

Supplementary Document 17: Subproject Appraisal for Anambas

Indonesia: Coral Reef Rehabilitation and
Management Program - Coral Triangle Initiative
Project

**Coral Reef Rehabilitation and Management Program-Coral Triangle Initiative
(COREMAP—CTI)**

**Subproject: Enhancing Management Effectiveness, Anambas National Marine Protected
Area, Indonesia**



ACRONYMS

| | | |
|---------|---|---|
| ADB | - | Asian Development Bank |
| Bupati | - | District Mayor |
| CBD | - | Convention on Biodiversity |
| CF | - | Capture Fisheries |
| CI | - | Conservation International |
| CITES | - | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| COREMAP | - | Coral Reef Rehabilitation and Management Program |
| COTS | - | Crown of Thorns Starfish |
| CT | - | Coral Triangle |
| CTI | - | Coral Triangle Initiative |
| CSR | - | corporate social responsibility |
| DG | - | Directorate General |
| GEF | - | Global Environment Facility |
| GoI | - | Government of Indonesia |
| ha | - | hectare |
| KKJI | - | Directorate of Marine and Aquatic Resources Conservation |
| km | - | kilometer |
| LIPI | - | National Science Agency |
| LKKPN | - | National Marine Conservation Area Field Implementation Unit |
| MCSI | - | Marine Conservation and Small Islands |
| MMAF | - | Ministry of Marine Affairs and Fisheries |
| MoU | - | Memorandum of Understanding |
| MPA | - | Marine Protected Area |
| NCB | - | national competitive bidding |
| NGO | - | nongovernment organization |
| PES | - | payment for ecosystem services |
| PKBL | - | Partnership and Environment Development Program |
| PMO | - | Project Management Office |
| PRC | - | People's Republic of China |
| Rp | - | Rupiah |
| SOE | - | state owned enterprise |
| SOP | - | standard operating procedure |
| UPT | - | Technical Implementation Unit |
| USD | - | United States Dollar |

NOTE

In this report, "\$" refers to US dollars.

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I. SUBPROJECT SUMMARY

1. The Anambas Islands, as part of the Coral Triangle, are renowned for outstanding marine biodiversity (coral reefs, turtles, coral reef fish, sea grass, Napoleon Wrasse, and rich capture fisheries). The average coverage of coral reef is estimated at over 48% although in some areas it is over 75%. A recent marine resource assessment has shown a coral building resilience (high replenishment) and rarity of hard coral cover and species richness. There is high fishery potential especially pelagic and coral fish supporting livelihoods of surrounding communities. The Anambas Islands have great potential for development of ecologically sensitive marine tourism and is also of strategic importance to the Government of Indonesia. Most islands are uninhabited or have only small human populations, are visually very attractive and have most if not all of their native vegetation intact. Fringing reefs are easily accessible, with typically clear, warm, sheltered waters, providing ideal snorkel and scuba diving options, and spectacular locations.

2. However, there are increasing threats to the biodiversity and some significant damage to many coral sites have been detected, some due to coral bleaching. Moreover, turtle eggs are being collected and sold and some areas are overfished, with illegal and destructive fishing practices being used. The famous Napoleon Wrasse is now listed in Appendix II of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and Government has taken steps to designate an Anambas Marine Recreational Park to foster conservation, protection and sustainable utilization. This national marine protected area (MPA) requires investments to establish biodiversity inventory, stock assessments and monitoring, management support, capacity building, awareness raising and empowerment of local people to co-manage the resource and establish environmentally responsible tourism. While the total population is still small (around 45,000), it is important to put in a sound regime of MPA management that benefits local people, including the *Suku Laut*, as well as conserves the biodiversity richness for future generations.

3. Under Coral Reef Rehabilitation and Management Program - Coral Triangle Initiative Project (COREMAP—CTI), the Anambas Islands plan to undertake an investment of \$6.078 and Rp13,250 million over a period of five years (2014-2018) to enhance management effectiveness, targeting to reach the blue level of achievement by 2018, and gold level by 2025 by implementing (i) MPA management activities; (ii) biodiversity and ecosystem assessments; (iii) basic infrastructure; and (iv) building up a system of financial sustainability and enhanced livelihoods. It is expected that the investments will generate incremental benefits for an additional 500 households, thus increasing the current number of 1,563 households involved in mariculture to 2,063 by 2018. Furthermore, by 2018, coral reef and ecosystem health will be enhanced as follows: (i) maintenance of coral coverage at 75% as at baseline of 2012; (ii) increase in coral coverage from 50% – 75% in degraded areas at baseline 2012; (iii) increase in Napoleon Wrasse females and juvenile populations in the wild compared to baseline of 2012; and (iv) stabilization of coral reef fish (key) species. These are ambitious targets and will have to be considered in the light of climate change impacts that need to be accounted for in the spatial planning.

4. Under COREMAP—CTI, the investments are to be sourced from an Asian Development Bank (ADB) loan, Global Environment Facility (GEF) grant, private sector corporate social responsibility (CSR) activities and the Government of Indonesia.

II. SUBPROJECT CONTEXT AND RATIONALE

A. Need for the Investment

1. Biodiversity and Ecological Features

5. The islands of Anambas, Indonesia, are situated in the Riau Archipelago, well to the north of Sumatra, approximately midway between Peninsula Malaysia to the west and Kalimantan, Borneo to the east. The region is located adjacent to the western edge of the Coral Triangle (CT), renowned for its globally outstanding marine biodiversity. Durai Island has the greatest concentration of nesting endangered green & hawksbill sea turtles in the Anambas Islands, which hatch along a beach length of 1,340 m estimated up to 100 nestings in the peak season (June-July) per month. The Anambas Islands also contain about 766 ha of mangroves dispersed across several locations with dense growth covering about 493 ha. Also widely dispersed across the Islands is the area of sea grass estimated at about 63 ha. The total coral reef area is estimated at 3,705 ha. Average percentage of coral reef coverage is estimated at over 48% with more than 75% coverage in P. Gemili, Luyung, Selai, Akar, Jemaja, Malang Biru, and Tanjung Lelan; good coverage 51%-75% in 38 locations and 26%-50% in 36 locations.

6. Anambas Islands' regional richness of 339 confirmed reef coral species is similar to Komodo (342 spp.) in the Lesser Sunda Islands, and higher than Banda Islands (301 spp.). It is however, substantially less than South-central Viet Nam, El Nido (Palawan, Philippines) and Brunei Darussalam and also less than Derewan (E Kalimantan), Bunaken NP, Wakatobi or Sangihe-Talaud (all in or adjacent to Sulawesi), Bali, Halmahera, Raja Ampat, Teluk Cenderwasih or Fak-Fak/Kaimana.

7. Recent assessment (2012) of conservation value of individual stations surveyed in terms of various criteria for reef-building corals indicate that high value reefs occur widely across the Anambas Islands. These have strong potential for inclusion as core zones of protection. Conservation values of survey stations show high scores for Replenishment Index (CI) and Rarity Index (RI), and values for hard coral cover and species richness – reef-building Scleractinia.

Table 1. Hard Coral Species Genera in Anambas MPA

| No | Genera | No | Genera | No | Genera |
|----|----------------------|----|---------------------|----|-----------------------|
| 1 | <i>Acanthastrea</i> | 22 | <i>Goniastrea</i> | 43 | <i>Pavona</i> |
| 2 | <i>Acropora</i> | 23 | <i>Goniopora</i> | 44 | <i>Pectinia</i> |
| 3 | <i>Alveopora</i> | 24 | <i>Halomitra</i> | 45 | <i>Physogyra</i> |
| 4 | <i>Anacropora</i> | 25 | <i>Heliofungia</i> | 46 | <i>Platygyra</i> |
| 5 | <i>Astreopora</i> | 26 | <i>Heliopora</i> | 47 | <i>Plerogyra</i> |
| 6 | <i>Barabattoia</i> | 27 | <i>Herpolitha</i> | 48 | <i>Pocillopora</i> |
| 7 | <i>Caulastrea</i> | 28 | <i>Hydnophora</i> | 49 | <i>Podabacia</i> |
| 8 | <i>Coeloseris</i> | 29 | <i>Leptastrea</i> | 50 | <i>Polyphyllia</i> |
| 9 | <i>Ctenactis</i> | 30 | <i>Leptoria</i> | 51 | <i>Porites</i> |
| 10 | <i>Cycloseris</i> | 31 | <i>Leptoseris</i> | 52 | <i>Psammocora</i> |
| 11 | <i>Cyphastrea</i> | 32 | <i>Lithophyllon</i> | 53 | <i>Sandalolitha</i> |
| 12 | <i>Diploastrea</i> | 33 | <i>Lobophyllia</i> | 54 | <i>Scolymia</i> |
| 13 | <i>Distichopora</i> | 34 | <i>Merulina</i> | 55 | <i>Seriatopora</i> |
| 14 | <i>Echinophyllia</i> | 35 | <i>Millepora</i> | 56 | <i>Stylocoeniella</i> |
| 15 | <i>Echinopora</i> | 36 | <i>Montastrea</i> | 57 | <i>Stylophora</i> |
| 16 | <i>Euphyllia</i> | 37 | <i>Montipora</i> | 58 | <i>Symphyllia</i> |
| 17 | <i>Favia</i> | 38 | <i>Moseleya</i> | 59 | <i>Tubastrea</i> |

| No | Genera | No | Genera | No | Genera |
|----|-----------------------|----|--------------------|----|-------------------|
| 18 | <i>Favites</i> | 39 | <i>Mycedium</i> | 60 | <i>Tubipora</i> |
| 19 | <i>Fungia</i> | 40 | <i>Oulophyllia</i> | 61 | <i>Turbinaria</i> |
| 20 | <i>Galaxea</i> | 41 | <i>Oxypora</i> | | |
| 21 | <i>Gardineroseris</i> | 42 | <i>Pachyseris</i> | | |

Source: Marine Resource Assessment Report. 2012.

8. Anambas Islands have great potential for the development of ecologically sensitive marine tourism. Most islands are uninhabited or have only small human populations, are visually very attractive and have most if not all of their native vegetation intact. Fringing reefs are easily accessible, with typically clear, warm, sheltered waters, providing ideal snorkel and scuba diving options, among other water sports. In these respects, particularly spectacular locations include Pulau Bawah, Tokongberlayar and Pulau Durai. However, further survey of additional stations, particularly if they constitute different habitat types than those already assessed, could raise the Anambas richness tally towards 400 species of reef-building coral. Discovery of likely undescribed species of *Montipora* and *Anacropora* suggests that this location may have a degree of faunal uniqueness. Hard coral cover ranged from 10% to 70%, with overall positive ratio of live to dead coral of 7:2.

9. The Anambas Islands have a high fishery potential especially for pelagic and coral fish supporting livelihoods of surrounding communities. In terms of reef fish biodiversity, a total of 578 species of reef fish from 256 genera and 71 families have been recorded. About 801 species are predicted on the Anambas reefs. These are mostly: Gobies (*Gobiidae*), wrasses (*Labridae*), damselfishes (*Pomacentridae*), groupers (*Serranidae*), cardinalfishes (*Apogonidae*), blennies (*Blenniidae*), butterflyfishes (*Chaetodontidae*) and parrotfishes (*Scaridae*). Sites with the most fish diversity included SE Pulau Bawah (240 species), Pulau Selai (215 species), Pulau Piantai (199 species), Pulau Pahat (198 species), SE Pulau Jemaja (196 species) and Pulau Mandariau Laut (194 species). However, large, commercially important reef fish (jacks, grouper, snapper, sharks, Napoleon wrasse) appear to have been severely overfished.

Table 2. Distribution of Coral Fish Species in sites assessed in Anambas MPA

| Species | % Sites | Species | % Sites |
|----------------------------------|---------|---------------------------------|---------|
| <i>Chrysiptera rollandi</i> | 100.0 | <i>Chlorurus sordidus</i> | 95.0 |
| <i>Pomacentrus alexanderae</i> | 100.0 | <i>Siganus corallinus</i> | 95.0 |
| <i>Pomacentrus moluccensis</i> | 100.0 | <i>Parupeneus barberinus</i> | 90.0 |
| <i>Pomacentrus philippinus</i> | 100.0 | <i>Chaetodon baronessa</i> | 90.0 |
| <i>Epibulus brevis</i> | 100.0 | <i>Chaetodon octofasciatus</i> | 90.0 |
| <i>Labroides dimidiatus</i> | 100.0 | <i>Amblyglyphidodon curacao</i> | 90.0 |
| <i>Thalassoma lunare</i> | 100.0 | <i>Dascyllus trimaculatus</i> | 90.0 |
| <i>Scarus quoyi</i> | 100.0 | <i>Neoglyphidodon nigroris</i> | 90.0 |
| <i>Siganus virgatus</i> | 100.0 | <i>Pomacentrus bankanensis</i> | 90.0 |
| <i>Siganus vulpinus</i> | 100.0 | <i>Pomacentrus lepidogenys</i> | 90.0 |
| <i>Cephalopholis cyanostigma</i> | 95.0 | <i>Bodianus mesothorax</i> | 90.0 |
| <i>Cephalopholis microprion</i> | 95.0 | <i>Cheilinus fasciatus</i> | 90.0 |
| <i>Lutjanus decussatus</i> | 94.4 | <i>Cirrhilabrus cyanopleura</i> | 90.0 |
| <i>Caesio cuning</i> | 95.0 | <i>Halichoeres hortulanus</i> | 90.0 |
| <i>Lethrinus erythropterus</i> | 95.0 | <i>Hemigymnus fasciatus</i> | 90.0 |
| <i>Pentapodus aureofasciatus</i> | 95.0 | <i>Hemigymnus melapterus</i> | 90.0 |

| Species | % Sites | Species | % Sites |
|--------------------------------------|---------|-----------------------------------|---------|
| <i>Scolopsis bilineatus</i> | 95.0 | <i>Paracheilinus filamentosus</i> | 90.0 |
| <i>Heniochus varius</i> | 95.0 | <i>Thalassoma hardwicke</i> | 90.0 |
| <i>Centropyge vroliki</i> | 94.4 | <i>Chlorurus microrhinos</i> | 90.0 |
| <i>Pygoplites diacanthus</i> | 95.0 | <i>Scarus forsteni</i> | 90.0 |
| <i>Amblyglyphidodon leucogaster</i> | 95.0 | <i>Scarus niger</i> | 90.0 |
| <i>Dascyllus reticulatus</i> | 95.0 | <i>Eviota guttata</i> | 90.0 |
| <i>Plectroglyphidodon lacrymatus</i> | 95.0 | <i>Siganus puellus</i> | 90.0 |
| <i>Oxycheilinus digramma</i> | 95.0 | | |

Source: Marine Resource Assessment Report. 2012.

10. The Ocean Health Index, is a comprehensive new measure that scores ocean health from 0-100, defining a healthy ocean as one that sustainably delivers a range of benefits to people both now and in the future. From 171 countries assessed,¹ Indonesia ranks 82 (score 54) with Malaysia at 79 (score 55) and the Philippines at 105 (score 51).

Table 3. Scoring on the Ocean Health Index

| Public Goals | Indonesia ² | Malaysia ³ | Philippines ⁴ |
|---------------------------------|------------------------|-----------------------|--------------------------|
| Food Provision | 02 | 02 | 04 |
| Artisanal Fishing Opportunities | 73 | 89 | 78 |
| Natural Products | 84 | 26 | 40 |
| Carbon Storage | 49 | 64 | 61 |
| Coastal Protection | 75 | 88 | 69 |
| Coastal Livelihoods & Economies | 65 | 91 | 72 |
| Tourism & Recreation | 01 | 08 | 00 |
| Sense of Place | 43 | 35 | 45 |
| Clean Waters | 72 | 69 | 69 |
| Biodiversity | 74 | 79 | 74 |
| Score | 54 | 55 | 51 |
| Global Rank among 171 countries | 82 | 79 | 105 |

Source: Ocean Health Index at: <http://www.oceanhealthindex.org>

2. Threats to Biodiversity and Fisheries

11. There is significant damage at many sites at shallow to intermediate depths (mostly 6-18m), from destructive fishing, predators (COTS outbreaks and *Drupella*) and bleaching. The bleaching was likely caused by periods of elevated sea temperatures and associated high irradiance in 1998 and 2010. Some impact of plastic and other pollution exists. Despite the fact that it is illegal to eat sea turtle eggs, nearly 100% of the eggs were gathered for human consumption until 2009 when Biosphere Foundation initiated a program to make Durai beach a sea turtle protected area. In some areas, there is habitat degradation and overfishing.

12. In particular, there has been over exploitation of the Napoleon fish (*Cheilinnus*

¹ At: <http://www.oceanhealthindex.org/Countries/>

² At: <http://www.oceanhealthindex.org/Countries/Indonesia>

³ At: <http://www.oceanhealthindex.org/Countries/Malaysia>

⁴ At: <http://www.oceanhealthindex.org/Countries/Philippines>

undulatus), which has become a major fishery export commodity with a high market value. The increasing demand from international markets has led to increased exploitation of the napoleon fish in their natural habitat, so that it has become necessary to prevent the effects of excessive utilization. The Napoleon fish trade has to now follow the provisions of CITES, which listed the Napoleon Wrasse in Appendix II of CITES, referring to the provisions of the Ministry of Forestry 447/Kpts-II/2003. The Ministry, through the Directorate for Conservation of Areas and Fish Species has designated the Napoleon fish to be under limited protection established by the Minister of Marine and Fisheries Decree (revising the previous regulation - Decree of the Minister of Agriculture Number: 375/Kpts/IK.250/5 / 95 on the Prohibition of Fishing Napoleon Wrasse and the Director General for fisheries Number: HK.330/S3.6631/96 about Amendment of DG of Fisheries No. HK.330/Dj.8259/95 regarding the size, location and procedure for Napoleon Wrasse fishing).

13. Recently, a public consultation was held with representatives from the Fishery Office, Bappeda/Regional Planning Agency Anambas, village heads, fishermen, fish collectors / buyers and the Indonesia Fishermen Association – Anambas. There was general agreement on the need to establish a regime to assess existing potential and better manage Napoleon fish (*Cheilinnus undulatus*). Each stakeholder / agency is expected to be involved in and responsible for the management and sustainable use, and can bring new ideas in effective utilization. Fish catch permits are to be enforced and understanding and knowledge of sustainable use is to be improved. Furthermore, research needs to be conducted to introduce better methods of fish culture and restore the resilience of a healthy marine environment.

3. Designation as Marine Recreational Park

14. The Anambas Islands Marine Recreational Park was officially gazetted on 6 July 2011 as per Ministerial Decree Number 35/MEN/2011 of the Minister of Marine Affairs and Fisheries. The park includes 1,261,686 hectares of diverse coral reef area, divided over two sections: one totalling 167,945.2 ha in area and the other 1,094,741 ha. Administratively, the park is located wholly within the district/regency of Kabupaten Anambas, which is itself located within the maritime province of the Riau Archipelago. Included within the park's boundaries are 238 islands, only 26 of which are inhabited. There are three large islands in the park (including Pulau Siantan, Pulau Matak and Pulau Jemaja), while the remaining islands are all quite small. The park has excellent representative habitats of mangrove, seagrass and coral reef ecosystems.

15. In accordance with the Decree, a minimum of 2% area is to be set aside as core zone for strict protection; however, assessments show that at least 10% or 112,609 ha needs to be set aside as a core zone. The draft Management Plan proposes the following zoning:

Table 4. Zoning of Anambas MPA

| No. | Zone | Area (ha) |
|-----|-------------------------------|--------------|
| 1 | Core Zone | 112,609.04 |
| 2 | Utilization Tourism | 19,923.54 |
| 3 | Utilization-Mariculture | 3,299.86 |
| 4 | Utilization – Capture fishery | 1,126,523.54 |

Source: Draft Management Plan, Anambas MPA, KKPN, MMAF 2013.

16. The designation needs to result in the drafting, approval and an effective implementation of an Operational Management Plan. This requires capacity building, resources, and enforcement of regulations in order to minimize damage to the habit and fish resource and

maximize environmentally responsible tourism.

4. Strategic importance and Master Plan for Tourism Investment

17. The park is considered highly strategic within the Ministry of Marine Affairs and Fisheries' overall national portfolio of MPAs as it borders with a number of countries. The northern area is contiguous with Viet Nam and Thailand while the western area borders with Malaysia and Singapore. With five of its small islands located right on these international borders, the MPA is seen as a strategic management tool to not only manage the rich marine resources of the archipelago, but also to strengthen Indonesia's national borders in this region.

18. **Master Plan.** The master plan for tourism/ recreational development on Anambas Islands proposes programs on three different islands: Pulau Penjalin Besar, Pulau Mandariau Darat, and Pulau Mengkian. Zoning has been proposed for beach development with location of resorts, snorkeling and diving areas, conservation areas and aquaculture fisheries locations. The main attractions could be sandy beaches, turtle watching, snorkeling, diving, sport fishing and culinary excursions. Some potential has been identified in Table 5 below.

Table 5. Potential Area for Tourism Development

| Island | Beach Length (m) | Snorkeling Area (m ²) | Diving Area (m ²) |
|-----------------|------------------|-----------------------------------|-------------------------------|
| Mengkian | 1,009.80 | 2,762.81 | 16,152.06 |
| Penjalin Besar | 991.99 | 3,625.38 | 17,736.24 |
| Mandariau Darat | 3,300.28 | 7,285.45 | 29,048.31 |

Source: Directorate General Marine, Coasts and Small Islands, MMAF. 2012.

19. Development of infrastructure and facilities on the three proposed islands consists of piers, bungalows, cottages, public washrooms, tourist information centers, souvenir shops, prayer facility (mosque) office space, and restaurants. Detailed engineering designs (standard designs) have also been proposed that are environmentally and aesthetically appropriate to the surroundings. For marine tourism as well as aquaculture development infrastructure and equipment has been envisaged that investors and public sector could consider. Action plans for the short term (2013-2017) with an indicative program have been drawn up, while strategic focus for the medium (2018-2022) and long term (2022-2027) have been defined. Indicative investment costs for aquaculture and protection of napoleon fish (Rp347.2 million) and diving centers (Rp730 million) have been proposed for equipment and boats. Foundation for an airport has been laid in June 2013 on the island of Jemaja. Tourism facilities (investment) are already under construction on the Pulau Selat Rangsang and Pulau Bawah.

5. Socioeconomic Considerations

20. A census of the population of Anambas Islands Regency (capital Tarempa) in 2010 recorded 37,493 people, increasing steadily from the 28,510 people present in 2000. Population density was computed to be highest at 231.97 persons/km² in Siantan and lowest at Jemaja Timur (13.58 persons/ km²). Average household size is 4.14 per household and male population estimated at 52% of the total population.⁵ Table 6 below provides population and area data.

⁵ Statistics Board, 2011.

Table 6. Administrative Area and Population

| No. | Sub-District KECAMATAN | Area LUAS (km ²) | No. of admin village Kelurahan | Villages Desa | Population Jumlah penduduk | Coral Area Luas karang (ha) (2007) |
|-----|---------------------------|------------------------------------|---|------------------|----------------------------------|--|
| 1 | Jemaja | 78.26 | 1 | 8 | 6,508 | 1,009.64 |
| 2 | Jemaja Timur | 154.24 | | 4 | 2,312 | 1,833.30 |
| 3 | Siantan Selatan | 115.48 | | 7 | 4,011 | 3,411.27 |
| 4 | Siantan | 45.39 | 1 | 6 | 12,784 | 247.28 |
| 5 | Siantan Timur | 88.92 | | 6 | 3,915 | 2,694.21 |
| 6 | Siantan Tengah | 22.14 | | 6 | 3,317 | 1,309.20 |
| 7 | Palமாக | 129.94 | | 15 | 12,156 | 1,363.94 |
| | TOTAL | 634.37 | 2 | 52 | 45,003 | 11,868.84 |

Source: Ministry of Marine Affairs and Fisheries. 2011.

21. Main forms of employment include various types of fisheries, mainly artisanal; significant income is derived from the mining of natural gas for export to Malaysia and Singapore. Table 7 provides an overview of fish catches from capture fisheries and aquaculture while Table 8 provides estimated potential of aquaculture and mariculture and current utilization in Anambas; the aquaculture value, because of its low utilization (only 50 ha) is estimated at Rp3.5 million, while the value from utilization of 796 m² of mariculture area is valued at Rp98.2 billion according to Fisheries Department sources. Detailed assessments need to be carried out and production figures updated.

Table 7. Aquaculture and Capture Fisheries Production in Anambas Island, 2011

| No. | Sub-District | Area for Aquacul- ture (m ²) | No. of HH in Aqua- culture | Fisher- folk HH | No. of boats | No. of motor boats | Aqua- culture product- ion (ton) | Capture Fisheries (ton) | No. of Fish- farmer groups | Capture fisheries groups |
|-----|-----------------|---|----------------------------------|--------------------|-----------------|--------------------------|---|-------------------------------|-------------------------------------|--------------------------------|
| 1 | Jemaja | 1,467 | 101 | 540 | 149 | 295 | 1.76 | 444 | - | 36 |
| 2 | Jemaja Timur | 1,719 | 116 | 217 | 110 | 119 | - | 229 | 2 | 11 |
| 3 | Siantan Selatan | 1,332 | 125 | 613 | 77 | 358 | - | 405 | 10 | 51 |
| 4 | Siantan | 963 | 105 | 478 | 33 | 230 | 11.46 | 263 | 9 | 5 |
| 5 | Siantan Timur | 1,449 | 204 | 784 | 78 | 280 | - | 358 | 37 | 32 |
| 6 | Siantan Tengah | 17,982 | 456 | 270 | 90 | 490 | 57.06 | 580 | 15 | 6 |
| 7 | Palமாக | 4,068 | 609 | 1,176 | 58 | 824 | - | 882 | 43 | 57 |
| | TOTAL | 28,980 | 1,716 | 4,078 | 595 | 2,596 | 70.28 | 3,161 | 116 | 198 |

Source: Ministry of Marine Affairs and Fisheries. 2011. Jakarta.

Table 8. Aquaculture / Mariculture Potential and Utilization 2012

| Commodity | Area (m ²) | | No of Aquaculture Fishery | | |
|---------------------------------------|------------------------|--------------|---------------------------|--------------------|------------------------|
| | Potential | Utilization | # HH | # Fishery Business | #Fish Farmers (person) |
| Freshwater Aquaculture (50 ha) | 500,000 | 5,000 | 1 | - | 5 |
| Common Carp | | | | | |
| Nile Tilapia | | | | | |
| Mozambique Tilapia | | | | | |
| Gurame Fish | | | | | |
| Catfish | 500,000 | 5,000 | 1 | | 5 |
| Catfish (Pangasius Sutchi) | | | | | |
| Others | | | | | |
| Brackish water Aquaculture | - | - | - | - | - |
| Tiger Shrimp | | | | | |
| White Shrimp (Vaname) | | | | | |
| Milkfish | | | | | |
| Others | | | | | |
| Mariculture (m²) | 209,980,000 | 796 | 1,563 | 15.00 | 4,748.00 |
| Grouper | 87,838,000 | 450 | 1,040 | 15 | 3432 |
| Snapper | 36,508,000 | 210 | 517 | | 1292 |
| Seaweed | 85,634,000 | 100 | 2 | | 6 |
| Rabbit Fish | | | | | |
| Others | | 36 | 4 | | 18 |
| TOTAL | 210,480,000 | 5,796 | 1,564 | 15.00 | 4,753.00 |

Source: District Fisheries Office of Anambas. 2012.

22. However, promotion of ecosystem based livelihoods through aquaculture and mariculture will aim at building resilience by applying guidelines issued by FAO⁶ and the Network for Aquaculture Centres⁷ in Asia-Pacific for sustainable aquaculture.

6. Subproject rationale

23. The Anambas Islands Marine Recreational Park is of high strategic importance and high conservation value nationally and one of marine protected areas (MPAs) having tourism potential as it is close to countries and territories with growing outbound international tourists (Malaysia; Thailand; People's Republic of China; Hong Kong, China). The government has prepared a master plan to attract investors and international tour operators and organized an investor forum on attracting investments to small islands.

24. The biodiversity and fishery resource is under threat and coral reefs have received damage from destructive fishing practices. Overfishing of some species has placed them in an endangered category and the government has taken steps to carry out surveys and draft a management plan. This national MPA requires establishment of biodiversity inventory and stock assessments, conducting of routine monitoring, management support, capacity building,

⁶ FAO. 1999 and 2004. *Technical Guidelines for Responsible Fisheries (CCRF) No. 5.*

⁷ Network for Aquaculture Centres in Asia-Pacific at: <http://www.enaca.org/modules/marinefish/index.php>; Better management practices for grouper culture in Indonesia at: <http://library.enaca.org/marinefish/manuals/bmp-grouper-culture-manual-indonesia.pdf>

awareness raising and empowerment of local people to co-manage the resource and establish environmentally responsible tourism.

B. Subproject Objectives

25. The outcome of the subproject is to enhance management effectiveness of Anambas Islands Marine Recreational Park achieving the blue level status by year 5 after project start as compared to start of project with the conservation area / Marine Recreational Park being designated but minimal management organization on the ground. The impact or long term objective of the subproject is to achieve Gold standard on the Management Effectiveness scale by 2025, which can be evidenced by sustainable financing, improved community welfare and ecosystem health of the MPA. The main outputs are: (a) Management Plan implemented; (b) biodiversity conservation and ecosystem based fisheries management enhanced; (c) basic infrastructure for management operations provided; and (d) financial sustainability and livelihoods enhanced.

III. SUBPROJECT DESIGN

A. Subproject Description

1. Management Plan Implementation

26. An assessment of the status of management effectiveness⁸ of Anambas Marine Recreation Park (see Appendix 1) shows that it has fulfilled all activities in the red level and some in the yellow level; a draft management plan has been drawn up and is awaiting finalization after which it will be submitted for approval. The current management effectiveness of the Anambas Islands MPA is at yellow and the following activities will be carried out under management plan implementation:

Table 9. Management Plan Activities: Institutional Decentralization / Strengthening of MPA as per Management Effectiveness Criteria

| Level | Management Activities | Status |
|---|--|--------|
| 1. Management Organizational Unit and Personnel | Conduct consultation with counterparts to prepare decree based on guidelines | |
| <i>Indicator: Decree establishing unit, Budget with # of Staff assigned</i> | Draft UPT Decree following Guideline (Preparation of Management Unit (2009) | |
| | Assign staff and prepare budget | |

⁸ See DGMCSI. 2012. *Technical Guidelines for Evaluating the Management Effectiveness of Aquatic, Coasts and Small Islands Conservation Areas*. Jakarta. Number KEP.44/KP3K2012

| Level | Management Activities | Status |
|--|--|--------|
| | Provide staff with Training on: <ul style="list-style-type: none"> • Basic Conservation • MPA management plan • Sustainable fisheries • Fisheries monitoring • Coral reef ecosystem monitoring • Sustainable marine tourism • Data management • Patrolling and law enforcement | |
| 2. Management and Zoning Plans | Establish Working Group ⁹ | ✓ |
| REF: Per 30/MEN. 2010 | Hire consultant to prepare draft zoning and management plan | ✓ |
| <i>Final Document Submitted</i> | Conduct Public consultation/workshop. Conduct separate consultations by vulnerable groups (IPs and poor fisherfolks) | |
| | Finalize the document | |
| 3. Facilities and Infrastructure to Support Management | (Guidance in process at KKJI in months ahead) | |
| <i>Indicator: Evaluation of Infrastructure sufficient to meet Guidelines</i> | Define/Obtain main office space on site with meeting space, audiovisual equipment, small kitchen, small public education center, small workshop | |
| | Define and Install Initial Info of MPA Signage around area and zones | |
| | Procure <ul style="list-style-type: none"> • Office Equipment (for 5 people) • Vehicles for Land Transport • field equipment • equip small Lab for monitoring and testing for illegal products • Communication equip (hand phones, Radios) | |
| 4. Management Funding Support | Define funding needs and research opportunities | |
| <i>Indicator: Some funding for basic needs is committed</i> | Develop funding strategy | |
| 5. Management Organizational Unit and Personnel | Add operational staff | |

⁹ Include stakeholder representation from traditional communities (IP) and fisherfolk.

| Level | Management Activities | Status |
|---|---|--------|
| <i>Indicator: Adequate staff to implement management plan in place and trained with partners identified</i> | Train (2 core competencies per operational staff) | |
| | Initiate partnerships with stakeholders | |
| 6. Facilities and Infrastructure to Support Management | Procure <ul style="list-style-type: none"> • Vehicles for Marine operation • Vehicles for Land Transport • small field equipment • small Lab for monitoring and testing for illegal products • scuba sets (5) • Communication equip (HP, Radios) • Surveillance Equip (binoculars, camera, video) • Office Equipment (5 people) | |
| | Build/Install observation posts | |
| | Build Remote Surveillance Post/Office (e.g. At activity site, nesting area, etc.) | |
| | Install Coastal boundary markers, Signage | |
| 7. Management Funding and Support | Prepare Management Funding Plan | |
| <i>Indicator: Funding from Government and other sources sufficient to operate MPA</i> | Secure funding from government source | |
| | Secure funding/implement plan from other sources | |
| 8. Approval of Management and Zoning Plans | Secure approval of Management and Zoning Plan by Bupati (Dist) or Minister (National) | |
| <i>Indicator: Decree</i> | | |
| 9. Management SOPs | Develop SOPs for admin and financial management | |
| <i>Indicator: Sets of SOPs, Strategies, Operations Manuals</i> | Develop SOPs for facilities and infrastructure (minimum standards) | |
| | Develop SOPs for Field Operations/Programs (Governance, Ecosystem, Community program) | |
| 10: Implementation of Management and Zoning Plans | Implement Institutional strengthening strategy (Training, agreements) | |
| <i>Indicator: New Programs and Resource Management Operations in Action</i> | Implement Resource Management Strategy | |
| | Conduct Socioeconomic baseline survey | |

| Level | Management Activities | Status |
|---|---|--------|
| | Review, Approve and Conduct Utilization activities in MPA (Min = 1) Ex: Pilot project | |
| 11. Designation of Aquatic Conservation Zone | Submit proposal to Minister | |
| <i>Indicator: Ministerial Decree</i> | Evaluate MPA Designation documents | |
| | Socialize (disseminate) Designation Plan and Present to Decision makers | |
| | Conduct Field evaluation of MPA | |
| | Submit recommendation fro designation to Minister | |
| | Get approval of MPA by Minister | |

Source: Ministry of Marine Affairs and Fisheries. 2013.

KKJI = Directorate of Marine and Aquatic Resources Conservation, MPA = marine protected area, SOP = standard operating procedure, UPT = technical implementation unit.

2. Biodiversity Conservation and ecosystem based fisheries management

27. The main focus of the MPA operations has to remain on biodiversity conservation and ecosystem based fisheries management. It is envisaged that surveys, data collection, extension among villagers, and support of aquaculture / mariculture will lead to better protection of fish resources and coral reefs.

Table 10. Biodiversity Conservation and Ecosystem Activities

| No. | Activities |
|-----|---|
| 1 | Update inventory and ecological and socio-economic baseline |
| 2 | Conduct spatial planning and mapping of corals and zonation including impacts of climate change |
| 3 | Rehabilitation of coral reefs |
| 4 | Monitoring of coral reefs |
| 5 | Introduce rules on fishing gear, size of fish that can be captured, and fishing season |
| 6 | Protection of spawning areas and fish migration routes |
| 7 | Fish restocking |
| 8 | Protection and management of sea turtle habitat |
| 9 | Mapping of prone areas of disturbance/violations |
| 10 | Establishment of Patrolling (routine and community patrols) |
| 11 | Law enforcement efforts against violations |
| 12 | Launch Clean Water and Beach Campaign with community |

Source: Anambas MPA Draft Management Plan, 2013, MMAF

28. Although Anambas Islands is not densely populated (yet), interconnected coastal systems composed of coral reefs, mangroves, seagrass beds, beaches, estuaries and the forested hills are the basis of subsistence, security and culture of the local people. The coastal ecosystems in Anambas constitute an important renewable resource for a wide range of other development uses, such as settlement, transportation, fisheries, aquaculture, forestry, mining,

industry, waste disposal and tourism. The "Ridge to Reef" concept¹⁰ will be used to more coherently consider land/coastal interactions. The land mass of the Anambas Islands is tiny compared to the portion of the sea; however, attention will be given to the higher hilltops and streams and water flows down into the sea to minimize soil erosion and sedimentation as well as agricultural and urban run-off, and sewage disposal into the sea. One of the biggest issues facing populated towns / areas on the Anambas Islands is waste disposal and waste management system and this will need critical attention. Efforts will be made to bring about closer scientific and technical coherence between the "Ridge to Reef" program and the COREMAP—CTI and share learning objectives.

29. Baseline data gathered from the Marine Resources Assessment of 2012 will be updated at project start and control sites outside the MPA zones will be identified to compare with and without project. This may be difficult as the Anambas Islands are located over a vast area and quite far from other large Indonesian Islands. Permanent transects for data collection and monitoring are to be set up in 31 sites as well as inventory in core protection zone. This data will be compared with coral reef health outside the MPA core zones.

30. Spatial planning in the Anambas islands will also take into consideration climate change related data (meteorological and sea level measurements) and its projected impact on the islands (which mostly have steep terrain with narrow coastal strips except large islands like Jemaja or Matak which have flatter areas as well). In particular, guidance will be sought from guidelines on marine spatial planning in the context of the Convention on Biological Diversity.¹¹

3. Basic infrastructure and equipment

31. Basic infrastructure is required to make the MPA operational; such facilities will allow effective communication and services, provision of educational information to visitors, and basic amenities such as water supply and waste water treatment plant/system (see table 11). For enhancing turtle population, a turtle hatchery is also proposed.

Table 11. Infrastructure

| No. | Infrastructure |
|-----|---------------------------------------|
| 1 | MPA Office |
| 2 | MPA Signage |
| 3 | Information Center |
| 4 | Security and Remote Surveillance Post |
| 5 | Coastal boundary markers and signage |
| 6 | Gazebo |
| 7 | Pier / jetty |
| 8 | Public washroom |
| 9 | Water and Waste water treatment unit |
| 10 | Communication tower |
| 11 | Mooring buoy |
| 12 | Water supply |
| 13 | Turtle hatchery |

Source: Ministry of Marine Affairs and Fisheries. 2013. Anambas MPA Draft Management Plan. Jakarta.

¹⁰ Global Environment Facility. *From Ridge to Reef. Water, Environment, and Community Security*.

¹¹ CBD. 2012. *Marine Spatial Planning in the Context of the Convention on Biological Diversity*. CBD Technical Series No.68.

Table 12. Equipment and Facilities

| No. | Equipment and Facilities |
|-----|---------------------------------|
| 1 | Office furniture |
| 2 | Data processing equipment |
| 3 | Communication equipment |
| 4 | Boat |
| 5 | Vehicle |
| 6 | Motorcycle |
| 7 | Diving equipment |
| 8 | Survey and monitoring equipment |
| 9 | Safety equipment |
| 10 | Solar power units |
| 11 | information boards |

Source: Ministry of Marine Affairs and Fisheries. 2013. Anambas MPA Draft Management Plan.

4. Sustainable financing and Livelihoods

32. One of the biggest challenges is to establish a system of revenue generation and sustainable financing that enables MPA operations and village self-help groups carrying out conservation activities to become self-sufficient. This needs attention to payment for ecosystem services through tourism levies, corporate social responsibility donations etc.

Table 13. Sustainable Financing

| No. | Sustainable Financing |
|-----|--|
| 1 | Implement payment for ecosystem services (PES) or compensation scheme |
| 2 | Establish a corporate social responsibility (CSR) donation / support program |
| 3 | Implement partnership funds |
| 4 | Prepare MPA Business / Investment Plan |

Source: Ministry of Marine Affairs and Fisheries. 2013. Anambas MPA Draft Management Plan.

33. **Corporate Social Responsibility (private sector).** To date several CSR activities have been supported in Anambas by private sector firms such as Conoco-Philips, Star Energy, and Premier Oil. Conoco Philips has supported: (a) scholarships for fisheries students to attain degrees (D3 from IPB, Bogor University) 2009–2012: (b) economic empowerment through aquaculture program, supporting grouper fish-farmer groups by providing grouper floating hatchery, and assistance to capture fishermen in Mubur (rumpon, rawai/long-line, bagan), and fishery business group Ikan Tarempa. Capacity building has featured improving marketing skills and cooperative group building, business management, extension on safety and security; sport fishing, fish processing, developing alternative energy (wind power facility) and mobile library (Mobil Pinta - smart car). Since 2011, Star Energy has also supported mariculture development (grouper) in Kiabu – Palmatak and Lidi Village, Air Sena, Air Asuk – Siantan Tengah Sub-district; provided capital for cooperatives and small business - KSU Bintan Anambas, fish-farmers development and strengthening of small traders in Air Bini village – Siantan Selatan Sub-district. Premier Oil has supported community development programs for indigenous community of Suku Laut in Tarempa Barat, Siantan Sub-district (who are often marginalized from government and/or company's assistance).

34. **Partnership and Environment Development Program (PKBL).** The Indonesian Program Kemitraan Bina Lingkungan (PKBL), also known as the Partnership and Environment Development Program applies to State Owned Enterprises (SOEs), which have to fulfill obligations stipulated under Law No. 19 of 2003 on State-Owned Enterprises. Specifically, in accordance with Article 2, paragraph (1) letter (e) state-owned enterprises are to provide active

guidance and assistance to small-scale entrepreneurs, cooperatives and the community. Article 88 paragraph (1) stipulates that State-Owned Enterprises shall allocate a portion of their net profit for guidance of small-scale businesses / cooperatives and community development. Social responsibility of State-Owned Enterprises is further defined by Ministerial Regulation of State-Owned Enterprises No. PER-05/MBU/2007 issued on 27 April 2007 on the Partnership Program between State-Owned Enterprise and Small Business and Community Development. The PKBL consists of two parts: (i) Partnership and (ii) Environmental Development Program, with the Partnership Programs related to micro-economic development, while the Community Development Program includes assistance for mitigation of natural disasters, education / training, health promotion, infrastructure / public facilities, religious facilities and environmental conservation. The SOEs are expected to contribute up to 2% of net profits to each program part. In the Environment Development Program, 70% of the funds flow to communities in the areas surrounding the SOE, while remaining 30% is coordinated directly by the Ministry of SOEs. The PKBL resembles a mandatory CSR for SOEs with traces of the eco-compensation (PES-like) approach.

35. Under the PKBL in 2012, work programs approved by SOE management, focused on 4 villages: (i) Mampok Village by PT. Askes (State Health Insurance) and PT. Angkasapura (Airport Services); (ii) Keramat Village by PT. Pegadaian (Pawn Brokers); (iii) Impol Village by PT. Bank Mandiri and iv) Rewak Village by PT. Telkom; PKBL activities implemented (a) provision of navigation equipment, GPS, Fish Finder and LTS; (b) coral reef transplantation; (c) capacity building / training on equipment and coastal zone management.

36. Currently, potential for PES activities exists where private sector companies are directly investing in tourism (e.g. Pulau Bawah), where an exclusive resort caters to up-market tourists from Singapore and other foreign countries. Resort operations have just started and under COREMAP—CTI, the Project will foster a PES agreement between the PES buyer (Resort Investor) and the community (PES service provider) to maintain clean waters free of pollution, patrol the core protection zones, and monitor destructive fishing methods with an aim to support MPA management and District authorities to reduce these.

B. Socioeconomic Analysis

1. Livelihood Sources

37. Livelihood sources largely revolve around agricultural production such as crops, livestock raising, forestry and fisheries.

- **Crops.** Three sub districts are into paddy rice production (Jemaja, Jemaja Timur and Palmatak). Other crops are corn, cassava, sweet potatoes, and vegetables like long beans, mustard, spinach, and water spinach.
- **Forestry.** Forest production/plantation is an income generating activity especially in Jemaja, Siantan, and Palmatak Subdistricts.
- **Livestock.** Livestock production includes cow, goat, chicken and duck.
- **Fishery.** As a coastal/island ecosystem, most residents are fishermen.

2. Poverty

38. Based on the Medium Term Development Plan (RPJMD) 2011-2015, the number of poor people in 2009 reached 11,669 inhabitants or reached 19.13 percent. On the other hand, the Welfare Data for Riau Islands Province released by the National Team for Accelerating Poverty

Reduction in 2011 stated that the number of poor people in Anambas in 2010 reached 1,797 inhabitants or 4.80 percent.

39. Meanwhile, based on a random study in 18 urban areas conducted by Destructive Fishing Watch (DFW) Indonesia in 2010, it was determined that over 27 per cent of the population are unable to meet the needs of individual standards in the province and over 23 percent of the population are unable to meet the needs of individual standards nationally each month.¹²

3. Gender

40. Male inhabitants were 20,420 and female inhabitants 18,898. The population is fairly gender balanced. The population of 15 year olds and over, who are working is 61.91 percent; 41.86 percent male and 20.05 percent female.¹³ Although laws and consultations consider women with equal rights, generally, women still spend more time doing domestic chores and raising the family and men do most of the productive work. Women need more access to non-traditional coastal management roles and basic life- and business-skills coupled with improved access to opportunities.

4. Social and Cultural Landscape (Indigenous Peoples/Ethnic Minorities)

41. Table 14 documents distribution of ethnic groups in Anambas. It will be noted that none of the groups are indigenous peoples of the area.

Table 14. Percentage of Ethnic Composition in Pulau Anambas

| Number | Ethnic Group | Siantan | | Palmatak | |
|--------|--------------|----------------------|---------------|----------------------|---------------|
| | | Number of Population | Percentage | Number of Population | Percentage |
| 1 | Malay | 11,148 | 86.45 | 10,463 | 93.54 |
| 2 | Chinese | 1,408 | 10.92 | 410 | 3.67 |
| 3 | Javanese | 42 | 0.33 | 115 | 1.03 |
| 4 | Sundanese | 46 | 0.36 | 10 | 0.09 |
| 5 | Batak | 3 | 0.02 | 16 | 0.14 |
| 6 | Others | 249 | 1.93 | 171 | 1.53 |
| | Total | 12,896 | 100.00 | 11,185 | 100.00 |

Source: Statistics Bureau of Natuna District. 2003.

42. However, during COREMAP—CTI project preparation consultations with the Suku Laut community in Kawal Village, it was determined that the Suku Laut or Orang Laut or sea people are also present/found in other beneficiary districts in Riau Island Province (Batam, Lingga, Natuna, and Anambas).¹⁴

43. The *Orang Suku Laut* also regarded as the *Orang asli Melayu* (indigenous Malays) of the Riau Archipelago, often also called as *Orang Laut* (Sea People), inhabit several islands in the Anambas, among others, Air Sena Village, Sub-district Siantan Tengah and Mengkait

¹² Comparing value of income and expenditure needs (where the standard poverty line Riau Islands Province, BPS 2007 was Rp 213 985, - per person per month), then the proportion of poor people acquired approximately 27.91 per cent. Meanwhile, if using the national poverty line in 2008 was Rp. 186 636, - the proportion of poor people acquired approximately 23.85 per cent.

¹³ Kepulauan Anambas Dalam Angka 2011.

¹⁴ Interim Report. TA-7813 REG: Coastal and Marine Resources Management in the Coral Triangle – Southeast Asia – T3 Project Management Consultant. March 2013.

Village, Sub-district Siantan Selatan. The local *Suku Laut* previously worshipped the god of the sea, but currently most of them adhere to Islam or Christianity. The broader terms of Orang Laut includes “the various ethnics or groups who inhabited the islands and in river mouths/estuaries of Riau-Lingga, Pulau Tujuh (Seven Island), Batam Islands, and coastal area and islands offshores Sumatra in the East and Southern part of Malays Peninsula. Another called Orang Laut as Orang Selat (Strait people of “Malacca”). Historically, Orang Laut used to be notorious as a pirates, but played important roles in the Kingdom of Sriwijaya, Sultanate of Malacca and Johor. They guarded the straits, drove away the pirates, guided traders to the ports of its kingdom/sultanates, and maintained/defended their territories. In present day, the majority of these people work as fishermen. Just like Suku Bajau or Bajo who originated from Sulawesi Islands, Orang Laut often named as “kelana laut” or “sea wanderer” because of their nomadic lifestyle, spend their lives on the sea on their boats.

44. Previously, the *Suku Laut* of the Mengkait Island village lived in Lintang Island. Due to the outbreak of diarrhea in 1950, they moved to Mengkait Island. The *Suku Laut* are led by the head of the clan, known as “Batin” and election of the head of the clan is conducted by consensus. After moving from Lintang Island to Mengkait, the *Suku Laut* have had 8 Batins so far. The total population in Mengkait Village visited during project preparation is 917, consisting of 473 males and 444 females. It is estimated that 854 of them are *Suku Laut*, although this could not be confirmed due to lack of official recording and inaccessibility of government reports. Between 2007–2012, Mengkait Village has received government investments in infrastructure (housing, village office, cemented pathways, rubbish bins and waste collection system). The island has no source for drinking water and has to ferry across freshwater from a neighboring island. Mengkait has installed two water tanks of 5,000 liter capacity each and charges the villagers a nominal fee per canister. Mengkait Island plays the role of a model *Suku Laut* village.

Table 15. Suku Laut Population estimate in Pulau Mengkait, Anambas

| Description | Population | | | No of HH |
|-----------------------------|------------|--------|-------|----------|
| | Male | Female | Total | |
| Suku Laut in Pulau Mengkait | 473 | 444 | 917 | 271 |

Source: Population Mengkait Village, Sub-district Siantan Selatan, April 2013

45. The *Suku Laut* depends predominantly on the sea for their food and income. They also engage in the collection of copra, as an alternative livelihood. To date, *Suku Laut* families continue to consume turtle meat, usually during festivities such as Christmas, New Year’s celebrations, and weddings. This is not only because of their tradition but also because of the belief that eating turtles can keep their body warm (during cooler months of the year), helps prevent beri-beri disease (lack of Vitamin B1), and tastes good while poultry, lamb or beef are expensive.

46. For generations, the sea and coastal places have been the life and living spaces of the *Orang Suku Laut* and they claim ownership to these territories based upon customary laws. The developmental pressure thus generated has led to intense struggles over territorial rights. It has also raised issues concerning the social assimilation of indigenous peoples as citizens, religious conversion and cultural identity.¹⁵

¹⁵ Chou, Cynthia. (2009). *The Orang Suku Laut of Riau, Indonesia: The inalienable gift of territory (The Modern Anthropology of Southeast Asia)*. [city] <http://www.amazon.com/Orang-Suku-Laut-Riau-Indonesia/dp/0415297672>.

47. Most of them have not been made aware of the marine conservation areas surrounding their village islands but based on statements made by the Village Head of Mengkait and a *Suku Laut* Elder, if information regarding the MPA regulations are widely disseminated (process of socialization), the *Suku Laut* will adhere to these strictly.

C. Social and Environmental Safeguards

1. Social Safeguards

48. **Involuntary Resettlement (Category B):** The Project will require minimal land acquisition as indicated in the proposed development plan. Details of land acquisition will be known only after the subprojects are identified at detailed design level. However, marine spatial planning and marine protected area management practices may temporarily exclude some people from some areas that previously had open access to formerly open or ancestral or communal properties, particularly for indigenous peoples, potentially impacting their traditional sources of food, cultural practices, or livelihood. The benefits of these zoning restrictions will outweigh any temporary or small adverse effects due to strengthening of the natural resource base that ultimately addresses the needs of the communities. In all cases, cultural places will be protected as part of the subproject criteria. In case triggers on involuntary resettlement surface, a Resettlement Framework is provided in the project documents to guide the preparation of Resettlement Plans for project-affected people that will have to be prepared and endorsed by the government, consistent with relevant national laws, ADB's Safeguard Policy Statement, and the project Resettlement Framework.

49. **Indigenous Peoples (Category B):** The overall project was determined positive for the presence of indigenous peoples in several target areas, especially for the *Suku Laut* also called as *Orang Laut* (seafarers). An Indigenous Peoples Planning Framework is prepared for the overall project reflecting the requirements of ADB's safeguard policies and laws of the Government of Indonesia. The Indigenous Peoples Framework ensures that subprojects are designed and implemented in a way that fosters full respect for indigenous peoples' identity, dignity, human rights, livelihood systems, and cultural uniqueness as defined by the indigenous peoples themselves to enable them to (i) receive culturally appropriate social and economic benefits, (ii) do not suffer adverse impacts as a result of the project, and (iii) can participate actively in the project.¹⁶ This Indigenous Peoples Planning Framework safeguards the rights of indigenous peoples to participate and equitably receive culturally appropriate benefits from the project. An Indigenous Peoples Plan will be prepared endorsed by the government should the subproject trigger IP safeguards.

2. Environmental Safeguards

50. The subproject is likely to be categorized as Category B under ADB guidelines. This rating will be enforced through selection criteria for infrastructure so that none will exceed this rating. Due to its emphasis on biodiversity conservation and ecosystem-based fisheries management, the overall environmental impact is expected to be generally positive. The main environmental issues to be faced by this subproject will primarily be on account of minor potential disturbances from basic infrastructure development. Environmental Assessment consisting of an initial environmental examination (IEE) and preparation of a Summary IEE (SIEE) have been completed. These SIEEs include an Environmental Assessment and Review Procedures Framework to guide the EA and the implementing agencies in the preparation of

¹⁶ ADB. 2009. *Safeguard Policy Statement*. Manila.

environmental assessment reports for additional subprojects for investment during implementation.

51. The basic infrastructure and amenities required for MPA to be operational will generate positive environmental benefits, in terms of improved communication and public information, better services to the community and faster response to threats in MPA, which all results in more effective management of MPA and improved biodiversity conservation.

52. The construction of MPA office, information center, security post, gazebo, pier, public washroom, waste water treatment unit, communication tower, mooring buoy, water supply, and turtle hatchery is expected to produce positive environmental and economic impacts in the long run. Any potential negative impacts that may be caused by construction of these basic infrastructures are temporary and minimal, which can also be reduced by observance of appropriate safeguards and the adoption of an environmental management/monitoring plan, as described in the IEE.

3. Gender

53. The project scope will meet women's needs and improve their socioeconomic status getting them more involved in aquaculture, culture-based fisheries, and related activities, including fish processing, trading, and community-based monitoring. Several gender-responsive activities dealing with women's productive, community management and leadership roles have been incorporated into the project design. The Project will support poor women in gaining access to resources, technical assistance, and capacity-building efforts for poverty reduction and food security. Women will be included in all project activities, including those dealing with production inputs assistance and training. To ensure that the Project addresses gender concerns women will be hired to conduct gender training to sensitize local government officials and personnel to women's needs. Baseline Project Performance and Monitoring System (PPMS) surveys and the midterm and project completion surveys will collect gender-disaggregated data. Gender indicators will be included in the Project Performance and Monitoring System and will become an important element in the evaluation system for the national project management office.

IV. INVESTMENT AND FINANCING PLAN

A. Cost Estimates

54. According to the draft management plan of Anambas MPA, the total investment costs (in USD) from external sources over a five year period (2014-2018) is estimated at \$6.97 while the Indonesian Government investments are at Rp13.2 billion (equivalent to \$1.325 million).

Table 16. Anambas MPA Budget June 2013

| Items | Total US\$ (including contingencies) |
|--|---|
| Marine Protected Area Management | 143,000 |
| Capacity Building | 275,000 |
| Infrastructure | 1,886,500 |
| Vehicles and Equipment | 991,600 |
| Office Equipment Maintenance | 110,000 |
| Policy and Regulations | 165,000 |
| Demarcation of MPA Boundary | 308,000 |
| Dissemination of MPA Boundary information | 132,000 |
| Sustainable Financing / Payment for Ecosystem Services | 181,500 |
| Biodiversity and Ecosystem Management | 1,891,450 |
| Surveillance and Law Enforcement | 178,200 |
| Support for Sustainable Livelihoods | 115,500 |
| Public Awareness (financed from national level) | 0,000 |
| Identification and Promotion of Tourism Potential | 220,000 |
| MPA Monitoring and Evaluation | 451,000 |
| Total | 6,976,750 |

Source: ADB Cost Estimates, 2013.

B. Financing Plan

55. The financing plan provided in the table below is by sources; allocation of funds is envisaged from the ADB loan, GEF grant, private sector-CSR contributions, and the Government of Indonesia.

Table 17. Funding Source of Anambas National MPA investments, 2013 (US\$)

| COREMAP—CTI Outputs | Total | ADB | GEF | GOI |
|--|--------------------|--------------------|--------------------|--------------------|
| 1. Coral Reef Management and Institutions Strengthened | 528,000.0 | | | 328,000.0 |
| 2. Ecosystem-based Resource Management Developed | 3,429,250.0 | 836,000.0 | 2,281,500.0 | 228,150.0 |
| 3. Sustainable Marine-Based Livelihoods (Economy) Improved | 2,458,500.0 | 2,330,000.0 | 105,000.0 | 307,100.0 |
| 4. Project Management | 561,000.0 | 410,000.0 | | 151,000.0 |
| Total | 6,976,750.0 | 3,576,000.0 | 2,386,500.0 | 1,014,250.0 |

Source: ADB Subproject Planning, 2013.

V. IMPLEMENTATION ARRANGEMENTS

A. Subproject Implementation Roles

1. Ministry of Marine Affairs and Fisheries (MMAF)

The Presidential Decree No.165 issued in 23 November 2000 describes functions and organizational structure of MMAF and the Presidential decree No.9 in the year 2005 states the main mission of MMAF as: "To Assist the President (of the Republic of Indonesia) in holding the process of governance in the Marine and Fisheries sector". The main functions of MMAF are: i) formulation of national policy for the Marine and Fisheries sector; ii) implementation of national

and technical policies; iii) governance of affairs in the Marine and Fisheries Sector; iv) management of state-owned properties under MMAF; v) supervision of MMAF mission implementation; vi) report to the President on the account, evaluations, suggestions and consideration of MMAF mission and functions. MMAF is the Executing Agency for COREMAP—CTI.

2. Ministry of Tourism

56. The main mission of the Ministry of Tourism and Economy Creation is: “To Assist the President (of the Republic of Indonesia) in holding the process of governance in the Tourism and Economy Creation sector”. The functions are: i) formulation of national policy, implementation policy and technical policy in the Tourism and Economy Creation sector; ii) governance of affairs in the Tourism and Economy Creation Sector; iii) management of state-owned properties under Tourism and Economy Creation; iv) supervision of Tourism and Economy Creation mission implementation; v) delivery of report to the President on the account, evaluations, suggestions and consideration on Ministry mission and Function; vi) technical assistance and supervision on the tourism and creative economy affairs in the region (provincial and district level); vii) Implementation of technical activities on a national scale. The Department of Tourism in Anambas District will be a close collaboration partner with Anambas National MPA Office in promoting environmentally responsible tourism that minimizes damage and fosters sustainable environment.

3. Directorate General, Marine, Coasts and Small Islands (MCSI) and PMO

57. Under MMAF, the Directorate General of Marine, Coasts and Small Islands (MCSI) has responsibility for project management and administration and hosts the Project Management Office (PMO). The PMO will (i) coordinate overall planning and scheduling (particularly infrastructure related and consultants); (ii) administer contracts; (iii) maintain books of accounts and consolidate liquidation reports; (iv) bear responsibility for overall supervision and monitoring and preparation of consolidated monitoring reports; and (v) submit reports. The DG MCSI will also liaise with Directorate General Capture Fisheries (DG CF) and LIPI. Technical planning and supervision of national MPAs has been delegated to the Technical Implementation Unit (UPT) in Pekanbaru.

4. National Marine Conservation Area Field Implementation Unit (LKKPN)

58. The Technical Field Implementation Unit in Pekanbaru (LKKPN) has the functions of preparing management plans and providing supervision of implementation and monitoring of national marine protected areas. In particular, it is responsible for: (i) planning and evaluation of management, utilization, and supervision of national marine conservation areas; (ii) national marine conservation area monitoring; (iii) education and public awareness in and around the national water conservation; (iv) preparation of guidance materials on management implementation, utilization, and national marine conservation area monitoring; (v) administrative affairs; (vi) development of security system of marine protected areas that include human resources, communication tools, water transportation, and other security infrastructure; (vii) water conservation security coordination with all elements of law enforcement, namely: Police, Navy, Civil Servant (investigators), Attorney, and the Court; (viii) develop approaches to community-based marine protected areas patrols (SISWASMAS); (ix) inventory and monitoring of fish resources in marine protected areas; (x) Rehabilitation of habitats and populations of fish

resources in marine protected areas; (xi) border management and water conservation zoning arrangement, namely: core zone, utilization, sustainable fisheries, and other zones; (xii) sustainable fisheries in marine protected areas, such as fisheries and aquaculture activities in the zones that have been established; (xiii) cooperation with stakeholders around water conservation; and (xiv) community development through the development of alternative livelihoods around MPAs. The Technical Implementing Unit (UPT) of the National Marine Conservation Areas (LKKPN) of Pekanbaru will oversee and implement activities in Anambas.

5. MPA Area Management Office (Satker, MPA Anambas)

59. The MPA Field Area Management Office (Satker) has the responsibility for day-to-day running of MPA operations. It is based in Terempak Town (with office premises to be constructed in Antang Fishing Harbor). The Area Management Office will: (i) collect materials, data, and information on MPA; (ii) disseminate (socialize) information related to management of MPA to the related stakeholders in accordance with applicable laws; (iii) manage and provide license for tourist visits, research and education conducted in the MPA area; (iv) receive reports on the destructive activities/practices that threat sustainability of the MPA, i.e. bomb fishing, the use of potassium cyanide, destructive fishing gear and report to Loka KPPN Pekanbaru; (v) assist Loka KPPN Pekanbaru in surveillance activities; (vi) assist relevant stakeholders (Central Government, Local Government, NGOs, Academy Institutions, Community) who visit MPA based on permission from Loka KPPN Pekanbaru; and (vii) prepare technical report related with management, utilization and surveillance in the field.

6. Marine and Fisheries Resources Supervision Division (PSDKP)

60. The Marine and Fisheries Resources Supervision (PSDKP) under the Directorate General of Marine and Fisheries Resources Supervision of the Ministry of Marine Affairs and Fisheries has the tasks of monitoring and supervising fisheries surveillance. The Local Government of Anambas District signed an MoU with the Directorate General of Marine and Fisheries Resources Supervision on 11 March 2012 (MoU Ref No 02/Kdh.KKA/MoU/3.11 and 01/PSDKP/KKP/KB/III/2011) to collaborate on surveillance of illegal fishing activities.

7. District Fisheries Office and Community Surveillance Units

61. The main tasks of the District Fisheries Office in Anambas are: (i) improving and strengthening management and utilization marine and fisheries resources to be optimal, effective, efficient and sustainable; (ii) empowering economic coastal and small islands communities; (iii) improving and strengthen surveillance and law enforcement for marine and fisheries sector; (iv) preparing database and resource potential data of marine and fisheries in Anambas; and (v) improving quality and quantity marine and fisheries personnel.

62. The PSDKP collaborates with the Surveillance Unit under the District Fisheries Office of Anambas, the Indonesian Navy for overall security within the region including monitoring of illegal fishing, and the community surveillance groups (Pokmaswas) under district fisheries office. The Head of Anambas District (Bupati) has issued a decree on 3 December 2012 (Bupati Decree Ref No. 229 Year 2012) on the establishment of Community Surveillance Groups (covering the period 2012 – 2014); here are 7 Sub-district Pokmaswas, i.e. Tiga Bintang Laut for Palmatak sub-district, Barakuda for Siantan sub-district, Todak for Siantan Tengah Sub-district, Tiga Bintang Laut Timur for Siantan Timur Sub-district; Elang Laut for Siantan Selatan Sub-district; Camar Laut for Jemaja Timur Sub-district; and Kuda Laut for Jemaja Sub-district. Each Sub-district Pokmaswas will be under the coordination of UPT (Implementing Unit) of Sub-

district fisheries, and comprises representatives from each village.

63. Under the Bupati Decree covering 2012-2014, which will be extended, several community surveillance groups have been established in various sub-districts, which work together with MPA management and District Fisheries to monitor activities; the technical implementation unit (UPT) of the Marine and Fisheries Office in the sub-district is a trustee of each community surveillance group, while each group has a head, deputy, secretary, treasurer and members:

Table 18. Community Surveillance Groups in Anambas

| No | Sub-District | Villages | Groups | Members and Trustee |
|----|-----------------|-----------|-----------|---------------------|
| 1 | Jemaja | 8 | 28 | 372 |
| 2 | Jemaja Timur | 3 | 10 | 97 |
| 3 | Palatak | 13 | 25 | 259 |
| 4 | Siantan Timur | 1 | 3 | 20 |
| 5 | Siantan | 1 | 6 | 33 |
| 6 | Siantan Tengah | 1 | 1 | 8 |
| 7 | Siantan Selatan | 2 | 6 | 71 |
| | Total | 29 | 79 | 860 |

8. Indonesian Institute of Sciences (LIPI)

64. LIPI is a non-departmental research institution belonging to the government. The Chairman of LIPI is directly responsible to the President of the Republic of Indonesia. At present, LIPI is one of the five Non-ministerial Government Institutes (Lembaga Pemerintah Non Department-LPND) coordinated by the State Ministry of Research and Technology (Kementerian Negara Riset dan Teknologi-KNRT). Main functions of LIPI are: (i) to advice and to formulate national policies in the field of science and technology; (ii) to conduct strategic and fundamental research in science and technology; (iii) to undertake appropriate scientific and technological research for sustainable development; (iv) to carry out basic, inter-and multidisciplinary research; (v) to monitor, evaluate, and analyze trends in science and technology; (vi) to facilitate government institution activities in scientific research; and (vii) to provide guidance and services to scientific and technological enterprises.

65. LIPI's role in Anambas MPA will be to undertake and document baseline surveys and monitoring data on biodiversity, ecosystem, and socio-economic aspects relating to project impacts.

9. Nongovernment organizations

66. Currently, Conservation International (CI) is collaborating closely with MMAF in Anambas. CI also participated in the marine resource assessment survey commissioned by MMAF in 2012. The MPA Office will collaborate with NGOs to, particularly in awareness raising and dissemination ("socialize") activities and biodiversity and ecosystem monitoring.

B. Implementation Schedule

67. Implementation details covering a five-year period are based on the draft management plan of Anambas; details are provided in Appendix 3. The table below captures an overview of

the activities in the draft management plan subsumed under the four outputs of the subproject. These activities will be reviewed, adjusted and detailed out in an annual work plan at start of project.

Table 19. Implementation Schedule Overview

| Detail Kegiatan DETAILED ACTIVITY | | Tahun YEAR | | | | |
|--|---|---------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| OUTPUT 1: MPA MANAGEMENT | | | | | | |
| | Recruitment and placement of permanent staff /temporary staff | | | | | |
| | Resource mobilization and utilization | | | | | |
| | Identification of collaborative management | | | | | |
| | Partnership MoU and Coordination | | | | | |
| CAPACITY BUILDING | | | | | | |
| | Higher Education (Bachelor, Master and PhD degree) | | | | | |
| | Technical Assistance for MPA management | | | | | |
| | Diving course | | | | | |
| | Training: Leadership, engine maintenance, communication, computer, GIS, survey equipment maintenance, basic safety etc. | | | | | |
| | Extension on Conservation | | | | | |
| POLICY AND REGULATIONS | | | | | | |
| | Standard Operating procedures (SOP), MPA management, capture fisheries, tourism, mariculture, socio-economic etc. | | | | | |
| | Facilitating Agreement on the Capture Fishing Area and Equipment, Napoleon Seed, sustainable catches, mariculture | | | | | |
| PUBLIC AWARENESS | | | | | | |
| | Awareness campaigns (School, village, district, sub-district) | | | | | |
| | Publications | | | | | |
| PROMOTION AND TOURISM | | | | | | |
| | Tourism potential and promotion, | | | | | |
| | Events, exhibitions, advertisements, social media | | | | | |
| PROJECT MANAGEMENT / M&E | | | | | | |
| | Project Management Tasks over 5 years | | | | | |
| | Monitoring & Evaluation | | | | | |
| OUTPUT 2: BIODIVERSITY AND ECOSYSTEM MANAGEMENT | | | | | | |
| | Monitoring –coral, seagrass, turtles, fish species | | | | | |
| | Coral transplantation | | | | | |
| | Mangrove rehabilitation, artificial coral building, fish restocking | | | | | |
| | inventory protection zone, capture fisheries, tourism, mariculture | | | | | |
| | Monitoring fish catch | | | | | |
| LAW ENFORCEMENT AND SURVEILLANCE | | | | | | |
| | Collecting data on illegal activities, surveillance strategy, regulations | | | | | |
| | Community Surveillance Group, Surveillance System (MoU) | | | | | |
| | Integrated Surveillance | | | | | |
| MPA BOUNDARY DEMARCATION | | | | | | |

| Detail Kegiatan DETAILED ACTIVITY | | Tahun YEAR | | | | |
|--------------------------------------|--|---------------|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| | Designing Boundary, mapping, dissemination, legal aspects | | | | | |
| | DISSEMINATION | | | | | |
| | Socialization SOP Patrols, research education, tourism, mariculture, capture fisheries, MPA boundaries | | | | | |
| | OUTPUT 3: BASIC INFRASTRUCTURE | | | | | |
| | Detailed Engineering Design | | | | | |
| | Infrastructure construction, offices / surveillance posts etc. | | | | | |
| | Jetty, turtle hatchery | | | | | |
| | Solar units | | | | | |
| | Radio/wireless communication tower; mooring bouy, water supply | | | | | |
| | EQUIPMENT, VEHICLES, MATERIALS | | | | | |
| | Equipment, furniture, vehicles, boats, motorcycles, survey equip. | | | | | |
| | Diving equipment | | | | | |
| | MAINTENANCE | | | | | |
| | Routine maintenance | | | | | |
| | OUTPUT 4: SUSTAINABLE FINANCING AND LIVELIHOODS | | | | | |
| | CSR, PES initiation | | | | | |
| | PES agreements | | | | | |
| | Business Plan, Investment model | | | | | |
| | Environmental Partnerships Agreements (SOE) PKBL | | | | | |
| | LIVELIHOODS | | | | | |
| | Identification study | | | | | |
| | Promotion of alternative livelihoods, training | | | | | |

C. Financial Management

1. Preparation of Annual Budgets and Work Plans

68. The Coordinator for Anambas MPA at KKPN Pekanbaru together with the Satker in Terempak (Area Management Office) will prepare annual work plans and budgets and submit these to the PMO for approval. These will be reviewed by MMAF and approved according to procedures laid down in the COREMAP—CTI.

2. Accounting, Financial Reporting and Audit Arrangements

69. The project finance and accounting functions will be performed by qualified and experienced staff both at central level and in KKPN at Pekanbaru. In addition, the project will provide training and written guidelines, especially in ADB procedures. The PMO will prepare terms of reference (TORs) that define duties, responsibilities, lines of supervision, and limits of authority for all officers, managers, and staff. The following responsibilities will be performed by different units or persons: (i) authorization to execute a transaction; (ii) recording of the transaction; and (iii) custody of assets involved in the transaction.

70. The bank reconciliation will be prepared by someone other than those who approve

payments. Accounting software to be used will be capable of generating reports identifying expenditures in accordance with project outputs/ components, expenditure accounts, disbursement categories, and sources of funds. A project financial manual will be prepared to be applicable for the project and acceptable to ADB. Controls will be in place concerning the preparation and approval of transactions, ensuring that all transactions are correctly made and adequately explained. The chart of accounts will be able to account for and report on project activities and disbursement categories. The cost allocations to the various funding sources will be made accurately and in accordance with established agreements. The general ledger and subsidiary ledgers will be reconciled and in balance.

71. All accounting and supporting documents will be retained by the PMO on a permanent basis in a defined system that allows authorized users easy access. Regular monitoring and internal audit functions will be built up to monitor transactions along the line from central government to provincial, and subproject levels. Such control procedures will be documented in the project finance and administration manual.

72. The Satker and KKPN at Pekanbaru will prepare and submit to PMO for onward transmission to MMAF and ADB within 30 days of the end of each calendar quarter, consolidated quarterly progress reports in a format consistent with ADB's project performance reporting system (PPR). In addition to these quarterly progress reports, the PMO will prepare consolidated annual reports, which will include (i) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) an updated procurement plan; and (d) an updated implementation plan for the next 12 months. To ensure projects continue to be both viable and sustainable, project accounts and the executing agency annual financial statements, together with the associated auditor's report, will be adequately reviewed.

73. Within 6 months of physical completion of the Project, the PMO will submit to ADB a completion report that describes the physical achievements of the Project, actual costs incurred in relation to cost estimates, the results of project activities, a preliminary assessment of achieved benefits, and other relevant project implementation matters requested by ADB.¹⁷

74. The PMO will review and consolidate the accounts and records and have them audited annually in accordance with sound accounting practices by the sovereign audit agency of the Government, (the BPK, *Badan Pengawas Keuangan*), that has been acceptable to ADB. Audit coverage will include a statement verifying whether or not the funds disbursed by ADB were used for the purposes for which they were provided, as well as separate opinions on (i) utilization of the imprest fund and the statement of expenditures procedure; and (ii) compliance with financial covenants specified in the loan agreements and project agreement.

75. Audit reports, management letter, and related financial statements will be submitted to ADB in the English language not later than 6 months after the end of the fiscal year to which they relate, or the Project closing date if earlier.

¹⁷ Project completion report format available at: <http://www.adb.org/Consulting/consultants-toolkits/PCR-Public-Sector-Landscape.rar>.

D. Procurement

1. Procurement Methods

76. All procurement under the ADB loan will be undertaken in accordance with ADB's *Procurement Guidelines* (2013, as amended from time to time). All procurement to be financed exclusively by counterpart funds will be undertaken in accordance with government guidelines.

77. Procurement of civil works packages and goods and services will be carried out by the PMO for the Anambas National MPA. Civil works packages valued at less than \$5.0 million equivalent but more than \$100,000 equivalent, and packages for goods valued at less than \$1.0 million equivalent but more than \$100,000 equivalent, will be procured following national competitive bidding (NCB) procedures (one stage, one package and two envelopes). For goods packages valued below \$100,000 equivalent, shopping procedures acceptable to ADB will be followed. For works packages valued below \$100,000 equivalent, shopping procedures, and some packages up to \$50,000 equivalent will be through community participation acceptable to ADB will be followed. The following thresholds will be applied to procurement of goods and works.

Table 20. Procurement Thresholds

| Method | Threshold |
|---|---------------------------------------|
| International Competitive Bidding (ICB) for Works | Above \$5,000,000 |
| International Competitive Bidding for Goods | Above \$500,000 |
| National Competitive Bidding (NCB) for Works | Below \$5,000,000 and above \$100,000 |
| National Competitive Bidding for Goods | Below \$500,000 and above \$100,000 |
| Shopping for Works | Up to \$ 100,000 |
| Shopping for Goods | Up to \$ 100,000 |
| Community participation | Up to \$50,000 |
| Direct Purchase | — |

2. Procurement Plan

78. In the Anambas National MPA, the following table lists goods and works contracts for which procurement activity is either ongoing or expected to commence within the next 18 months (this will be revised at start of project and brought in line with the overall COREMAP–CTI procurement plan and the project administration manual (PAM).

Table 21. Procurement of Civil Works and Goods

| General Description | Contract Value (\$ million, cumulative) | Procurement Method | Pre-qualification of Bidders (Yes/No) | Advertisement Date (quarter/year) | Comments |
|--|---|--------------------|---------------------------------------|-----------------------------------|----------|
| Civil works- national MPA and eco-tourism investment ¹⁸ | \$1.715 (multiple packages) | NCB, SH | No | 3Q of 2014 | |
| Vehicles, boots and motorcycles | \$0.470 (about 2 packages) | NCB, SH | | 1Q of 2015 | |
| Survey / Diving / Safety / Data / communication equipment | \$0.285 (about 4 packages) | SH, DP | No | 1Q of 2015 | |

¹⁸ Such as MPA offices, surveillance posts, information center, gazebo, jetty, communications tower, water supply and waste water treatment, public washrooms, solar energy supply system, mooring buoys and turtle hatchery. The procurement package includes detailed design.

| General Description | Contract Value (\$ million, cumulative) | Procurement Method | Pre-qualification of Bidders (Yes/No) | Advertisement Date (quarter/year) | Comments |
|----------------------------|--|---------------------------|--|--|-----------------|
| Furniture / signboards | \$ 0.081 (2 packages) | SH, DP | No | 1Q of 2015 | |

DP = Direct Procurement, NCB = National Competitive Bidding, SH = Shopping, FA = Force Account, LCB = Local Competitive Bidding, CQS = Consultant Qualifications

VI. RISKS AND RISK MITIGATION

79. Possible risks and risk mitigation measures are considered below.

Table 22. Risks and risk management

| Risks | Assessment Without Mitigation | Management Plan | Assessment with Mitigation |
|--|--------------------------------------|---|-----------------------------------|
| (i) Adverse climate change impacts such as sea level rise including catastrophic weather events | High | Awareness raising, disaster preparedness, and spatial planning scenarios 2020 and 2050 and 2075 taking into consideration climate change impacts (temperature, rainfall, and sea level rise); as those Anambas islands with inhabitants have high ground, physical planning and infrastructure will have to follow spatial planning scenarios; Anambas is not known to be a tsunami area | low |
| (ii) Ad hoc development investment decisions and fisheries utilization targets override long term marine resource protection and sustainable use plans | High | MPA zoning, awareness, surveillance, and enforcement with participatory community based monitoring will help establish "marine stewardship" rights and duties and bring some measure of order and discipline; spatial planning and adherence to such by District and provincial governments will enhance the management regime of the MPA; the Tourism Development Master Plan of the Anambas already reinforces this trend | Low |
| (iii) Influx of population / in-migration creating pressure on resources and increasing waste management problems | Medium | Designated peri-urban, urban and rural centers of growth will need awareness raising and disciplined physical planning to manage influx of population; in the medium term, waste management, sewage treatment, and renewable energy solutions will be needed / encouraged as investment instruments to manage this risk. | Low |
| (iv) Insufficient operation and maintenance leading to premature asset deterioration | Medium | Participating MMAF have committed to provide adequate operation and maintenance funding as a condition for selection of subprojects. Robust designs and good quality control will reduce the maintenance burden. Maintenance capacity building will be supported for subprojects. The project will have close coordination with the authorities responsible for management of the road improvements. Central government has committed a minimum level of funding to the Anambas islands as it is of strategic importance to government (on the border with other SEA nations) | Low |
| (v) Poor governance and weak control of illegal | High | The investments in the MPA management effectiveness, law enforcement, community- | Low |

| Risks | Assessment Without Mitigation | Management Plan | Assessment with Mitigation |
|--------------------------------|--------------------------------------|--|-----------------------------------|
| fishing from outside Indonesia | | based monitoring and public awareness will assist in combating this risk; in particular, MOUs are in place between District, MPA management, Fisheries Department and the communities to do more in this respect. Already MMAF surveillance unit has a track record of confiscating illegal fishing boats from outside Indonesia | |

Source: Subproject design – Anambas MPA

VII. INDICATORS AND TARGETS

80. The following targets are projected for the period 2014-2018:

Table 23. Indicative Targets

| LEVEL | INDICATOR DESCRIPTOR | TARGET |
|-----------------|--|---------------------|
| Impact | Management Effectiveness Standard | Gold by 2025 |
| Outcome | Management Effectiveness Standard | Blue status by 2018 |
| Output 1 | Management Plan Implementation | |
| | 1.1 MPA Office and Surveillance posts fully staffed | 2014 |
| | 1.2 Basic training of staff completed | 2014 |
| | 1.3 Zoning completed | 2015 |
| | 1.4 SOPs for field operations in place | 2014 |
| | 1.5 Management Plan approval | 2014 |
| Output 2 | Biodiversity Conservation & Ecosystem Based Fisheries Management | |
| | 2.1 Baseline of coral reefs / fisheries updated | 2014 |
| | 2.2 Web-accessible Database on key species | 2014 |
| | 2.3 Database on illegal fishing incidents | 2014 |
| | 2.4 Turtle population database | 2014 |
| | 2.5 Fisheries Catch-effort data updated | 2014 |
| | 2.6 Spatial Planning documents with climate change impacts and integrated “Ridge to Reef” approach | 2015 |
| | 2.7 Monitoring data from within MPA and control points outside MPA | 2015 |
| | 2.8 Rehabilitation of coral reefs / transplantation | 2016 |
| | 2.9 Patrols / Law Enforcement fully operational | 2014 |
| | 2.10 Marine Resource Assessment update | 2017 |
| | 2.11 Maintenance of coral coverage at 75% as at baseline of 2012 | 2018 |
| | 2.12 Increase in coral coverage from 50% – 75% in degraded areas at baseline 2012 | 2018 |
| | 2.13 Increase in Napoleon Wrasse females and juvenile populations in the wild compared to baseline of 2012 | 2018 |

| LEVEL | INDICATOR DESCRIPTOR | TARGET |
|------------------|---|---------------------|
| 2.14 | Stabilization of coral reef fish (key) species (no net loss as compared to 2012) | 2018 |
| Output 3. | Basic Infrastructure | |
| 3.1 | Turtle hatchery | 2014 |
| 3.2 | All equipment procured | 2014 |
| 3.3 | MPA Office / Surveillance post construction completed | 2014-2015 |
| 3.4 | Pier / Jetty completed | 2015 |
| 3.5 | Information Center, Washrooms | 2015 |
| 3.6 | Communication Tower | 2015 |
| 3.7 | Mooring buoys | 2015 |
| 3.8 | Water supply | 2015 |
| 3.9 | Information boards and Signage | 2015 |
| Output 4 | Sustainable Financing and Livelihoods | |
| 4.1 | Households involved in aquaculture increased from 1 (in 2012) | 15 HH by 2015 |
| 4.2 | Households involved in mariculture increased from 1,563 (in 2012) | 2,063 HH by 2016 |
| 4.3 | CSR involvement maintained / increased | 3 corporations |
| 4.4 | PES agreement between private sector and community on ecosystem services | 1 agreement by 2016 |
| 4.6 | Financial / Business Plan of MPA | 2017 |

CSR= corporate social responsibility; HH= households; MPA= marine protected area; PES= Payment for ecosystem services; SOP= Standard Operating Procedures

APPENDIX 1: MPA Kepulauan Anambas

Management Effectiveness Status 2013

| LEVEL | CRITERIA | ACTIVITY | ANSWER | |
|---|--|--|--------|----|
| | | | Yes | No |
| RED | 1 INITIATIVE PROPOSAL | Conduct Preliminary Survey of MPA | √ | |
| | <i>Indicator: Proposal Submitted</i> | Conduct Counterpart and Stakeholder Consultation | √ | |
| | | Draft Establishment Proposal | √ | |
| | | Conduct Meetings to Propose and Promote | √ | |
| | 2 AREA IDENTIFICATION and INVENTORY | Conduct Inventory Survey | √ | |
| | <i>Indicator: Inventory and Analysis Published</i> | Analyse data | √ | |
| | | Socialize Results | √ | |
| | 3 RESERVATION OF CONSERVATION AREA | Conduct Consultation | √ | |
| | <i>Indicator: Decree Signed by Minister (N), Bupati (D)</i> | Draft Decree to Reserve Area | √ | |
| | Meet to Propose and Promote | √ | | |
| YELLOW | 4 MANAGEMENT ORGAIZATIONAL UNIT AND PERSONNEL | Conduct consultation with counterparts oto prepare decree based on guideline | √ | |
| | <i>Indicator: Decree Establishing Unit, Budget with # of Staff Assigned</i> | Draft UPT Degree following Guideline (Preparation of Management Unit (2009) | √ | |
| | | Assign Staff and Prepare Budget | √ | |
| | | Provide Staff with Basic Conservation Training | √ | |
| | 5 MANAGEMENT AND ZONING PLANS | Establish Working Group | √ | |
| | REF: Per 30/MEN. 2010 | Hire consultant to Prepare Draft Zoning and Management Plan | √ | |
| | <i>Final Document Submitted</i> | Conduct Public Consultation/Workshop | √ | |
| | | Finalize the Document | | √ |
| | 6 FACILITIES AND INFRASTRUCTURE TO SUPPORT MANAGEMENT | (Guidance in process at KKJI in months ahead) | | √ |
| | <i>Indicator: Evaluation of Infrastructure Sufficient to Meet Guidelines</i> | Define/Obtain Main Office Space on Site with Meeting Space, AV Equip, Small Kitchen, Small Public Education Center, Small Workshop | | √ |
| | | Define and Install Initial Info of MPA Signage around Area and Zones | | √ |
| | | Purchase Office Equipment (5 people) | | √ |
| | | Purchase Vehicles for Land Transport | | √ |
| | | Purchase Small Field Equipment | | √ |
| | | Purchase/Equip Small Lab for Monitoring and Testing for Illegal Products | | √ |
| | | Purchase Communication Equip (HP, Radios) | | √ |
| | | Equip DLL | | √ |
| 7 MANAGEMENT FUNDING SUPPORT | Define Funding Needs and Research Opportunities | | √ | |
| <i>Indicator: Some Funding for Basic Needs is Committed</i> | Develop Funding Strategy | | √ | |

| LEVEL | CRITERIA | ACTIVITY | ANSWER | |
|-------|---|---|--------|----|
| | | | Yes | No |
| GREEN | 4 MANAGEMENT ORGANIZATIONAL UNIT AND PERSONNEL | Add Operational Staff | | ✓ |
| | <i>Indicator: Adequate Staff to Implement Management Plan in Place and Trained with Partners Identified</i> | Train (2 Core Competencies per Operational Staff) | | ✓ |
| | | Initiate Partnerships with Stakeholders | | ✓ |
| | 5 FACILITIES and INFRASTRUCTURE TO SUPPORT MANAGEMENT | Purchase Vehicles for Marine operation | | ✓ |
| | | Purchase Vehicles for Land Transport | | ✓ |
| | | Purchase Small Field Equipment | | ✓ |
| | | Purchase/equip Small Lab for monitoring and testing for illegal products | | ✓ |
| | | Purchase Scuba Sets (5) | | ✓ |
| | | Purchase Communication Equip (HP, Radios) | | ✓ |
| | | Purchase Surveillance Equip (Binoculars, Camera, Video) | | ✓ |
| | | Equip DLL | | ✓ |
| | | Build/Install Observation Posts | | ✓ |
| | | Build Remote Surveillance Post/Office (e.g. At activity site, nesting area, etc.) | | ✓ |
| | | Install Coastal Boundary Markers, Signage | | ✓ |
| | | Purchase Office Equipment (5 people) | | ✓ |
| | 6 MANAGEMENT FUNDING AND SUPPORT | Prepare Management Funding Plan | | ✓ |
| | <i>Indicator: Funding from Government and other sources sufficient to operate MPA</i> | Secure Funding from Government Source | | ✓ |
| | | Secure Funding/Implement Plan from Other Sources | | ✓ |
| | 8 APPROVAL OF MANAGEMENT AND ZONING PLANS | Get Approval of Management and Zoning Plan by Bupati (D) or Minister (N) | | ✓ |
| | <i>Indicator: Decree</i> | | | ✓ |
| | 9 MANAGEMENT SOPs | Develop SOPs for Admin and Financial Management | | ✓ |
| | <i>Indicator: Sets of SOPs, Strategies, Operations Manuals</i> | Develop SOPs for Facilities and Infrastructure (Minimum Standards) | | ✓ |
| | | Develop SOPs for Field Operations/Programs (Governance, Ecosystem, Community Program) | | ✓ |
| | 10 IMPLEMENTATION OF MANAGEMENT AND ZONING PLANS | Implement Institutional Strengthening Strategy (Training, Agreements) | | ✓ |
| | <i>Indicator: New Programs and Resource Management Operations in Action</i> | Implement Resource Management Strategy | | ✓ |
| | | Conduct Socio-economic Baseline Survey | | ✓ |
| | | Review, Approve and Conduct Utilization Activities in MPA (Min = 1) Ex: Pilot project | | ✓ |
| | 11 DESIGNATION OF AQUATIC CONSERVATION ZONE | Submit Proposal to Minister | | ✓ |
| | <i>Indicator: Ministerial Decree</i> | Evaluate MPA Designation Documents | | ✓ |
| | | Socialize Designation Plan and Present to Decision Makers | | ✓ |
| | Conduct Field Evaluation of MPA | | ✓ | |
| | Submit Recommendation from Designation to Minister | | ✓ | |
| | Get Approval of MPA by Minister | | ✓ | |

APPENDIX 2. ANAMBAS COST ESTIMATES (DETAILS)

| Ref | Items | Totals incl Contingencies | ADB | GEF | GOI |
|-----|--|------------------------------|-------------|-----|-----------|
| DT2 | I. Investment Costs | | | | |
| DT2 | A. Marine Protected Area Management | 143,000.0 | - | - | 143,000.0 |
| DT2 | B. Capacity Building /a | | | | |
| DT2 | MPA Management Training | - | - | - | - |
| DT2 | Administration Training | - | - | - | - |
| DT2 | Financial Management Training | 27,500.0 | 25,000.0 | - | 2,500.0 |
| DT2 | Diving Training | 27,500.0 | 25,000.0 | - | 2,500.0 |
| DT2 | Leadership Training | - | - | - | - |
| DT2 | Engine Maintenance Training | 27,500.0 | 25,000.0 | - | 2,500.0 |
| DT2 | Communication Equipment Training | 27,500.0 | 25,000.0 | - | 2,500.0 |
| DT2 | Computer Training | 27,500.0 | 25,000.0 | - | 2,500.0 |
| DT2 | Global Information System Training | 27,500.0 | 25,000.0 | - | 2,500.0 |
| DT2 | Survey Equipment Maintenance Training | 27,500.0 | 25,000.0 | - | 2,500.0 |
| DT2 | Basic Safety Training | 27,500.0 | 25,000.0 | - | 2,500.0 |
| DT2 | Investigation Methods Training | 27,500.0 | 25,000.0 | - | 2,500.0 |
| DT2 | Procurement Training | 27,500.0 | 25,000.0 | - | 2,500.0 |
| DT2 | Conservation Extension Services Training | - | - | - | - |
| DT2 | Subtotal | 275,000.0 | 250,000.0 | - | 25,000.0 |
| DT2 | C. Infrastructure | | | | |
| DT2 | Detailed Engineering Design | 55,000.0 | 50,000.0 | - | 5,000.0 |
| DT2 | MPA Office | 165,000.0 | 150,000.0 | - | 15,000.0 |
| DT2 | Information Center | 99,000.0 | 90,000.0 | - | 9,000.0 |
| DT2 | Monitoring, Control and Surveillance Station | 165,000.0 | 150,000.0 | - | 15,000.0 |
| DT2 | Gazebo | 66,000.0 | 60,000.0 | - | 6,000.0 |
| DT2 | Jetty | 110,000.0 | 100,000.0 | - | 10,000.0 |
| DT2 | Turtle Hatchery | 165,000.0 | 150,000.0 | - | 15,000.0 |
| DT2 | Public Washrooms | 44,000.0 | 40,000.0 | - | 4,000.0 |
| DT2 | Solar Power Units | 440,000.0 | 400,000.0 | - | 40,000.0 |
| DT2 | Radio Communication Tower | 55,000.0 | 50,000.0 | - | 5,000.0 |
| DT2 | Mooring Buoys | 330,000.0 | 300,000.0 | - | 30,000.0 |
| DT2 | Water Supply Installation | 110,000.0 | 100,000.0 | - | 10,000.0 |
| DT2 | Waste Water Treatment Plant | 82,500.0 | 75,000.0 | - | 7,500.0 |
| DT2 | Subtotal | 1,886,500.0 | 1,715,000.0 | - | 171,500.0 |
| DT2 | D. Vehicles and Equipment | | | | |
| DT2 | Data Analysis Equipment and Software | 44,000.0 | 40,000.0 | - | 4,000.0 |
| DT2 | Furniture | 66,000.0 | 60,000.0 | - | 6,000.0 |
| DT2 | Communications Equipment | 82,500.0 | 75,000.0 | - | 7,500.0 |
| DT2 | Patrol Boats | 440,000.0 | 400,000.0 | - | 40,000.0 |
| DT2 | Vehicles | 55,000.0 | 50,000.0 | - | 5,000.0 |
| DT2 | Motorcycles | 22,000.0 | 20,000.0 | - | 2,000.0 |
| DT2 | Diving Equipment | 99,000.0 | 90,000.0 | - | 9,000.0 |
| DT2 | Survey Equipment | 55,000.0 | 50,000.0 | - | 5,000.0 |
| DT2 | Safety Equipment, Lifejackets, etc | 33,000.0 | 30,000.0 | - | 3,000.0 |

| Ref | Items | Totals incl Contingencies | ADB | GEF | GOI |
|-----|--|------------------------------|-----------|-------------|-----------|
| DT2 | Information Signboards | 23,100.0 | 21,000.0 | - | 2,100.0 |
| DT2 | Subtotal | 919,600.0 | 836,000.0 | - | 83,600.0 |
| DT2 | E. Office and Equipment Maintenance | 110,000.0 | - | - | 110,000.0 |
| DT2 | F. Policy and Regulations | 165,000.0 | - | - | 165,000.0 |
| DT2 | G. Demarcation of MPA Boundary | 308,000.0 | - | 280,000.0 | 28,000.0 |
| DT2 | H. Dissemination of MPA Boundary | 132,000.0 | - | 120,000.0 | 12,000.0 |
| DT2 | I. Sustainable Financing/Payment for Ecosystem Services | | | | |
| DT2 | Establishment of Payment/Compensation Agreement | 27,500.0 | 25,000.0 | - | 2,500.0 |
| DT2 | Compensation for Tourism Development | 44,000.0 | 40,000.0 | - | 4,000.0 |
| DT2 | Investment Model Design | 27,500.0 | 25,000.0 | - | 2,500.0 |
| DT2 | Tourism Model Design | 27,500.0 | 25,000.0 | - | 2,500.0 |
| DT2 | Collaboration with Government Enterprises | 55,000.0 | 50,000.0 | - | 5,000.0 |
| DT2 | Subtotal | 181,500.0 | 165,000.0 | - | 16,500.0 |
| DT2 | J. Biodiversity and Ecosystem Management | | | | |
| DT2 | Establishment of a Permanent Transect | 170,500.0 | - | 155,000.0 | 15,500.0 |
| DT2 | Coral Monitoring | 412,500.0 | - | 375,000.0 | 37,500.0 |
| DT2 | Mangrove Monitoring | 55,000.0 | - | 50,000.0 | 5,000.0 |
| DT2 | Seagrass Monitoring | 55,000.0 | - | 50,000.0 | 5,000.0 |
| DT2 | Turtle Monitoring | 123,750.0 | - | 112,500.0 | 11,250.0 |
| DT2 | Coral Transplantation | 275,000.0 | - | 250,000.0 | 25,000.0 |
| DT2 | Mangrove Rehabilitation | 33,000.0 | - | 30,000.0 | 3,000.0 |
| DT2 | Establishment of Artificial Coral | 27,500.0 | - | 25,000.0 | 2,500.0 |
| DT2 | Restocking Fish | 33,000.0 | - | 30,000.0 | 3,000.0 |
| DT2 | Identification of Inventory Protection Zones | 68,200.0 | - | 62,000.0 | 6,200.0 |
| DT2 | Identification of Inventory in Tourism Areas | 99,000.0 | - | 90,000.0 | 9,000.0 |
| DT2 | Identification of Capture Fisheries Potential | 55,000.0 | - | 50,000.0 | 5,000.0 |
| DT2 | Identification of Mariculture Potential | 99,000.0 | - | 90,000.0 | 9,000.0 |
| DT2 | Monitoring Fish Catch | 5,500.0 | - | 5,000.0 | 500.0 |
| DT2 | Coral Fish Culture Technology Research | 38,500.0 | - | 35,000.0 | 3,500.0 |
| DT2 | Grouper Hatchery | 55,000.0 | - | 50,000.0 | 5,000.0 |
| DT2 | Baseline Study on Tourism Zones | 55,000.0 | - | 50,000.0 | 5,000.0 |
| DT2 | Baseline Study on Capture Fishery | 55,000.0 | - | 50,000.0 | 5,000.0 |
| DT2 | Baseline Study on Mariculture | 38,500.0 | - | 35,000.0 | 3,500.0 |
| DT2 | Monitoring and Evaluation of Tourism | 27,500.0 | - | 25,000.0 | 2,500.0 |
| DT2 | Monitoring and Evaluation of Mariculture | 27,500.0 | - | 25,000.0 | 2,500.0 |
| DT2 | Monitoring and Evaluation of Capture Fishery | 27,500.0 | - | 25,000.0 | 2,500.0 |
| DT2 | Development of Environmentally-Friendly Technology for Aquaculture | 27,500.0 | - | 25,000.0 | 2,500.0 |
| DT2 | Development of Environmentally-Friendly Technology for Capture Fisheries | 27,500.0 | - | 25,000.0 | 2,500.0 |
| DT2 | Subtotal | 1,891,450.0 | - | 1,719,500.0 | 171,950.0 |
| DT2 | K. Surveillance and Law Enforcement | | | | |
| DT2 | Survey of Illegal Activities | 27,500.0 | - | 25,000.0 | 2,500.0 |
| DT2 | Preparation of Surveillance Strategy | 1,100.0 | - | 1,000.0 | 100.0 |
| DT2 | Drafting of Regulations for Capture Fishery | 1,100.0 | - | 1,000.0 | 100.0 |

| Ref | Items | Totals incl Contingencies | ADB | GEF | GOI |
|-----|---|------------------------------|-------------|-------------|-------------|
| DT2 | Drafting of Regulations for Mariculture | 2,750.0 | - | 2,500.0 | 250.0 |
| DT2 | Identification of Community Surveillance Group | 2,750.0 | - | 2,500.0 | 250.0 |
| DT2 | Drafting of Surveillance System Memorandum of Understanding | 11,000.0 | - | 10,000.0 | 1,000.0 |
| DT2 | Integrated Surveillance Patrols | 132,000.0 | - | 120,000.0 | 12,000.0 |
| DT2 | Subtotal | 178,200.0 | - | 162,000.0 | 16,200.0 |
| DT2 | L. Support for Alternative Livelihoods | | | | |
| DT2 | Identification Study | 33,000.0 | - | 30,000.0 | 3,000.0 |
| DT2 | Support for Alternative Livelihoods | 16,500.0 | - | 15,000.0 | 1,500.0 |
| DT2 | Training in Fish Processing | 22,000.0 | - | 20,000.0 | 2,000.0 |
| DT2 | Training in Aquaculture/Mariculture | 11,000.0 | - | 10,000.0 | 1,000.0 |
| DT2 | Training in Seaweed Culture | 22,000.0 | - | 20,000.0 | 2,000.0 |
| DT2 | Training In Mud Crab Culture | 11,000.0 | - | 10,000.0 | 1,000.0 |
| DT2 | Subtotal | 115,500.0 | - | 105,000.0 | 10,500.0 |
| DT2 | M. Public Awareness /b | | | | |
| DT2 | School Level | - | - | - | - |
| DT2 | Village Level | - | - | - | - |
| DT2 | Subdistrict Level | - | - | - | - |
| DT2 | Publications | - | - | - | - |
| DT2 | Electronic Media | - | - | - | - |
| DT2 | Conservation Campaign | - | - | - | - |
| DT2 | Campaign for Action | - | - | - | - |
| DT2 | Campaign Against Destructive Fishing | - | - | - | - |
| DT2 | Cleaning of Water and Beaches | - | - | - | - |
| DT2 | Education at Village Level | - | - | - | - |
| DT2 | Education at Subdistrict Level | - | - | - | - |
| DT2 | Subtotal | - | - | - | - |
| DT2 | N. Identification and Promotion of Tourism Potential | 220,000.0 | 200,000.0 | - | 20,000.0 |
| DT2 | O. MPA Monitoring and Evaluation | | | | |
| DT2 | Project Management Support | 385,000.0 | 350,000.0 | - | 35,000.0 |
| DT2 | Monitoring of Community Awareness of Conservation | 33,000.0 | 30,000.0 | - | 3,000.0 |
| DT2 | Monitoring and Evaluation | 33,000.0 | 30,000.0 | - | 3,000.0 |
| DT2 | Subtotal | 451,000.0 | 410,000.0 | - | 41,000.0 |
| DT2 | Total | 6,976,750.0 | 3,576,000.0 | 2,386,500.0 | 1,014,250.0 |

\a Activities with zero cost financed under activities at national level.

\b MPA activities financed from national level.

APPENDIX 3. Anambas MPA Detailed Implementation Plan (5 years)

| Detail Kegiatan DETAILED ACTIVITY | | Tahun YEAR | | | | | Pelaksana Kegiatan RESPONSIBLE |
|--------------------------------------|---|---------------|---|---|---|---|--------------------------------------|
| | | 1 | 2 | 3 | 4 | 5 | |
| A | MPA MANAGEMENT | | | | | | |
| 1 | Usulan penerimaan 10 CPNS dan rekrutmen tenaga kontrak serta penempatan di lokasi Recruitment and placement of 10 permanent staff and temporary staff | | | | | | Loka |
| 2 | Pertemuan dengan PEMDA terkait pemanfaatan Sumber daya alam di Kab. Anambas Meeting on the Resource Utilization with Local Government of Anambas | | | | | | Loka, DKP |
| 3 | Pertemuan dengan Pusat terkait pemanfaatan Sumber daya alam di Kab. Anambas Meeting on the Resource Utilization with Central Gov. | | | | | | Loka, DKP |
| 4 | Identifikasi bentuk pengelolaan kolaboratif Identification of collaborative management | | | | | | Loka, DKP, CI |
| 5 | Pembentukan POKJA Pengelola Kolaboratif Establishment Working Unit for Collaborative Management | | | | | | CI, Loka |
| 6 | Workshop Lembaga pengelola kolaboratif Workshop on Collaborative Management | | | | | | CI, Loka |
| 7 | Koordinasi Lembaga kemitraan Partnership Coordination | | | | | | Loka |
| 8 | Perumusan nota kesepahaman kemitraan Drafting MoU of Partnership | | | | | | Loka, CI |
| 9 | Perumusan program bersama kemitraan Partnership Program Arrangement | | | | | | Loka, CI |
| B | CAPACITY BUILDING | | | | | | |
| 1 | Peningkatan jenjang pendidikan S1, S2, dan S3 Education (Bachelor, Master and PhD degree) | | | | | | Loka |
| 2 | Bimtek Pengelolaan KKP TA for MPA mgmt | | | | | | CI, Loka |
| 3 | Bimtek Pengelolaan administrasi TA for Admin | | | | | | CI, Loka |
| 4 | Bimtek Managemen keuangan Financial Mgmt | | | | | | CI, Loka |
| 5 | Pelatihan selam Diving course | | | | | | DKP |
| 6 | Pelatihan Kepemimpinan dan Organisasi Leadership Training | | | | | | CI, Loka |

| Detail Kegiatan DETAILED ACTIVITY | | Tahun YEAR | | | | | Pelaksana Kegiatan RESPONSIBLE |
|--------------------------------------|--|---------------|---|---|---|---|--------------------------------------|
| | | 1 | 2 | 3 | 4 | 5 | |
| 7 | Pelatihan Perawatan Mesin Tempel Laut Engine Maintenance Training | | | | | | Loka |
| 8 | Pelatihan Penggunaan Alat Komunikasi (radio, dll) Communication equipment use | | | | | | Loka, Dinas KOMINFO |
| 9 | Pelatihan Komputer Computer training | | | | | | Loka |
| 10 | Pelatihan Penggunaan GIS training | | | | | | Loka |
| 11 | Pelatihan Perawatan Alat Survei Laut (alat selam, dll) Training for survey equipment maintenance | | | | | | CI, Loka |
| 12 | Pelatihan ANKAPIN dan BST Training of Basic Safety | | | | | | Loka |
| 13 | Pelatihan PPNS Training of Investigation | | | | | | Loka |
| 14 | Pelatihan Pengadaan Barang (procurement) Training | | | | | | Loka |
| 15 | Penyuluhan manfaat konservasi Extension on Conservation | | | | | | Loka, DKP, CI, Premier Oil |
| C | INFRASTRUCTURE | | | | | | |
| 1 | Penyusunan detail design (DED) sarpras Detailed Engineering Design | | | | | | Loka |
| 2 | Pembangunan kantor Satker (Office) | | | | | | Loka |
| 3 | Pembangunan pondok informasi (Info-C) | | | | | | Loka |
| 4 | Pembangunan pos jaga (Monitoring, Control and Surveillance-station) | | | | | | Loka |
| 5 | Pembangunan gazebo (Gazebo) | | | | | | Loka |
| 6 | Pembangunan dermaga (Jetty) | | | | | | Loka |
| 7 | Pembangunan penangkaran penyu (turtle hatchery) | | | | | | Loka |
| 8 | Pembangunan instalasi MCK (public washroom) | | | | | | Loka, Dinas PU |
| 9 | Pembangunan pengolahan limbah (Water and waste water treatment plant) | | | | | | Loka |
| 10 | Pengadaan listrik tenaga surya (Solar) | | | | | | |
| 11 | Pembangunan tower komunikasi (radio/wireless communication tower) | | | | | | Dinas KOMINFO |
| 12 | Pembangunan mooring bouy | | | | | | Loka |
| 13 | Pembangunan sarana air bersih (fresh water supply installation) | | | | | | Loka |
| D | EQUIPMENT, VEHICLES, MATERIALS | | | | | | |
| 1 | Pengadaan alat olah data (Data analysis equipment and software) | | | | | | Loka |
| 2 | Pengadaan meubelair (furniture) | | | | | | Loka |

| Detail Kegiatan DETAILED ACTIVITY | | Tahun YEAR | | | | | Pelaksana Kegiatan RESPONSIBLE |
|--------------------------------------|---|---------------|---|---|---|---|--------------------------------------|
| | | 1 | 2 | 3 | 4 | 5 | |
| 3 | Pengadaan alat komunikasi (communication equipment) | | | | | | Loka |
| 4 | Pengadaan kapal (2 Speedboats) | | | | | | Loka |
| 5 | Pengadaan kendaraan operasional (vehicles) | | | | | | Loka |
| 6 | Pengadaan kendaraan operasional (motorcycles) | | | | | | |
| 7 | Pengadaan alat selam (Diving equipment) | | | | | | Loka |
| 8 | Pengadaan alat survey dan monitoring (Survey equipment) | | | | | | Loka |
| 9 | Pengadaan alat pengaman (Safety equipment, life jackets etc) | | | | | | Loka |
| 10 | Pengadaan papan informasi (Information Signboards) | | | | | | Loka |
| E | MAINTENANCE | | | | | | |
| 1 | Pemeliharaan gedung (Office operations) | | | | | | Loka |
| 2 | Pemeliharaan kapal (boat maintenance) | | | | | | Loka |
| 3 | Pemeliharaan alat olah data (data equipment maintenance) | | | | | | Loka |
| 4 | Pemeliharaan meubelair (maintennace of furniture) | | | | | | Loka |
| 5 | Pemeliharaan alat komunikasi (maintenance of comms equipment) | | | | | | Loka |
| 6 | Pemeliharaan alat survey (maintenance of survey equipment) | | | | | | Loka |
| 7 | Pemeliharaan alat selam (maintenance of diving equipment) | | | | | | Loka |
| F | POLICY AND REGULATIONS | | | | | | |
| 1 | Penyusunan SOP administrasi perkantoran SOP for Office Administration | | | | | | Loka |
| 2 | Penyusunan SOP Sarpras SOP for Infrastructure & Facilities | | | | | | Loka |
| 3 | Penyusunan SOP penguatan kelembagaan SOP for Institutional Strengthening | | | | | | Loka |
| 4 | Penyusunan SOP patroli bersama dan penegakan hukum SOP for Surveillance and Law Enforcement | | | | | | CI |
| 5 | Penyusunan SOP sumberdaya kawasan SOP on MPA Resource | | | | | | CI |
| 6 | Penyusunan SOP penguatan Sosekbud SOP on Socio-Economic and Culture | | | | | | Loka |

| Detail Kegiatan DETAILED ACTIVITY | | Tahun YEAR | | | | | Pelaksana Kegiatan RESPONSIBLE |
|--------------------------------------|--|---------------|---|---|---|---|--|
| | | 1 | 2 | 3 | 4 | 5 | |
| 7 | Penyusunan SOP penelitian dan pendidikan SOP of Research and Education | | | | | | Loka |
| 8 | Penyusunan SOP kegiatan pariwisata SOP for Tourism Activity | | | | | | Loka |
| 9 | Penyusunan SOP kegiatan budidaya SOP for Mariculture | | | | | | Loka |
| 10 | Penyusunan SOP kegiatan perikanan tangkap COP for Capture Fisheries | | | | | | Loka |
| 11 | Fasilitasi kesepakatan penggunaan alat tangkap Facilitating Agreement on the Capture Fishing Equipment | | | | | | CI |
| 12 | Fasilitasi kesepakatan pemanfaatan benih napoleon Facilitating Agreement in the Napoleon Seed | | | | | | CI |
| 13 | Fasilitasi kesepakatan daerah penangkapan Facilitating Agreement on the Capture Fishing Area | | | | | | CI |
| 14 | Fasilitasi kesepakatan ketentuan dalam perikanan berkelanjutan Facilitating Agreement on the Sustainable Fisheries | | | | | | CI |
| 15 | Fasilitasi kesepakatan ketentuan dalam perikanan budidaya Facilitating Agreement on the Mariculture | | | | | | Loka |
| 16 | Fasilitasi kesepakatan ketentuan dalam pemanfaatan pariwisata Facilitating Agreement on the Regulation on the Tourism | | | | | | Loka |
| G | MPA BOUNDARY DEMARCATION | | | | | | |
| 1 | Pembentukan Panitia Tata Batas Establishment Committee for Boundary | | | | | | Loka, BAPPEDA, DKP, Dishub, Dinas PU |
| 2 | Perancangan Tata batas Designing Boundary | | | | | | Loka, BAPPEDA, DKP, Dishub, Dinas PU |
| 3 | Pemasangan tanda batas | | | | | | Loka, BAPPEDA, DKP, Dishub, Dinas PU |
| 4 | Pengukuran batas | | | | | | Loka, BAPPEDA, DKP, Dishub, Dinas PU |
| 5 | Pemetaan batas Boundary Mapping | | | | | | Loka, BAPPEDA, DKP, Dishub, Dinas PU |

| Detail Kegiatan DETAILED ACTIVITY | | Tahun YEAR | | | | | Pelaksana Kegiatan RESPONSIBLE |
|--------------------------------------|---|---------------|---|---|---|---|--------------------------------------|
| | | 1 | 2 | 3 | 4 | 5 | |
| 6 | Sosialisasi tanda batas Socialization of Boundary | | | | | | Loka, BAPPEDA, DKP, Dishub, Dinas PU |
| 7 | Pembuatan berita acara tata batas | | | | | | Loka, BAPPEDA, DKP, Dishub, Dinas PU |
| 8 | Pengesahan tata batas Legal Aspect on the Boundary | | | | | | Loka, BAPPEDA, DKP, Dishub, Dinas PU |
| H | DISSEMINATION | | | | | | |
| 1 | Sosialisasi SOP patroli bersama Socialization SOP Patrols | | | | | | Loka |
| 2 | Sosialisasi SOP penelitian dan pendidikan Socialization SOP Research & Education | | | | | | Loka |
| 3 | Sosialisasi SOP kegiatan pariwisata Socialization SOP Toursim | | | | | | Loka |
| 4 | Sosialisasi SOP kegiatan budidaya Socialization SOP Mariculture | | | | | | Loka |
| 5 | Sosialisasi SOP kegiatan perikanan tangkap Socialization SOP Capture Fisheries | | | | | | Loka |
| 6 | Sosialisasi batas kawasan Sociliazation MPA Boundary | | | | | | Loka |
| I | SUSTAINABLE FINANCING / PES | | | | | | |
| 1 | Identifikasi Potensial donor untuk kompensasi bagi masyarkat (Compensasi agreement) PES | | | | | | Loka, CI |
| 2 | Pengembangan kompensasi ke pariwisata | | | | | | Loka, CI, Dinas Pariwisata |
| 3 | Kajian model investasi Investment model | | | | | | Loka, CI, KPM |
| 4 | Identifikasi Paket/Atraksi wisata tourism package | | | | | | Loka, Dinas Pariwisata |
| 5 | Pelaksanaan program PKBL PES Collaboration with Government Enterprises | | | | | | Loka, Premier Oil, PKBL BUMN |
| J | Biodiversity and Ecosystem Management | | | | | | |
| 1 | Pemasangan transek permanen (permanent transect) | | | | | | Loka |
| 2 | Monitoring ekosistem terumbu karang (coral monitoring) | | | | | | Loka, DKP |
| 3 | Monitoring ekosistem mangrove | | | | | | Loka |
| 4 | Monitoring ekosistem lamun seagrass | | | | | | Loka |

| Detail Kegiatan DETAILED ACTIVITY | | Tahun YEAR | | | | | Pelaksana Kegiatan RESPONSIBLE |
|--------------------------------------|---|---------------|---|---|---|---|--------------------------------------|
| | | 1 | 2 | 3 | 4 | 5 | |
| 5 | Monitoring biota (turtles) 3 sites | | | | | | Loka |
| 6 | Transplantasi terumbu karang transplatation | | | | | | Loka |
| 7 | Aksi tanam mangrove rehabilitation | | | | | | Loka, BLH, DKP, Premier Oil |
| 8 | Reboisasi mangrove rusak | | | | | | Loka, BLH, DKP, Premier Oil |
| 9 | Pemasangan terumbu karang buatan artificial coral | | | | | | Loka, Star Energy |
| 10 | Restocking populasi biota (restocking fish) | | | | | | Loka |
| 11 | Identifikasi dan inventarisasi potensi biofisik di zona inti inventory protection zone | | | | | | Loka |
| 12 | Identifikasi dan inventarisasi potensi biofisik di zona pemanfaatan tourism | | | | | | Loka |
| 13 | Identifikasi dan inventarisasi potensi biofisik di zona perikanan tangkap capture fisheries | | | | | | Loka |
| 14 | Identifikasi dan inventarisasi potensi biofisik di zona perikanan budidaya mariculture | | | | | | Loka |
| 15 | Identifikasi dan inventarisasi potensi biofisik di zona lainnya (other zones) | | | | | | Loka |
| 16 | Monitoring hasil tangkapan nelayan fish catch | | | | | | Loka, CI |
| 17 | Pengembangan teknologi budidaya ikan karang research technology coral fish culture | | | | | | Loka, CI |
| 18 | Pembuatan instalasi hatcery grouper | | | | | | Loka, DKP |
| 19 | Baseline study subzona wisata tourism zone | | | | | | Loka, CI |
| 20 | Baseline study subzona perikanan tangkap capture fishery | | | | | | Loka, CI |
| 21 | Baseline study subzona perikanan budidaya mariculture | | | | | | Loka, CI |
| 22 | Monitoring dan evaluasi pemanfaatan wisata tourism | | | | | | Loka, CI, Dinas Pariwisata |
| 23 | Monitoring dan evaluasi pemanfaatan perikanan budidaya mariculture | | | | | | Loka, DKP |
| 24 | Monitoring dan evaluasi pemanfaatan perikanan tangkap capture fishery | | | | | | Loka, DKP |
| 25 | Pengembangan teknologi budidaya ramah lingkungan technology for aquaculture | | | | | | Loka, DKP, CI |

| Detail Kegiatan DETAILED ACTIVITY | | Tahun YEAR | | | | | Pelaksana Kegiatan RESPONSIBLE |
|--------------------------------------|--|---------------|---|---|---|---|--------------------------------------|
| | | 1 | 2 | 3 | 4 | 5 | |
| 26 | Pengembangan teknologi penangkapan ikan ramah lingkungan technology for capture fishery | | | | | | Loka, DKP, CI |
| K | LAW ENFORCEMENT AND SURVEILLANCE | | | | | | |
| 1 | Identifikasi dan pendataan bentuk pelanggaran collecting data on illegal activities | | | | | | Loka, DKP, PSDKP, CI |
| 2 | Identifikasi bentuk dan strategi pengawasan strategy for surveillace | | | | | | Loka, DKP, PSDKP, CI |
| 3 | Penyusunan aturan pengawasan kegiatan perikanan tangkap Regulations drafting for capture fisheries | | | | | | Loka, DKP, PSDKP, CI |
| 4 | Penyusunan aturan pengawasan kegiatan perikanan budidaya Regulations for mariculture | | | | | | Loka, DKP, CI |
| 5 | Identifikasi Pokmaswas di sekitar kawasan Community Surveillance Group | | | | | | Loka, DKP, PSDKP, CI |
| 6 | Identifikasi instansi terkait pengawasan Identification of Stakeholders | | | | | | Loka, DKP, PSDKP, CI |
| 7 | Fasilitasi perumusan sistem pengawasan bersama Facilitating Drafting of Surveillance System (MoU) | | | | | | Loka, DKP, PSDKP, CI |
| 8 | Pengawasan terpadu Integrated Surveillance | | | | | | Loka, DKP, PSDKP, CI |
| L | LIVELIHOODS | | | | | | |
| 1 | Identifikasi mata pencaharian dan pendapatan masyarakat di sekitar kawasan Identification study | | | | | | Loka, DKP, CI |
| 2 | Pengembangan mata pencaharian alternatif masyarakat alternative livelihoods | | | | | | Premier Oil, |
| 3 | Pelatihan pengolahan hasil perikanan Training for fish processing | | | | | | Loka, DKP, CI |
| 4 | Pelatihan pengembangan budidaya ikan karang Training on aquaculture / mariculture | | | | | | Premier Oil, |
| 5 | Pelatihan pengembangan budidaya rumput laut Training on seaweed culture | | | | | | Loka, DKP, CI |
| 6 | Pelatihan pengembangan budidaya kepiting bakau Training on mud crab culture | | | | | | Loka, DKP, CI |
| M | PUBLIC AWARENESS | | | | | | |
| 1 | Sosialisasi kesadaran masyarakat di tingkat sekolah Schoo level awareness | | | | | | Premier Oil, |

| Detail Kegiatan DETAILED ACTIVITY | | Tahun YEAR | | | | | Pelaksana Kegiatan RESPONSIBLE |
|--------------------------------------|---|---------------|---|---|---|---|--------------------------------------|
| | | 1 | 2 | 3 | 4 | 5 | |
| 2 | Sosialisasi kesadaran masyarakat di tingkat desa Village level awareness | | | | | | Premier Oil, |
| 3 | Sosialisasi kesadaran masyarakat di tingkat kecamatan Sub-District awareness | | | | | | Loka, CI |
| 4 | Publikasi kesadaran masyarakat melalui media cetak Publications | | | | | | Loka |
| 5 | Publikasi kesadaran masyarakat melalui media elektronik e-publication | | | | | | Loka |
| 6 | Kampanye pemahaman konservasi Conservation campaign | | | | | | Premier Oil, Loka |
| 7 | Kampanye aksi nyata konservasi campaign for action | | | | | | Premier Oil, Loka |
| 8 | Kampanye anti destructive fishing campaign against destructive fishing | | | | | | Loka, CI |
| 9 | Kampanye aksi bersih pantai dan laut Cleaning of waters and beach | | | | | | Loka, BLH, CI |
| 10 | Edukasi di tingkat desa Education at Village level | | | | | | Loka, CI |
| 11 | Edukasi di tingkat kecamatan Education at Sub-District level | | | | | | Loka, CI |
| N | PROMOTION AND TOURISM | | | | | | |
| 1 | Identifikasi potensi wisata di KKPN Identification toursim potency | | | | | | Loka, CI, Dinas Pariwisata |
| 2 | Inventarisasi potensi wisata di KKPN Invetory Tourism Potency | | | | | | Loka, CI |
| 3 | Inisiasi pembentukan jejaring promosi kawasan Initiation on the promotion network | | | | | | Loka, CI |
| 4 | Koordinasi forum jejaring promosi wisata di TWP Coordination Forum for tourism promotion | | | | | | Loka |
| 5 | Pameran pada even expo wisata internasional Exhibition and International Tourism Event Expo | | | | | | Loka |
| 6 | Pembuatan website khusus TWP Anambas Development Website MPA Anambas | | | | | | Loka |
| 7 | Pameran pada hari nusantara Exhibition on the Nusantara - Day | | | | | | Loka |
| 8 | Pameran pada hari wisata dunia Exhibition on Worlwide Tourism | | | | | | Loka |
| 9 | Pameran TWP Kep. Anambas di event tahunan Kab. Anambas Annual Exhibition in Anambas | | | | | | Loka, Dinas Pariwisata |

| Detail Kegiatan DETAILED ACTIVITY | | Tahun YEAR | | | | | Pelaksana Kegiatan RESPONSIBLE |
|--------------------------------------|--|---------------|---|---|---|---|--------------------------------------|
| | | 1 | 2 | 3 | 4 | 5 | |
| 10 | Identifikasi paket wisata Identification Tourism\ Pacjage | | | | | | Loka, CI |
| 11 | Promosi paket wisata di televisi (iklan) Promotion thourgh TV (Advertisement) | | | | | | Loka |
| 12 | Promosi paket wisata pada koran dan majalah (iklan) Promotion through Newspaper and Magazine | | | | | | Loka |
| 13 | Promosi paket wisata melalui jejaring sosial Promotion thourgh social media | | | | | | Loka |
| 14 | Promosi wisata pantai Beach Tourism Promotion | | | | | | Loka, Dinas Pariwisata |
| 15 | Promosi wisata selam Diving Promotion | | | | | | Loka, Dinas Pariwisata |
| 16 | Promosi wisata pulau (pengamatan penyu, camping) Island Tourism Promotion (Turtle Watching, Camping) | | | | | | Loka, Dinas Pariwisata |
| 17 | Promosi wisata pulau kecil terluar Small Island Tourism Promotion | | | | | | Loka, Dinas Pariwisata |
| 18 | Promosi wisata pancing (sport fishing) Tourism promotion | | | | | | Loka, Dinas Pariwisata |
| 19 | Promosi wisata mangrove Mangrove Tourism Promotion | | | | | | Loka, Dinas Pariwisata |
| 20 | Promosi wisata ikan napoleon Napoleon Tourism Promotion | | | | | | Loka, Dinas Pariwisata |
| O | PROJECT MANAGEMENT / M&E | | | | | | |
| 1 | Project Management Tasks over 5 years | | | | | | |
| 2 | Monitoring tingkat kesadaran masyarakat terhadap konservasi Monitoring community awareness on conservation | | | | | | Loka, CI |
| 3 | Monitoring dan evaluasi kegiatan Monev | | | | | | Loka |

INDIGENOUS PEOPLES' PLANNING FRAMEWORK
(Accessible from the list of Linked Documents in Appendix 2 of the Report and Recommendation of the President)

RESETTLEMENT FRAMEWORK
(Accessible from the list of Linked Documents in Appendix 2 of the Report and Recommendation of the President)

INITIAL ENVIRONMENTAL EXAMINATION
(Accessible from the list of Linked Documents in Appendix 2 of the Report and
Recommendation of the President)