22.76</b>
• <i>Creation of basic infrastructure at district and national level MCAs</i>	10.04	0.00	0.22	10.26
• <i>Pilot program to test development of SEAs</i>	12.08	0.00	0.42	12.50
<b>Project Management, Coordination and Learning</b>	<b>5.12</b>	<b>0.00</b>	<b>2.75</b>	<b>7.87</b>
<b>TOTAL</b>	<b>47.38</b>	<b>10.00</b>	<b>5.70</b>	<b>63.08</b>

## ANNEX III: IMPLEMENTATION ARRANGEMENTS

### Organizational Arrangements

1. Executing Agency. The DG MCSI will assume full responsibility for project administration and management as the lead Executing Agency (EA), and will host the Project Management Office (PMO) to manage the proposed project with the DG MCSI being responsible for appraising, guiding, supervising and monitoring the implementation of the project. The director of DG MCSI will be appointed as Project Director and will be responsible for project implementation.
2. Project Management Office. The PMO will be under the direct supervision of the Project Director will be headed by a Project Manager who will be responsible for overall project implementation, planning, budgeting, coordination with other government line ministries, operation of the main special account, preparation of consolidated quarterly project reports and activities/reports requested by the DG MCSI and the Bank.
3. The PMO Project Manager will be assisted by three Component Managers, each managing one component of the project, and supported by a chief accountant, a chief procurement officer, a training coordinator, an M&E officer, and an MIS specialist. A small team of specialists, comprising a mix of long- and short-term international and national consultants would be contracted to assist the PMO Project Manager and his team.
4. Project Implementation Units at the National Level. There will be three Project Implementation Units (PIUs) at the national level, each headed by a PIU Manager, as follows:
  - (a) DG MCSI through the Directorate of Conservation of Area and Fish Species (CAFS);
  - (b) Research Center for Oceanography at LIPI; and
  - (c) DG Capture Fishery (CF) through the Directorate of Fisheries Resources (FR).
5. The three PIUs will be responsible for day-to-day operation of project implementation. Each PIU Manager shall be headed by a full time PIU Manager who will report to the PMO Project Director and shall have appropriately qualified staff and adequate resources. Many of PIU staff of DG MCSI will bear responsibilities as the staff members of PMO and thus, the PMO Project Manager will also act as the CAFS PIU Manager. All three PIU Project Managers will be appointed by the three Implementing Agencies within one month after project Effectiveness.
6. DG Marine, Coastal and Small Islands (MCSI). The Directorate of Conservation of Areas and Fish Species (CAFS) under DG MCSI will be responsible for implementation for most of the activities of the project in collaboration with other Directorates within MMAF and UPTs in the region.
7. Research Center for Oceanography of LIPI. Research Center for Oceanography of LIPI (RCO, or locally known as P2O) will continue to be responsible for implementing sub-component 1.2: Robust Ecological and socio-economic Monitoring. It will be responsible for developing a certified coral reef and fisheries monitoring protocol and training curriculum in collaboration with technical specialists. LIPI will be the certifier of coral reef and fisheries monitoring protocols and provide training to partners to carry out monitoring and data gathering. It will also update the data of CRMIS and make necessary modifications to the system.
8. DG Capture Fishery. Directorate of Fisheries Resources under DG Capture Fishery of MMAF will be responsible for implementing Sub-component 2.4: Piloting a Rights-Based Approach to Coastal Resources Management in collaboration with DG MCSI; and Sub-component 2.5: Sustainable Fisheries Management.
9. UPT-BKKPN, Kupang, under DG MCSI, MMAF. The office of the UPT- BKKPN in Kupang covers the National Marine Conservation Areas and National Parks of eastern Indonesia. In order to support the UPT, a small project team will be created within the UPT and the team will be supervised by PMO Component 2 Manager.

10. UPT – BPSPL of MMAF. MMAF has BPSPLs in Makassar, Denpasar and Sorong for the Eastern Side of Indonesia. These three UPTs would mainly be responsible to supervise the preparation of District Spatial Plans and Integrated Coastal Management under Component 2 under the overall guidance of DG MCSI.

11. Provincial Level Arrangements. Each province will have a Provincial Coordination Unit (PCU) composed of staff from provincial Dinas Marine and Fisheries. The provinces will play a facilitating and coordination role between the national and district agencies as well as take a leading role on MCS at the provincial level. All provincial activities will be carried out under GOI's budget. More specifically, the PCU will work on (a) monitoring of districts' progress against annual plans and feedback to the PMO; (b) strengthening district government capacity through technical support; training and workshops; (c) public awareness support; and (d) MCS support, including coordination of Navy and Marine Police.

12. District Level Arrangements. Under the overall guidance from the PMO and PIUs at the national level, the detailed program planning, implementation, and evaluation will be executed by a District Project Implementation Unit (DPIU), comprising of key local institutions, their staff members and consultants. Each DPIU is responsible for district level project implementation such as strengthening and embedding the COREMAP-CTI approach within the local government program, promoting and monitoring SEAs, among other activities. The DPIUs will be located within the Marine and Fisheries District Office (MMAF) of each district and its head will serve as the director of DPIU under the overall supervision of the district Mayor (Bupati). Each DPIU will have at least two Extension Agents: one assigned by MMAF and the other from MMAF to carryout field activities. In addition, the PMO will assign one SEA Development and Support officer, and one M&E officer.

13. Each district will have a District Advisory Committee (DAC) headed by the district Mayor, with support from District Planning and Development Agency (BAPPEDA). The project will work closely with DAC to identify and develop SEA opportunities. The members who constitute DAC will vary across project districts. In order to strengthen the role of DAC as the hub for investment promotion, the project will suggest including representatives of concerned sectoral agencies, local government agencies, NGOs, private sector operators, and community-based organizations (CBOs) as members of DAC. The DAC will oversee SEA coordination between participating agencies at the local level and will meet at least once each quarter.

14. The seven national MCAs will utilize their Management Boards and the UPT Kupang to coordinate with local and district stakeholders.

15. Village Level Arrangements. COREMAP-CTI would provide different levels of support to the 210 villages participating in the project, depending on their potential to develop marine-based economic activities and commitments to co-management of marine resources. Working with the village head and the Coastal Resources Management Committee, Pokmaswas members and other Pokmas members trained under COREMAP-II, MMAF/district Extension Agents will be responsible for carrying out village level institutional development. At the onset of project implementation, the project will carry out a district level study and stakeholder analysis of marine eco-enterprise opportunities, which would identify the potential of marine-based economic development and committed villages. In parallel, the project would identify private sector investors or intermediaries in market value chain development to partner with producer groups within the selected villages. The project will provide a SEA Development and Support Officer and MMAF/district Extension Agents to develop and support the business concept and plans between the village and the private sector companies. Upon agreeing on the business concept and plan, a memorandum of understanding would then be drawn up which outlines responsibilities of each party as well as support to be provided to the villages by the project. Participating villages would include a line item for implementation of their coastal resources management plans in their annual budget requests from the Bupati.





## **Procurement Arrangements**

16. Guidelines. Procurement under the project will be carried out in accordance with the Bank's Procurement Guidelines and Consultant Guidelines, January 2011.
17. Procurement Arrangements. Procurement will be carried out by the PMO, the three national level implementing agencies, namely, DG MCSI (CAFS), DG CF-FR, and LIPI-RCO, the two technical units for the MCAs, namely, UPT BKKPN and UPT BPSPLs, District PIUs, and LPSTKs at the village level.
18. Procurement Plan, Strategy, and Standard Documents. A Procurement Plan for the first 18 months acceptable to the Bank has been prepared. The procurement plan will be updated as needed by the implementing agencies to reflect project implementation needs. Updated Procurement Plans are subject to the Bank's prior review. The initial Procurement Plan and all subsequent updates will be published in the World Bank's website, as well as in the national Public Procurement Website. Procurement under the project will be carried out in accordance with the agreed Procurement Plan.
19. A Project Implementation Manual (PIM) - streamlining the procedures for various implementing agencies in managing the project is developed in draft and will be agreed with the Bank prior to Negotiations. The following standard/model bidding documents will be used:
- (a) The Bank's Standard Bidding Documents (SBD) for Procurement of Goods (March 2013) for contracts under International Competitive Bidding (ICB) procedure;
  - (b) The Bank's Standard Bidding Documents (SBD) for Procurement of Small Works (December 2012) for contracts under ICB procedure;
  - (c) Updated Model Bidding Documents (in Bahasa Indonesia) for Procurement of Goods, agreed with the Bank, for contracts under National Competitive Bidding (NCB) procedure;
  - (d) Updated Model Bidding Documents (in Bahasa Indonesia) for Procurement of Works, agreed with the Bank, ) for contracts under NCB procedure; and
  - (e) The Bank's standard Request for Proposals for Selection of Consultants (October 2011).
20. Consultants' Services. The consulting services package under the project includes project management consultant, studies, technical advisors as well as individual experts.
21. Quality and Cost Based Selection (QCBS) would generally be used for assignments requiring selection of consulting firms whereas for assignments estimated to cost less than US\$300,000, the Selection Based on Consultants' Qualifications (CQS) method may be used. The short list may comprise of all national consultants for assignments estimated to cost less than US\$400,000. Consultants may be hired on sole/single-source selection basis subject to the conditions set out in the Consultant Guidelines and with the Bank's prior approval.
22. Selection of individual consultants should be through comparison of at least three candidates who meet the qualifications and experience required by the Terms of Reference.
23. Procurements of Goods. Procurement of Goods under the project will comprise installation of coastal boundary signage, procurement of boats, vehicle and equipment for surveillance, communication, laboratory and office. Depending on the estimated cost, the procurement method to be used will be NCB and shopping. Clarifications on NCB procedures will be included in the Loan Agreement. Direct Contracting may be used on exceptional basis subject to the conditions set out in paragraph 3.7 of the Procurement Guidelines and with the Bank's prior approval.
24. Procurement of Works. Works to be procured under Component 3 consist of basic infrastructure such as feeder roads, jetties, but could also include other potential investments such as brood stock facilities, hatcheries, electricity and water supply, tourism facilities, or other investments identified as necessary to the success of the proposed business options under Component 3.2. Depending on the estimated cost, the procurement method to be used will be NCB and Shopping. Clarifications on NCB procedures will be included in the Loan Agreement.

Direct Contracting may be used on exceptional basis subject to the conditions set out in paragraph 3.7 of the Procurement Guidelines and with the Bank’s prior approval.

25. Community participation in procurement of works and goods. Works and goods at the community level include establishment/rehabilitation of information centers, installation of marine conservation area (MCA) markers, etc. The procurement will be carried out by the communities themselves, for which the detailed procedures will be provided in the Project Implementation Manual. Innovative and simplified approaches for community procurement suited to the local conditions and capacity, such as output based contracts, will also be piloted under the Project and the procurement risk will be minimized because the financing arrangement will take into account the objective of the community to achieve economy, efficiency and transparency in their procurement process. It is expected that under the output-based arrangement, the payments to the community will be made at specified milestones of physical completion and upon verification of compliance with pre-established performance and quality standards by the District PIU along with annual technical audits. Detailed procedural guidance for community participation in procurement will be provided in the PIM.

26. Procurement Methods and Prior Review Threshold. Direct contracting for goods, works and non-consulting services and single source selection for consulting services below US\$ 50,000 are subject to post review. The threshold for other procurements is provided below.

<b>Procurement Category</b>	<b>Procurement Method</b>	<b>Procurement Method Threshold</b>	<b>Bank’s Prior Review Threshold</b>
Goods	ICB	Above USD 2 million	All prior review
	NCB	USD 100,000 to USD 2 million	1st contract and above USD 1 million
	Shopping	Below USD 100,000	All post review
Works	ICB	Above USD 25 million	All prior review
	NCB	USD 200,000 to USD 25 million	1st contract and above USD 10 million
	Shopping	Below USD 200,000	All post review
Non-consulting	ICB	Above USD 10 million	All prior review
	NCB	Below USD 10 million	1st contract and above USD 1 million
Consultants			
Firms	QCBS	Above USD 300,000	Above USD 300,000
	CQS	Below USD 300,000	All post review
Individual	Competitive	No threshold	All post review

Remarks:

ICB = International Competitive Bidding  
 CQS = Consultants’ Quality Base Selection  
 NCB = National Competitive Bidding  
 QCBS = Quality Cost-based Selection

27. Post-review. For contracts to be subject to post-review; the rate of post-review will initially be set at 20 percent. This rate will be adjusted based on performance of the implementing agencies.

28. Procurement Action Plan. Due to the large procurement effort required under the project, MMAF will hire a procurement specialist to assist the procurement committee in the preparation of procurement documents. The Project Implementation Manual will provide details about the procurement procedures to be followed under the project. Procurement will be carried out in

accordance with World Bank Procurement Guidelines and the provisions stipulated in the Loan Agreement. Procurement procedures and standard bidding documents to be used for each procurement method will be included in the manual. Additionally, prior to Loan Effectiveness, the Bank will provide a special training session on procurement to the staff of implementing agencies, including for district level staff involved in procurement of goods and services.

## **Project Financial Management & Disbursement Arrangements**

29. Institutional and Staff Arrangements. The Directorate General of Marine, Coast and Small Islands (DG MCSI), MMAF, as the PMO will be the leading implementing agency. There will be three PIUs at the national level under this project within DG MCSI, Directorate General of Capture of Fisheries (DGCF) of MMAF and LIPI (Indonesian Institute of Sciences). In project implementation, DG MCSI will be supported by regional implementing units, BKKPN Kupang, BPSPL Makassar, BPSPL Denpasar and LPSPL Sorong, and District Project Implementation Units (DPIU) in Pangkep, Selayar (South Sulawesi), Buton, Wakatobi (South East Sulawesi), Sikka (East Nusa Tenggara), Biak Numfor (Papua) and Raja Ampat (West Papua).

30. The PMO will be responsible for overall project coordination, day-to-day management, budgeting, financial administration, monitoring, and reporting. A firm will be hired by DG MCSI Satker to assist PMO in managing the project, which will include financial management consultant. Satker organization includes government officer with FM functions as verification officer, commitment maker, and treasurer for petty cash and accounting. Following the government system, UPTs and Districts Satker will also be established.

31. Budgeting. The budgeting system follows the existing government procedures. The project budget will be included in the annual government budget and line ministry budget document (DIPA). There is a risk on issuance of DIPA that could potentially delay project implementation. Budget preparation is well defined, but there are frequent delays in execution. Some decrees on budget execution should be issued right after budget document is issued (such as decrees on Satkers and tender committee) to make the budget effective.

32. Accounting and Reporting. National PIUs, UPTs and District PIU offices maintain separate accounting records for all payment order (SPM) and remittance orders (SP2D) on a cash basis. All financial transactions are recorded in the government accounting system and included in government accountability reports. The original remittance payment (SP2D) records are maintained in the file for audit purposes.

33. The PMO will prepare a separate set of consolidated financial reports (Interim Financial Report) for project monitoring purposes. The PMO is responsible to submit the report to the Bank on a quarterly basis not later than 45 days after end of each quarter. These reports cover all expenditures under the IBRD loan, GEF grant, and GOI contribution. The PMO will receive copy of SP2D through on-line submission from PIUs, UPTs and district PIU offices which will serve as the basis for preparing the report and reconciling the Designated Accounts (DA).

34. For component 3.2, Development of Sustainable Enterprise Alliances, the Coastal Resources Management Committee Associations are required to maintain accounting records, credit records and financial reports for the funds received. Associations will be required to keep all supporting documents for audit purposes. Training will be provided to the Associations prior to receiving the first tranche of the fund.

35. Internal Controls. The payment verification process at national PIUs, UPT and district PIU offices will rely on government system. Verification systems have been traditionally weak in government. Direct and independent documentary evidence will need to be furnished to the implementing agencies for them to verify completion before payments are released to consultants, and for goods procured. For constructions and workshop/training activities, payment validation procedures will require attachment of direct original supporting evidence of completion of all these activities. This requirement will be included in the PIM. A separate Manual on SEA Development will be prepared to include procedures for funds transfer with adequate control system in place.

36. Funds Flow Arrangement. The funds transfer mechanism for flow of funds to the UPT and district PIU offices will follow the central budget which is implemented by local government arrangement (Dana Tugas Pembantuan). With this arrangement the funds will be budgeted at the central government level and the flows will be effected directly to the respective local implementation units (not through the local government).

37. As such, therefore, under Component 3.2 Development of Sustainable Enterprise Alliances, funds will be transferred to the Associations established at the district level. The release of funds will be carried out in tranches. The first payment will be made upon signing of the MOU between the project and the business unit (Association), and the subsequent payments made upon satisfactory progress reports that consist of financial and activities progress report as certified by the project. A manual on SEA Development detailing the organization, membership, roles and responsibilities, nature of functions, accounting and auditing, funds flow, among other aspects, relating to the district level Associations will be prepared by March 31, 2014 for review and approval by the Bank. Disbursement under Component 3.2 is conditional on Bank approval of the SEA Development Manual.

38. Audit Arrangement. The PMO is responsible for preparing general purpose financial statements. The audits of these statements would be carried out by the government auditors (BPKP). The annual audit report will be furnished to the Bank no later than six months after the end of the government's fiscal year and shall be made publicly available.

39. The audit assignment will be in accordance with the agreed Terms of Reference (TOR). The auditors will go beyond merely providing an opinion on the accounts, and would also include opinions on internal control framework and compliance with the project implementation manual.

40. Disbursement Arrangement. The applicable disbursement method will be (a) Advance, (b) Direct payment; and (c) Reimbursement. Two Designated (Special) Accounts (DA) denominated in US dollars will be opened by DG Treasury (MOF) in Bank Indonesia (the Central bank) for the two source of financing, namely, IBRD and GEF. The DAs will be solely used to finance eligible project expenditures. The ceiling of the advance to DAs will be variable, and the advance(s) will be made on the basis of the six month projected expenditures. The reporting of use of the DAs funds and expenditures would be based on the quarterly IFRs (Interim Financial Reports), which should be submitted to the Bank not later than 45 days after the end of each quarter. The PMO will prepare a separate set of IFRs for each source of financing. Applications for the advance to the DAs shall be submitted together with reporting on the use of funds under each DA, which will consist of: (a) IFRs and list payments for contracts under the Bank's prior-review, (b) projected expenditures for six months, and (c) the reconciliation statement for each DA.

41. All documentation for the expenditures as reported for disbursements would be retained at the implementing units and shall be made available to the auditors for the annual audit and to the Bank and its representative if requested.

42. DG, MCSI as the PMO of the project will be responsible for reconciling the DAs and for preparing the applications for withdrawal.

43. DG Treasury will authorize its relevant Treasury Offices (KPPNs) located near the local implementation units to authorize payments of eligible project expenditures. DG Treasury shall issue a circular letter to the relevant KPPN Offices providing guidelines and criteria for eligible project expenditures in accordance with the Financing Agreement. When expenditures are due for payment, UPTs and district offices prepare SPP (payment request) to the payment officer within the Satker. After documents verification, the payment officer issues SPM (payment order) together with the supporting documentation for submission to the relevant KPPN. The KPPN checks the budget eligibility and issue the SP2D to the KPPN's operational bank which transfers the funds directly to the payee's account and arranges for debit to the IBRD or the GEF DA.

44. Allocation of Loan (IBRD) and GEF Grant Proceeds.

	Category	Loan Amount (expressed in Dollars)	GEF Allocation (expressed in Dollars)	Total Amount	% of Expenditure to be Financed
1	Training, Workshop, Consulting Services, Goods, Civil Works, and Incremental Operating Costs	34,043,000	10,000,000	44,043,000	100%
2	Block Grants	11,045,000	-	11,045,000	100%
3	Scholarships	2,292,000	-	2,292,000	100%
	<b>TOTAL</b>	<b>47,380,000</b>	<b>10,000,000</b>	<b>57,380,000</b>	

45. Project expenditures under category 1 are eligible for financing from IBRD Loan and GEF. Both sources of funds will finance different project expenditure under Category 1. As a standard practice in Indonesia, sources of fund for project expenditures are pre-determined, clearly identified, and budgeted separately in the budget documents (DIPAs). SPP (payment request) and SPM (payment order) are prepared based on the budget documents and include information on budget line items and its source of fund. KPPN also checks the payment order against the budget documents prior to the issuance of SP2D. These procedures will avoid the risk of charging same project expenditures to two different sources of fund. As such, financing percentage for IBRD loan and GEF funds for Category 1 will be 100% respectively.

46. Government's counterpart funds of \$5.7 million will be utilized to finance project expenditures, such as stakeholder coordination, international short-term training courses on conservation management, office space with equipment, pilot projects for national MCA protection, recurrent costs of LIPI, DG MCSI, field trips and coordination. Again, these expenditure items will be clearly identified and budgeted in the DIPAs, and ear-marked for financing at 100% by the counterpart funds.

47. Supervision Plan. Supervision of project financial management will be performed on a risk-based approach. The supervision will review the project's financial management system, including but not limited to accounting, reporting and internal control. The financial management supervision will be conducted by financial management specialist and Bank consultants.

48. Financial Management Action Plan. The agreed action plan consists of the following: (a) The PMO will set up database for on-line remittance orders and all PIUs, UPTs and district PIUs would be responsible for submitting regular remittance orders to form the basis for the reconciliation of each of the two Designated Accounts (DA) and the preparation of consolidated project financial reports; (b) The consultant firm hired by the PMO will be responsible for preparing Interim Financial Reports for each source of funding on a quarterly basis; (c) Central database at the PMO will be used to monitor follow-up actions on audit findings; (d) Independent documentary evidence will need to be furnished to verify completion before payments are released to consultants. For workshop activities and other type of expenditures, payment validation procedures will require attachment of direct original supporting evidence of completion of these activities; and (e) A separate SEA Development manual will be prepared by March 31, 2014 by PMO detailing the arrangement for channeling financial assistance and basic infrastructure to the newly established village level Associations for SEA activities. No disbursement will be made under Component 3.2 till the Bank approves this Manual.

### **Environmental and Social Safeguards Aspects**

49. An Environmental and Social Safeguard Framework (ESSF) has been prepared to set out procedures to be followed by the COREMAP-CTI to minimize adverse environmental and social impacts that may occur due to implementation. The ESSF builds on the COREMAP II implemented Environmental and Social Impact Management Framework (ESIMF) and has been modified to reflect the implementation experiences of COREMAP II and address the COREMAP-CTI project-specific requirements.

50. The COREMAP-CTI triggers four World Bank Safeguard Policies, namely, OP 4.01: Environmental Assessment (EA); OP 4.04: Natural Habitats (NH); OP 4.10: Indigenous Peoples (IP); and OP 4.12 Involuntary Resettlement (IR).

51. Environmental and Social Safeguards Framework. ESSF will be applied to all activities/sub-projects of the COREMAP-CTI, and consists of two main processes: (a) environmental and social screening processes; and (b) preparation of environmental and social safeguard instruments (Environmental Management Plan, Land Acquisition and Resettlement Action Plan, Action Plan for Access Restriction, and Indigenous Peoples' Plan) following the prescribed guidelines in the Framework. The environmental and social screening will include the following two stage process:

- (a) Screening against the COREMAP-CTI negative list. The MMAF has set out a number of activities that will not be financed by COREMAP-CTI; and
- (b) Screening against the Environmental and Social Safeguards Checklist. This Framework provides detailed checklists to guide the implementing units in identifying the impacts, and developing appropriate mitigation action plans.

52. No activity in the Negative Checklist indicated in the ESSF and also the Project Implementation Manual will be implemented under the project. The Safeguards Checklist provides a tool for PMO/PIUs to recognize potential risks of planned project activities/sub-projects to environment, the presence of Indigenous Peoples, any land acquisition and access restriction to natural resources. If the answer to any of the questions in the checklist is affirmative, then the guidance relating to the applicable safeguard would need to be followed for the recommended project activity application. This guidance relates to: (a) Environmental Management Framework (EMF); (b) Land Acquisition and Resettlement Policy Framework (LARPF); and (c) Indigenous Peoples Planning Framework (IPPF).

53. Implementation Arrangements for ESSF. The arrangement, shown schematically in Figure 1, will ensure that all key parties understand their responsibility in implementing the ESSF safeguard screening process and preparing the relevant instrument for mitigating impacts.

54. The key parties include: (a) PMO; (b) the three national level PIUs (DG-MCSI/MMAF, DG-CF, and LIPI); (c) Regional implementing units (BKKPN Kupang, BPSPL Makassar, LPSPL Sorong); (d) provincial government coordinating units-PCU (Dinas Marine and Fishery at provincial Level); (e) district Project implementing Unit - DPIU (Dinas Marine and Fishery at District Level); and (f) village level Coastal Resources Management Committees and their district Associations.

55. All activities/sub-projects which are likely and expected to have environmental and social impacts must follow ESSF and guidance, and prepare one or more of the following instruments to mitigate the impacts: Environmental Management Plan, Land Acquisition and Resettlement Action Plan, Access Restriction Action Plan, and Indigenous Peoples' Plan. Any cost related to the ESSF implementation would be funded out of the COREMAP-CTI budget.

56. Component 1 is not expected to have any social or adverse environmental impacts. Component 2 could result in restricted access to assets in some district and/or national MCAs. A specific consideration for Component 3.2 Development of Sustainable Enterprise Alliances would be based on the nature of the businesses premised on marine-based eco-system. As such, all business propositions would be required to focus on the following requirements which would be pre-requisites for their approval. These would also be included in the Terms of Reference for the feasibility studies to be carried out at the district level to develop alternative income generating business proposals:

(a) Ecological Issues:

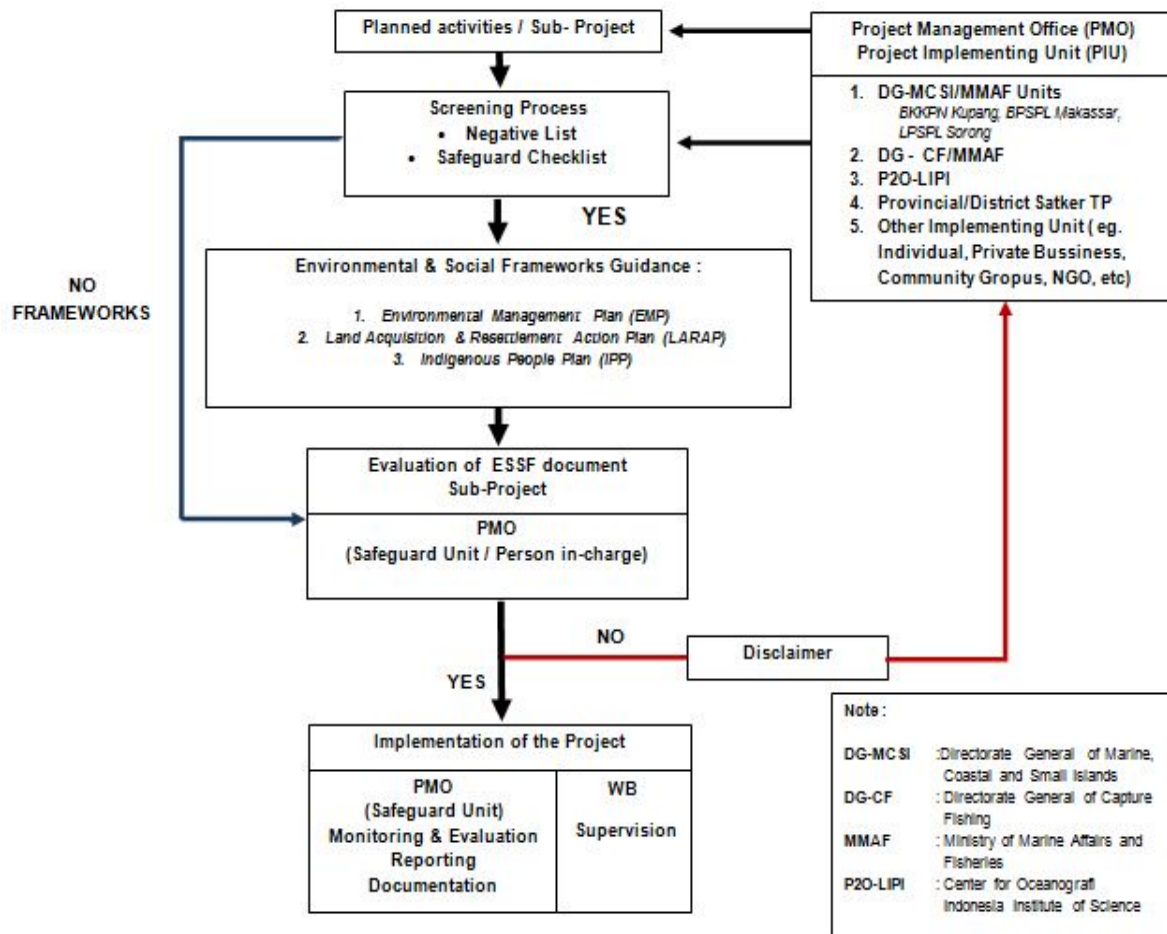
- Siting – identify zones that are good for aquaculture (e.g., access to markets and production infrastructure, deep water, fast currents, protected from storms, unpolluted) and that are away or downstream of important ecosystem and biodiversity assets (e.g., coral reefs, beaches, eel grass beds).

- Carrying Capacity – measure exactly what is happening in the ecosystem and how fast collective production within the zone is approaching some limit.

(b) Institutional Issues:

- Setting Limits - establish with the local community and other key stakeholders the key criteria for impact assessment and acceptable limits of ecosystem change in light of the local culture and economy; and
- Enforcement - establish a regulatory framework based on the above, giving authority to some local agency to enforce rules. This also requires some kind of aquaculture trade association that represents the interests of the aquaculture value chain to government and competing industries, and exercises a useful level of control over its members.

Figure 1. Implementation Arrangement of the ESSF



57. Supervision, Monitoring and Evaluation. Supervision, monitoring and evaluation will be carried out by various COREMAP-CTI organizations: (a) PMO; (b) Project Implementing Units (PIU); (c) The World Bank implementation support missions; and (d) Independent M&E agencies.

58. PMO shall regularly do supervision and monitoring of ESSF compliance by the PIUs, and report the progress to the Bank as a part of its regular M&E report. The PMO will also carry out a post-implementation evaluation of the safeguard implementation about a year after completion of a sub-project, in order to ascertain whether the objectives of the safeguard application have been achieved. The WB will conduct regular supervision to review the



safeguard implementation and to recommend to PMO on the follow-up actions, as necessary. Independent institutions will be selected by PMO to conduct supervise, monitor, and report any issues related to application of the guidance provided and requirements indicated in the ESSF including capacity building arrangements. Budget for such independent assessment is embedded in the cost allocation for the implementation of the ESSF.

59. Safeguards Capacity Building. In order to complement the existing capacities and fill any gaps in environmental and social safeguards management skills, the project will provide training and technical assistance to build capacity to implement and monitor both environmental and social safeguards as defined in the project document. The World Bank will also assist with the capacity building in the implementation of approved safeguard action plans.

60. Grievance Redressal Mechanism. A grievance redressal mechanism has been developed for implementation, giving all stakeholders an opportunity to voice any grievance or issue that they may have relating to implementation processes. Two clear options are provided under the mechanism: (a) the complainant's first point of contact would be the extension officer, who has the role of finding a solution, documenting it, and taking it to the PIU/PMO; and (b) a telephone "hotline" number that a complainant can call to report any issue. This mechanism is characterized by direct involvement of the PMO in every grievance. The PMO will investigate the complaint, obtain reasonable facts prior to take an action in response to the grievance, and arrive at a fair resolution.

### **Governance and Anti-corruption Actions**

61. A GAC Action Plan has been prepared for the project based on The World Bank Guidelines on Preventing and Combating Fraud and Corruption in Project Financed by IBRD Loans and IDA Credits and Grant (dated October 2006, and revised in January 2011), and some Indonesian Laws which also provide legal basis for compliance with actions to mitigate fraud and corruption in implementation of all government projects.

62. The action plan has been developed around the three pillars of transparency, accountability and participation in some of the key project activities. Its implementation is focused on promoting better public access to project information (physical activities and financial information), participation of external stakeholders (local CSOs) in project oversight at regional level, transparency in selection of beneficiaries, and easy access to a complaint handling system, all across specific project components. These are further strengthened by actions relating to good governance in both financial management and procurement related aspects.

63. The Plan broadly provides actions relating to the following five main areas:

- (a) Disclosure provision and transparency of project information (measures to disseminate project information and documentation, including ESSF, EMP, LARAP, IP Action Plan, GAC Action Plan, progress reports, evaluations, etc. through MMAF and other implementing agency portals/websites);
- (b) Mitigation of collusion, fraud and nepotism (measures to avoid elite capture, dispensation during elections, handling of complaints relating to fraud, corruption);
- (c) Engagement of external stakeholders (measures to involve civil society organizations in joint patrols under MCS, ecological monitoring, selection of beneficiaries, contributions by NGOs, experts, academia during information dissemination workshops and seminars);
- (d) Complaint handling systems (measures to encourage community members and other stakeholders to submit complaints by phone, SMS, emails, with timeline for complaint handling and response, including no-risk to whistleblower assurance); and
- (e) Clear procedures on Sanctions and Remedies (all Bank-financed contracts have clauses relating to sanctions for corruption, nepotism, fraud; informal community-based sanctions are also possible and could result in prosecution in case of adequate evidence).

64. A summary matrix with indicative risk mitigation measures is provided below. The detailed GAC Action Plan is included in the PIM.

## GAC Action Plan Matrix

Categories of Corruption Risk	Description	Risk Rating	Mitigation Measures
<b>Effective Monitoring and Reporting</b>			
Transparency	Information on achieved project outputs and implementation progress is inadequately presented	High	The project website will publicly disclose its salient information regularly with supporting photos, information of locations, participating groups, beneficiaries, etc.
Accountability	Lack of supporting data and information as reliable reference information	High	<ul style="list-style-type: none"> <li>• The MIS as part of monitoring and evaluation tool will be utilized to host information and data on results achieved and progress on indicators with supporting details i.e. locations, photos, expenses, targeted beneficiaries/groups, participants, progress of economic activities, etc.</li> <li>• The monitoring system will open the project performance to review by providing access to project information to all technical and project stakeholders</li> </ul>
Ownership	Lack of ownership and commitment	Moderate	<ul style="list-style-type: none"> <li>• The project indicators have been designed to provide information on carefully developed indicators that would support achievement of overall institutional performance</li> <li>• Regular reports will include progress of project implementation achieved by each project implementing unit</li> </ul>
<b>Provision of Economic Inputs on Development of Marine-Based Sustainable Economic Activities</b>			
Transparency	Lack of transparency in the selection and award of economic grants	High	<ul style="list-style-type: none"> <li>• Criteria and procedures to select the target groups will be clearly stated in the Project Implementation Manual. The criteria for business proposals and grant management as well as reporting requirement will be clearly stipulated in the Terms of Reference for SEA Development feasibility studies, and also in the announcement of Request for Proposal from private operators</li> <li>• The selection process for awards will be publicly announced through project website and other modes of communication</li> <li>• Complaints handling mechanism has been developed to address issues raised relating to the selection of beneficiaries and provision of economic grants, among other things</li> </ul>
Accountability	Lack of documentation and reporting of funds under SEA Development	High	<ul style="list-style-type: none"> <li>• The announcement of Call for Partnership Proposal will state clear requirement for evidence-based documentation and reporting of current business activities</li> <li>• The recipient groups will be asked to sign letter of commitment to fully comply with reporting and documentation requirement for the management of economic grants</li> <li>• The hired business consultant will be assigned to review the grant progress regularly at the district level and submit the monitoring report through the MIS</li> </ul>
<b>Complaints Resolution and Effective Application of Sanctions</b>			
Complaints	Issues are not	Moderate	<ul style="list-style-type: none"> <li>• An internal grievance mechanism is being created to</li> </ul>

<b>Categories of Corruption Risk</b>	<b>Description</b>	<b>Risk Rating</b>	<b>Mitigation Measures</b>
Handling	reported, complaints are not addressed, and there are fears of recriminations for reporting corrupt or fraudulent conduct		<p>facilitate resolution of issues raised by staff related to reform, provision of grants and scholarships</p> <ul style="list-style-type: none"> <li>• An independent complaints handling and whistleblower system is being established. As part of its progress report, the PMO shall present summary information relating to complaints: number, nature and status of complaints, etc.</li> <li>• For the complaint handling mechanism to function, information concerning the alternative conduits for complaint (telephone hotline, dedicated e-mail and PO Box) would be widely disseminated. Strict procedures to ensure anonymity of informants will be enforced</li> <li>• The following information will be provided in the manual, on the website, and in all the bidding documents:  “The contact point for complaints related to the Project:   To :  Tel:  Fax:  e-mail: ”</li> </ul>

## ANNEX IV. OPERATIONAL RISK ASSESSMENT FRAMEWORK

### Indonesia: Coral Reef Rehabilitation and Management Program- Coral Triangle Initiative (COREMAP-CTI) (P127813)

#### Risks

##### 1. Project Stakeholder Risks

<b>1.1 Stakeholder Risk</b>	Rating	Substantial				
<p><b>Risk Description:</b> Involvement of fishers at the community level is restricted due to lack of interest and ownership, and possibly loss of income.</p>	<b>Risk Management:</b> The COEMAP II end-project surveys revealed a high level of participant awareness, a positive perception of the project activities on their welfare, and reduced illegal and destructive fishing. The project will continue to: (a) promote devolution of management responsibilities to local communities in collaboration with local government; (b) invest significantly in communication and awareness building activities with fisherfolk; (c) provide the right incentives to engage them in local collaborative coral reef management. Two additional measures are proposed: (a) the concept of rights-based fisheries will be piloted in two locations, whereby communities would be granted exclusive access rights (concessions) to their coral reef fisheries, in collaboration with local government and in accordance with approved coral reef management plans; and (b) the project will invest heavily in training and infrastructure to promote sustainable alternatives (eco-business opportunities that depend on healthy reefs and functioning eco-system services). This would help excess fishing labor exit the sector voluntarily, which would help bring fishing effort into balance with carrying capacity, based on stock assessments.					
	Resp: Client	Status: Not Yet Due	Stage: Implementation	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Project Period

##### 2. Implementing Agency (IA) Risks (including Fiduciary Risks)

<b>2.1 Capacity</b>	Rating	Substantial (mostly due to implementation capacity issues)				
<p><b>Risk Description:</b> Implementation Capacity Issues: Although the overall Project Management Office (PMO) will be housed at the level of the DG MCSI of MMAF, which implemented</p>	<b>Risk Management:</b> DG-CF will be implementing two sub-components under the project, one is a small pilot on community rights-based fishery management (maximum three locations) in collaboration with DG MCSI, and another focused on eco-system based sustainable fisheries confined to one MCA in three designated fishery management areas (including WPP718). The national level PIU will have a procurement and FM specialist to support implementation.					

<p>COREMAP II, one of the three national level PIUs (DG for Capture Fisheries) does not have experience with WB Projects.</p> <p>2. Financial Management Issues:  (a) Delays and backlogs in financial reporting and follow up of audit findings due to complex project arrangement with three PIUs and a number of geographically spread out local implementing units (UPT) and district offices.</p> <p>(b) The payment verification process at PIUs, UPT and district offices will rely on government system. Verification systems have been traditionally weak in Bank-financed projects in Indonesia.</p> <p>(c) Lack of capacity of fisher folk institutions Coastal Resources management Committees and the need to establish new associations at the district level under component 3.2 related to development of Sustainable Enterprise Alliances (SEA)</p> <p>3. Procurement Issues:  (a) The main procurement activities will be carried out by the three national PIUs who are already familiar with the World Bank procurement during implementation of COREMAP I and II, but procurement remains challenging as the project includes some significant consultancy contracts.</p> <p>(b) The Bank's procurement ex-post review under COREMAP II identified some weaknesses in implementation of the district level procurement and community participation procedures due to capacity constraint and also remoteness of the project areas which caused difficulty in obtaining the desired level of competition.</p>	Resp: Client	Status: Not Yet Due	Stage: Implementation	Recurrent:	Due 3/31/ Date: 2014	Frequency:
	<p><b>Risk Management:</b></p> <p>2 (a) Individual financial management consultants would be hired at national and district project offices to ensure the financial reports are prepared accurately and regularly. The consultant firm hired under the PMO will responsible to prepare Interim Financial Reports (IFR) for the two separate Designated Accounts, one for IBRD and another for GEF financing source, on a quarterly basis. The PMO will set up database for on line remittance orders (SP2Ds) and all PIUs, UPTs and district offices are responsible to submit all remittance orders on line on regular basis as a basis for Designated Accounts' (DA) reconciliation and a consolidated project financial report preparation. Central database at the PMO will also be used to monitor follow up actions on audit findings</p> <p>2 (b) Independent documentary evidence will need to be furnished to verify completion before payments are released to consultants. For workshop activities and other type of expenditures, payment validation procedures will require attachment of direct original supporting evidence of completion of all these activities.</p> <p>2 (c). Separate SEA Development Manual for channeling financial assistance to the producers' groups through the associations established under Component 3.2 will be developed by the project for Bank approval. The manual will be condition for disbursement of the fund under this component.</p>					
<p>3 (a) The PMO in the DG MCSI will hire a management consultant to undertake procurement function, which will be overseen by MMAF officials with WB project management experience. Similar procurement support will also be hired by DG-CF for its components. Individual procurement consultant will be hired to assist the preparation of procurement documents. Procurement training will be provided, focusing on selection of consultants and clarification to NCB procedure, including use of modified version of GoI's standard bidding documents and e-procurement system. PIM will be updated annually to ensure its usability. Templates for procurement reporting and post-review contracts will be used to monitor progress.</p> <p>3 (b) Output-Based Procurement will be introduced for community-level procurement. The procurement risk will be minimized because the financing arrangement will take into account the objective of the community to achieve economy, efficiency and transparency in their procurement process. It is expected that under the output-based arrangement, the unit cost will be established and agreed upfront on the basis of rationalized cost norms and the payment will be made against the quantity of outputs delivered and upon verification of pre-established performance and quality standards. Detailed procedural guidance for community participation in procurement will be provided in the PIM.</p>	Resp: Client	Status: Not Yet Due	Stage: Implementation	Recurrent:	Due 3/31/ Date: 2014	Frequency:
	<p><b>Risk Management:</b></p>					

<b>2.2 Governance</b>	Rating	Moderate
<b>Risk Description:</b> Introducing change in the management of coral reef fisheries and other coastal and marine resources at the District level will require changes in Business as Usual and strong political will introduce needed reforms.	<b>Risk Management:</b>	
	The project will provide support training of to the participating district officials in best practice in Integrated Coastal Management and in the Marine Spatial Planning and zoning process, mandated by national government. This will help communities to build their capacity to effectively manage coastal and marine resources, including and create incentives to do so through the introduction of Community Rights Based Approaches and Sustainable Marine-Based Enterprise to helping generate income from well managed marine goods and services. This will provide the basis for Payment for Ecosystem Services and value chain development, as well as alternative livelihoods that can reduce pressure on capture fisheries and accumulation of wealth at the Village and District levels.	
	Resp: Client	Status: Not Yet Due
	Stage: Implementation	Recurrent:
	Due Date:	Frequency: Throughout project period
<b>3. Project Risks</b>		
<b>3.1 Design</b>	Rating	Substantial
<b>Risk Description:</b> (a) For Sub-component 3.2, the flow of funds arrangements from MMAF to district and village level producer associations in support of the Sustainable Enterprise Alliances (SEAs) has been finalized with funds being transferred as production grants. It might take some time for the arrangements to be put in place at the district level associations for effective funds management.  (b) Because of new emerging issues during the previous two phases, COREMAP-CTI has had to add new activities such as zoning plans/marine spatial plans at the district level, management effectiveness plans for 13 MCAs, community rights based approach to resources management, eco-system based approach to fishery management, and sustainable marine resources-based enterprise development. These add to the riskiness of the project.	<b>Risk Management:</b>	
	(a) The risk associated with this sub-component relating to funds management is limited. The project selects districts using an agreed set of eligibility criteria, followed by feasibility studies in those selected districts to identify the most promising SEAs options at locations and for beneficiaries that meet the eligibility criteria. This selective approach will reduce the number of project districts (and Associations) in which this sub-component will be implemented. A separate SEA Development Manual which provides details on the organization of the Associations, including the management of funds by the Associations is being prepared by the government. No disbursement under SEA Development component will be made till this manual is approved by the Bank.  (b) The following measures have been planned to mitigate this risk: (i) the project will deploy international agencies with solid technical and conceptual expertise in the areas of marine spatial planning and SEA development. The University of Queensland will be working closely with GOI under the CCRES project in select pilot districts to extend and finalize the already existing preliminary zoning plans that some districts have already prepared. These experts will also carry out feasibility studies in select pilot districts for SEA intervention. This involvement will create the model for replication in other project districts for zoning and SEA activities; (ii) the preliminary management plans for the MCAs are already prepared but these need substantial consultations and endorsement by the various stakeholders. The list of activities to be carried out is clearly spelled out in the Effectiveness Scorecards to avoid ambiguity; (iii) the other two activities are introduced in the project as pilots to enable development of models that could be scaled up post-project in other parts of Indonesia. The sustainable fisheries management approach is confined to three of the eleven fisheries management areas (WPPs), and the rights based approach will be piloted in a maximum of three sites. Since these activities are the only ones will be carried out by DG Capture Fisheries (rights based approach in	

	collaboration with DG MCSI) which has considerable expertise, it will therefore be able to provide good oversight.					
	Resp: Bank	Status: Not Yet Due	Stage: Implementation	Recurrent:	Due Date: 3/31/2014	Frequency: Throughout project period
<b>3.2 Social and Environmental</b>	Rating	Moderate				
<b>Risk Description:</b> The majority of social and environmental outcomes generated by the project are expected be positive. However, since some of the project interventions involve civil works and restriction to access to natural resources and may engage or impact IPs, the project triggers four WB safeguard policies, namely: Environmental Assessment, Natural Habitats, Involuntary Resettlement and Indigenous Peoples..	<b>Risk Management:</b> An Environmental and Social Safeguards Framework (ESSF) has been prepared, which includes relevant safeguards instruments to address the main considerations of the WB Safeguard Polices triggered by the project to address potential adverse impacts of project-financed activities. MMAF has assigned a qualified staff member to oversee management of safeguards compliance as part of the Project Preparation Team and budget resources have been allocated from the project to ensure that the PMO, national PIUs, and district PIUs, all have staff with sufficient capacity to implement the ESSF guidelines and subsequent preparation of environmental and social impact management plans derived from the relevant frameworks presented within the ESSF.					
	Resp: Both	Status: Not Yet Due	Stage: Implementation	Recurrent: <input checked="" type="checkbox"/>	Due Date:	Frequency: Throughout project period
<b>3.3 Program and Donor</b>	Rating	Moderate				
<b>Risk Description:</b> Coordination under COREMAP II with ADB, implementing the COREMAP program in Western Indonesia, has historically been weak, leading to lost opportunities for sharing experience and creating synergy and critical mass in promoting COREMAP objectives	<b>Risk Management:</b> Go Indonesia is now taking a different approach from COREMAP II and intends to promote one standardized and harmonized approach under COREMAP-CTI for the whole country, with support from several donors, namely, the WB, ADB and the GEF, but with one only design. MMAF will receive significant institutional strengthening to face this challenge and to promote its national approach to all districts to be covered by COREMAP-CTI. ADB's project has already been negotiation in November 2013. The World Bank team has worked will work closely with counterparts in ADB to achieve this objective and the result has been extremely positive, such that PMO staff are likely to be shared at the national level, where feasible.					
	Resp: Both	Status: Not Yet Due	Stage: Preparation/ Implementation	Recurrent:	Due Date:	Frequency: Throughout project period
<b>3.4 Delivery Monitoring and Sustainability</b>	Rating	Substantial				
<b>Risk Description:</b> Efforts to set up a GIS-based M&E Framework that provides project	<b>Risk Management:</b> Resources have been budgeted under the Project to set up the CRMIS—Coral Reef Management Information Systems platform, which will include Bio-physical and Socio-economic data collected at the District and					

information in spatial terms and which would be accessible on the project website to registered audiences have been problematic in the past.	Village level. It should also serve as a platform for making project outputs more transparent in terms of capacity building, management effectiveness, MCA plans, etc. Overall project performance could also be tracked more effectively. TA has been budgeted under Project Management to ensure this is successful under COREMAP-CTI.				
	Resp: Bank	Status: Not Yet Due	Stage: Implementation	Recurrent:	Due 5/15/ Date: 2014

#### 4. Overall Risk

**Overall Implementation Risk: Substantial**

**Risk Description:**

Implementation risk has been rated as Substantial mostly due to design complexity, inadequate capacity on one of the technical implementing units, and the fund flow issues related to the SEA development component. The mitigation actions have to be carefully monitored for implementation.



## ANNEX V: IMPLEMENTATION SUPPORT PLAN

### Strategy and Approach for Implementation Support

This Implementation Support Plan (ISP) describes how the Bank will support the implementation of the risk mitigation measures (identified in the ORAF) and provide the technical advice necessary to facilitate achieving the PDO (linked to results/outcomes identified in the result framework). Discussed below are the specific areas of support by the Bank component-wise.

### Implementation Support Plan

Component 1. Institutional Strengthening for Decentralized Coral Reef Management. There are four critical areas where the Bank will provide implementation support by:

- (a) providing assistance and guidance of a social communication expert to successfully embed the COREMAP approach in the village and district plans, preparation of coastal plans, involving the village head in the coastal/coral management activities, dissemination of COREMAP approach, and linking the project with broader CTI program activities;
- (b) providing assistance of a fishery and social communication expert to guide the implementing agency with the development of a strategy for sharing with the broader community and stakeholders the negative impacts of destructive and illegal fishing;
- (c) providing the knowledge and experience of a seasoned M&E expert to work with LIPI in the formulation of the ecological and socio-economic monitoring and evaluation system to generate data with integrity for project performance assessment; and
- (d) providing the expertise of a GAC specialist who would help the implementing agency carry out the large technical capacity building program in a transparent and effective manner, particularly from the point of selection of the right group of trainees from different agencies to have a more medium-to-longer term impact on the implementation of the proposed innovations under the project.

Component 2. Development of Eco-system Based Resources Management. There are four critical areas where the Bank will provide implementation support by:

- (a) providing linkage with the GEF-financed CCRES project to work with the implementing agencies in the area of developing village coastal plans and also district level Zoning Plans. Experts under the CCRES project would be available to the COREMAP-CTI project to bring international best practice to the implementation of this crucial activity through working on a pilot that would then be scaled up under the project. The CCRES team would be complemented by the Bank social specialist and an environmentalist;
- (b) providing guidance and assistance of a social scientist to ensure that the management plans prepared for the 13 MCAs are the result of a solid process of social consultations and participatory process. Inadequate participation is the reason why all management plans are still rated as Red. Another important aspect to be addressed here is the identification of project-affected persons who would eventually receive support under Component 3 of the project. This process has to be fair and transparent, without getting colored by elite capture. The services of a social, environmental, and GAC specialist will be provided by the Bank;
- (c) providing linkage with the GEF-financed CCRES project to work with the implementing agencies in the area of eco-system based fishery management. Although DG-CF has a working model, interaction with CCRES technical experts could be beneficial in further enhancing its impact and value; and
- (d) providing an expert in the area of rights-based fishery management, which is new to Indonesia and important for the longer-term sustainability and success of zoning plans and restricted access to fishing areas. This would also be complemented by the services of a social specialist particularly to look into conflict management aspects.

Component 3. Strengthening Sustainable Marine-based Economy. There are two areas where the Bank will provide implementation support by:

- (a) providing linkage with the GEF-financed CCRES project to work with the implementing agency in the area of SEA development. Experts under the CCRES project will work on the feasibility study to do an in-depth analysis of the business environment in one district, identify marine-based business opportunities, and define the pre-requisites for making the propositions environmentally sustainable, financially viable, and socially inclusive through a comprehensive value chain analysis and stakeholder perception analysis. CCRES will work to finalize the approach to such assessments at one district, which would then be scaled up to cover other districts under the project. The CCRES team will be complemented by the Bank's social and environmental specialist;
- (b) provide support of a project team member to review the district level SEA feasibility studies; and
- (c) provide the support of a micro-finance specialist with strong social/member-based institutions experience to work with the implementing agency to help determine a workable model of the association, together with the funds flow mechanism to route the project funds to the village level producers' groups.

Component 4. Project Management and Coordination, and Learning. The Bank would also provide implementation support relating to the fiduciary aspects of financial management and procurement. These would cover training and capacity building at national and district level PIUs, and also the district associations and community groups to undertake procurement following Bank procurement procedures and also have financial management systems that are acceptable to the Bank to be able to generate accurate and reliable project information in a timely manner.

### **Skills-mix for Implementation Support**

Cutting across the project components, therefore, the Bank implementation support to the various implementing agencies would consist of the following staff/skills-mix:

Overall Project Management (Task Team Leader)  
 Fishery Specialist  
 Social Specialist  
 Social Communication Expert  
 M&E Expert  
 GAC Expert  
 Gender Expert  
 Financial Management Specialist  
 Procurement Specialist

Additionally, support from the GEF-financed CCRES project would be provided to this project to complement the local institutional skills and the guidance available from technical assistance contracted under the project.

## ANNEX VI: Team Composition

World Bank staff and consultants who worked on the project

Name	Title	Unit
Harideep Singh	Task Team Leader (since 11/01/2013)	EASER
Marea-Eleni Hatziolos	Task Team Leader (retired 10/30/2103)	EASER
Ina Pranoto	Task Team Leader	EASIS
Nathan Belete	Sector Manager	EASIS
Iain Shuker	Sector Manager	EASER
Stefanie Sieber	Environmental Economist	EASER
Christina I. Donna	Financial Management Specialist	EASFM
Egi Sutjiati	Senior Operations Officer	EACIF
Enggar Prasetyaningsih	Procurement Analyst	EASR1
Jana Halida Uno	Operations Officer	EACIF
Harjunani Kumoloraras	Microfinance Consultant	EASIS
Yogana Prasta	Operations Adviser	EACIF
Yulita Soepardjo	Team Assistant	EACIF
Cynthia Dharmajaya	Program Assistant	EASER
Juan Martinez	Senior Social Development Specialist	EASIS
Cary Anne Cadman	Senior Environmental Specialist	EASIS
Randall Brummett	Senior Fisheries Specialist	AES
Mariangeles Sabella	Senior Counsel	LEGES
Mark V. Hagerstrom	Country Program Coordinator	EACIQ
Fandi Nasution	Consultant (GAC)	EACIF
Khadrian Adrima	Costab Expert	Consultant
Andrew Kaelin	Private Sector Fishery Expert	Consultant
Takayuki Hagiwara	Senior Rural Development Officer	FAO/CP
Arip Syaman Sholeh	Financial Management Specialist	Consultant
Guzman P. Garcia-Rivero	Operations Support	Consultant
Dennie Stenly Mamonto	Environmental Safeguards	Consultant
Ninin Kania Dewi	Social Safeguards	Consultant

## ANNEX VII: ECONOMIC AND FINANCIAL ANALYSIS

The **Cost Benefit Analysis of the project** captures the key monetary benefits of the project for the following components:

Component 1: Institutional Strengthening for Decentralized Coral Reef Management: (a) Strengthening and expansion of the COREMAP approach; (b) Strengthening surveillance of coastal ecosystems; and (c) Strengthening Technical Capacity;

Component 2: Ecosystem-based Resources Management: (a) Support Zoning and Marine Spatial Planning; (b) Application of Integrated Coastal Management (ICM); (c) Management Effectiveness of MCAs; and (d) Sustainable Fisheries Management in select fisheries management zone.

Component 3: Marine-based Economy: (a) Development of Basic Infrastructure; and (b) Pilot program to Test the Development of Sustainable Enterprise Alliances.

The overall Economic Internal Rate of Return (EIRR) is then computed as a weighted average of all three components using their respective budget shares as weight.

The overall EIRR of the project is 15.6%. It is important to note that for each of the components the EIRR is a lower bound estimate, as the remaining benefits are difficult to quantify either due to a lack of data or small scale impact. The overall investment captured in the EIRR makes up 75% of the total project cost.

	Project Cost	EIRR	Weighted EIRR
<b>Component 1</b>			
Strengthening and expansion of the COREMAP approach; and Strengthening surveillance of coastal ecosystems	3,468,313	20%	1.10%
Strengthening Technical Capacity	5,517,805	13%	1.14%
<b>Component 2</b>			
Support Zoning and Marine Spatial Planning; Application of Integrated Coastal Management (ICM); and Management Effectiveness of MCAs	13,655,782	20%	4.33%
Sustainable Fisheries Management in select fisheries management zone	2,300,000	20%	0.73%
<b>Component 3</b>			
INfraSEA Development - average return for SEAs in grouper hatchery (24%), grouper grow-out (28%), and eco-tourism (16%)	22,764,000	23%	8.30%
<b>SUBTOTAL included in EIRR calculations</b>	<b>47,705,900</b>		<b>15.60%</b>
<b>TOTAL</b>	<b>63,080,000</b>		

For **Component 1**, the main monetary benefit comes from the institutionalization of the Coremap II approach in the seven project districts, which will mainly be captured by benefits from reduced destructive fishing. This is generally difficult to capture, but was attempted for the PAD and ICR of Coremap II using a methodology developed by Cesare (1996). That model focuses on capturing the value of: (a) improved fisheries; (b) local products derived from sustainable coral reef activities; and (c) associated ecosystem uses, namely tourism. Global biodiversity and coastal protection benefits, which are considered to be large for rehabilitated coral reefs, were not accounted for, as they are difficult to measure. The EIRR is thus a lower

bound estimate of the total benefits associated with component 1. Since component 1 will build on achievements under Coremap II, the analysis of the ICR was updated for this project.

The second monetary benefit to investments under component 1 comes from the human capacity development, which supports higher education abroad. The main reason for this support is that Indonesia's national higher education system is of low quality, producing few graduates with skills that do not correspond to what is required.<sup>i</sup> However, estimating returns to education is difficult given that the decision to pursue education are influenced by many often, unobservable factors, including family background as well as personal motivation and talent. Few rigorous estimates of returns to higher education exist and none for developing countries. The analysis thus uses an estimate of Angrist and Kruger (1991) for the United States, which finds that an additional year of schooling increases earnings by 6.6%. Using this estimate, the EIRR for the subcomponent is calculated at 13.2%, because most degrees financed under the project are for two years.

For **Component 2**, the primary monetary benefit is captured by the improved management effectiveness of district and national level MCAs as a result of better management planning and enforcement; and the introduction of marine spatial planning outside protected areas. The calculation of monetary benefits was done by using estimates from the literature on the economic value of Indonesia's marine protected areas (for a recent literature review see Nature Conservancy, 2009). This will be captured by the potential annual net benefits per coral reef square kilometer<sup>ii</sup> for sustainable fisheries, coastal protection, tourism and recreation, and aesthetic/biodiversity value drawing on Burke et al. (2002, 2011). The EIRR was computed at 20% using their upper bound estimate, which is more in line with evidence from a few selected case studies of marine conservation areas in Indonesia (Nature Conservancy, 2009).<sup>iii</sup> The analysis uses the average EIRR for the sustainable fisheries part.

For **Component 3**, the primary monetary benefit comes from the SEAs, which support the twin objectives of conservation and enhancing the livelihoods and food security of local communities. These activities will only be implemented in a few districts and villages, which prove to have the largest potential.<sup>iv</sup> The investments will be part of an overall integrated approach towards coastal zone management driven by the district level development priorities and the MSP. To illustrate the potential of the proposed mix of SEAs, several models have been developed for investments in sustainable aquaculture, most notably grouper (Brummett et al., 2013), as well as ecotourism (University Hasanuddin, 2013). The economic rate of grouper grow-out and hatcheries were estimated at 24% and 28% respectively, while ecotourism has an EIRR of 16%. The average EIRR of 23% is used in the analysis.

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## Notes

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<sup>i</sup>World Bank Higher Education Financing (unpublished report, 2010), or A strategic Assessment of the Higher Education Sector in Indonesia, Strategic Working Group on Higher Education, Strategic Asia and AUSAid (2011).

<sup>ii</sup> Coral reef estimates is only available for a subset of MCAs. A conservative estimate of 10% was thus used to estimate the coral reef area as a share of the total. The only exception is the MCA of Laut Sawu, which is so large that a 10% share of corals was unrealistic. A 3% estimate was thus used, which is the actual average share of coral reefs to total area for those MCAs for which we have both data sets.

<sup>iii</sup> For example the maximum potential cost of coastal erosion in Burke et al. (2002, 2011) is US\$111 thousand, while it is estimated up to US\$482 thousand in Lombok (Nature Conservancy, 2009). Similar examples exist for tourism and fisheries values.

<sup>iv</sup> Feasibility studies in all seven districts will help determine the economic potential for the SEA. A further selection filter may have to be applied should all or a majority of the districts show promise. This filter could include performance under COREMAP II, the extent and depth of participatory development, level of understanding, implementation of the coral reef management plans, commitment to the further deepening of the participatory and decentralized approach to coastal management, commitment of the districts to intertwine the planning, financing, and implementation of the coastal resources management plans, etc.