



Implementing the Strategic Action Programme for  
**THE SOUTH CHINA SEA AND GULF OF THAILAND**  
(SCS SAP) Project

**INDONESIA**  
**National Profile**

*DRAFT June 2021*



## Table of Contents

|   |    |
|---|----|
| 1. INTRODUCTION.....  | 3  |
| 2. STATUS AND TRENDS IN COASTAL HABITATS AND THEIR MANAGEMENT ..... | 4  |
| 2.1 Distribution and diversity of coastal habitats .....            | 4  |
| 2.2 Threats to coastal habitats .....                               | 6  |
| 2.3 Management of coastal habitats in Indonesia .....               | 8  |
| 3. SAP TARGETS AND PLANNED ACTIONS .....                            | 11 |
| 3.1 Mangroves.....  | 11 |
| 3.2 Coral Reefs.....  | 13 |
| 3.3 Seagrass.....   | 14 |
| 3.4 Coastal wetlands.....   | 16 |
| 3.5 Land-based pollution.....                                       | 17 |
| 4. NATIONAL BASELINE INFORMATION AND DATA.....                      | 18 |
| 4.1 National reports.....   | 18 |
| 4.2 Site characterizations .....                                    | 21 |
| 5. NATIONAL COORDINATION ARRANGEMENTS .....                         | 23 |
| 5.1 National inter-ministry committee .....                         | 23 |
| 5.2 National technical working group .....                          | 23 |
| 5.3 Specialized executing agencies .....                            | 23 |
| 5.4 Stakeholder participation .....                                 | 24 |
| 6. NEXT STEPS.....  | 25 |

# 1. INTRODUCTION

The South China Sea is a semi-enclosed sea, which supports a number of unique habitats and ecosystems that are amongst the most biologically diverse shallow water marine ecosystems globally. The richness and productivity of the South China Sea and associated environments are, however, seriously threatened by high population growth, pollution, overharvest and habitat modification, resulting in high rates of habitat loss and impairment of the regenerative capacities of living resources. The socio-economic impacts of environmental deterioration are significant for the economies of this region.

Recognising that actions were urgently needed to halt degradation of the environment of this marine basin, the countries of the region sought the assistance of UNEP and the Global Environment Facility (GEF) and the project “[Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand](#)” was implemented from 2003-2008. This included a Transboundary Diagnostic Analysis of the issues and problems and their societal root causes as the basis for development of a Strategic Action Programme (SAP) which was inter-governmentally adopted in 2008. The SAP established a series of objectives and priority costed actions for coastal habitats, land-based pollution management, and the over-exploitation of fish stocks in the South China Sea.

In order to support implementation of the SAP, the UNEP GEF “Implementing the Strategic Action Programme for the South China Sea and Gulf of Thailand” (SCS SAP) Project was submitted and endorsed by the GEF in 2016, and began implementation in 2019. The objective of the Strategic Action Programme for the South China Sea and Gulf of Thailand (SCS SAP Project) is:

*“To assist countries in meeting the targets of the approved Strategic Action Programme (SAP) for the marine and coastal environment of the South China Sea (SCS) through implementation of the National Action Plans in support of the SAP, and strengthening regional co-ordination for SCS SAP implementation.”*

This will be achieved through the cooperation of participating countries, intergovernmental organizations, regional organizations, public-private sectors partnerships, civil society and non-governmental organizations (NGOs), leading scientists from the region. The project will also contribute to global targets such as the Sustainable Development Goals and Agenda 2030 and the Convention on Biological Diversity (CBD) Post 2020 Biodiversity Framework.

This current document is based on the national reports, TDA and SAP prepared between 2005-2008 and presents SAP targets adopted. Countries are in the process of further refining their national activities for implementation from 2021-2024.

## 2. STATUS AND TRENDS IN COASTAL HABITATS AND THEIR MANAGEMENT

### 2.1 Distribution and diversity of coastal habitats

**Mangroves:** Indonesia contributes significantly to the overall total of mangrove in the South China Sea with 934,000 ha of the total 1.7 million ha (53 percent). In terms of species richness, Indonesia is also significant with 37 true mangroves of the total 45 observed in the South China Sea. More than 550,000 ha and 86,900 ha of mangrove are observed in Indonesia's Riau and West Kalimantan Provinces respectively.



**Coral Reefs:** Of the 750,000 ha of coral reef been identified in the South China Sea, around 39,286 ha is located in coastal waters of Indonesia. Large coral sites include Anambas (6,260 ha), Bareleng dan Bintan (6,150 ha) and Natuna (15,900 ha). In terms of diversity at individual localities, a large number of sites contain more than 200 coral species.



**Seagrass:** Of the 78,300 ha of known seagrass sites in the South China Sea, around 3,035 ha is located in the coastal waters of Indonesia. The significant seagrass areas include: East Bintan (2,000 ha), Bangka Belitung (350 ha) and Mapor (275 ha). Of the 18 species of seagrass found in the coastal waters of the South China Sea, 12 are present in waters of Indonesia. *Halophila* genus is the most diverse and widespread in coastal waters throughout the region. Of the tropical species, *Thalassia. ciliatum* is generally found in seagrass beds from the intertidal to the low sub-tidal zone (2-17 m) in the eastern part of Indonesia. The coastal waters of East Bintan contain the largest area of seagrass in Indonesia.



**Coastal wetlands:** Of the total wetland area of 4,201,145 ha identified in the South China Sea, around 3,252,780 ha (77 percent) is found in Indonesia. Estuaries, peat and non-peat swamps, and inter-tidal flats are dominant features of Indonesia's coasts in the South China Sea. Significant estuarine areas include: Sembilang (387,500 ha), Delta Banyuasin (200,000 ha) and Palau Padang dan Tanjung Pandan (111,500 ha). Significant peat swamps include: Berbak National Park (162,700 ha), Sungai Merang (150,000 ha) and Way Kambas National Park (130,000 ha). Significant non-peat swamps are Rawa-rawa Kubu Padang Tikar (1,499,000 ha) and Tulang Bawang (86,000 ha). Of the inter-tidal flats, Paloh (176,548 ha), Muara Kendawangan (150,000 ha) and Tanjung Datuk (25,000 ha) are of national significance.



## 2.2 Threats to coastal habitats

**Threats to mangroves:** Contemporary causes of loss of mangrove habitat are no longer dominated by shrimp culture although this remains one cause in Indonesia. Conversion of mangrove to land for industrial purposes (including harbour construction) has grown over the last ten years but of low importance in Indonesia. Conversion of mangrove for palm oil plantations is a contemporary threat. Degradation of mangrove habitats as a consequence of chronic pollution from shrimp farming operations is now more prevalent in Indonesia while charcoal production continues to degrade its mangrove.



**Threats to coral reefs:** As identified in the National Policy, Strategies, Programs, Action Plans and Activities on Coral Reef Management in Indonesia (2006), the coral reefs in Indonesia are experiencing increasing human induced pressures such as destructive fishing practices using explosives and toxic chemicals causing devastating and widespread destruction of coral reefs. Over extractions of coral rocks, gravels and sand as well as increasing land-based and marine-based pollutions add to the serious disturbances to the coral reef ecosystem throughout the Indonesian archipelago. These human induced pressures combined with the natural disturbances such as volcanic activities, earthquakes, tsunamis, cyclones, climate change and the outbreak of crown-of-thorn starfish have caused severe damage to many reefs in Indonesia.

Direct and indirect threats to coral reefs in Indonesia are ranked in order of their significance in Table 1.

Table 1: Direct and indirect threats to coral reefs in Indonesia (ranked order of significance)

| DIRECT THREATS                | INDIRECT THREATS                           |
|-------------------------------|--|
| 1. Overfishing                | 1. Deforestation of upland areas           |
| 2. Destructive fishing        | 2. Coastal development                     |
| 3. Coral bleaching            | 3. Unsustainable fisheries and aquaculture |
| 4. Sedimentation              | 4. Unsustainable tourism                   |
| 5. Pollution (eutrophication) |  |



**Threats to seagrass:** Indonesia has lost about 30-40% of its seagrass beds with as much as 60% being destroyed around Java. As identified in the National Action Plan, the major threats and challenges to seagrass habitats include: physical changes of seabed due to erosion, sedimentation and siltation, which directly encroach the existing seagrass beds; turbidity, which adversely affect the photosynthetic capacity and growth of seagrass and causes algal bloom; and degradation of coastal water quality due to organic pollution and eutrophication. Anthropogenic causes of these threats are: uncontrolled soil/sand mining on land and seabed and increasing and inappropriately treated waste water discharge from both domestic and emerging tourism sources. Further direct threats to seagrass habitat are destructive fishing methods such as trawling that significantly damage the seabed habitat, and overfishing, directly contributing to the decrease of fish and other coastal and marine resources, which adversely affect the biodiversity of the site.

The key threats to seagrass in Indonesia in ranked order of their significance to basin level loss of this dominant coastal habitat include:

- Destructive fishing such as push nets and trawls
- Coastal construction
- Sedimentation from coastal development
- Nutrients (eutrophication)
- Wastewater effluent
- Over-fishing



**Threats to coastal wetlands:** Major threats to the coastal wetlands of Indonesia can be grouped as follows: loss of wetland areas through conversion for agriculture, aquaculture, port and harbor development, human settlement, tourist development, urbanization, industrialization. Wetland ecosystems are also highly degraded as a result of over-exploitation of living resources, use of inappropriate fishing techniques and gear, pollution, deforestation in upland area, invasive species, global trends and natural episodic events such as sea-level rise, typhoons and tsunami. In Indonesia, the conversion of wetland areas for palm oil plantations presents a high threat to coastal wetlands bordering the South China Sea.



## 2.3 Management of coastal habitats in Indonesia

### Mangrove management

In Indonesia, the total area of mangroves is 934,000 ha under various forms of management. Table 1 presents the estimated areas of mangrove under different forms of land-use designation and management in Indonesia.

Table 1: Estimated areas of mangrove under different forms of land-use designation and management in Indonesia

| Land-use designation and management                                | Area (ha)      |
|--|----------------|
| <b>Total area (ha)</b>   | <b>934,000</b> |
| Production forest  | 611,000        |
| Conversion   | 165,000        |
| Parks & Protected Areas (Conservation) non-extractive use          | 158,000        |
| Non-use of mangrove but extractive resource use (fish, crabs etc.) | 0              |
| Private land, unregulated use                                      | 0              |
| Area currently under management Regulated in laws/regulations      | 769,000        |
| Areas estimated as currently under sustainable management          | 158,000        |
|  | 100,000        |

It is noted that in Indonesia, areas considered as currently being sustainably managed include all lands designated as production forest (611,000 ha) as it is a legal requirement that these be replanted, and that all mangrove lands contained within National Parks and Protected Areas (158,000 ha) may be considered to be sustainably managed. Conversion of mangrove to land (for industrial uses and oil palm plantations) accounts for 165,000 ha (18 percent). A total of 869,000 ha (93 percent) of the total Indonesia's mangroves of 934,000 ha are deemed to be sustainably managed.

## Coral reef management

Table 2 presents the status of management at the 7 coral reef sites in Indonesia with a total area of 39,286 ha. Significant coral reef sites are located in Natuna, Anambas and Bareleng dan Bintan.

Table 2: Management status of priority coral reef sites in Indonesia

| Site name           | Area (ha)     | Live coral cover (%) | Management legal status      | Area under management (ha) | Management effectiveness <sup>1</sup> |
|---------------------|---------------|----------------------|------------------------------|----------------------------|---------------------------------------|
| <b>Indonesia</b>    | <b>39,286</b> |                      |                              | <b>12,511</b>              |                                       |
| Anambas             | 6,255         | 52                   | Marine Management Area (MMA) | 6,255                      | Low                                   |
| Bangka              | 2,934         | 37                   | MMA                          | 2,934                      | Medium                                |
| Belitung            | 2,271         | 52                   | MMA                          | 2,271                      | Low                                   |
| Karimata            | 1,041         | 53                   | Marine Reserve               | 1,041                      | Medium                                |
| Senayang Lingga     | 4,735         | 37                   |                              |                            |                                       |
| Bareleng dan Bintan | 6,145         | 44                   |                              |                            |                                       |
| Natuna              | 15,905        | 31                   |                              |                            |                                       |

As indicate din the NAP, existing laws and regulations for the management of coral reefs in Indonesia are not yet comprehensive or complete enough to manage natural resources. Rehabilitation of coral reefs were conducted in Indonesia are as some following information:

- Pulau Seribu Islands, DKI Jakarta Province, for 100 m<sup>2</sup>, between Harapan Island and Kelapa Island
- Ambon Bay Areas, Maluku Province, for 60 m<sup>2</sup>
- South of Halmahera, North of Maluku Province, for 40 ha
- Pulau Sabang Areas, Aceh Province for 750 m<sup>2</sup>
- Coastal of Probolinggo District, East Java Province, for 100 m<sup>2</sup>
- Coastal of Situbondo District, East Java Province, for 100 m<sup>2</sup>

## Seagrass management

In Indonesia, a total area of 3,035 ha is estimated for seven known seagrass sites, which are not under some form of management. The areas and status of management at these sites is summarized in Table 3. Challenges to seagrass management in Indonesia include: lack of effective and integrated area management mechanism, which include a lack of proper regulations, weak enforcement of relevant regulation, and limited community participation and actions; lack of public awareness and capacity on coastal resources management; and lack of alternative income generation opportunities for low income fisherman involved in destructive and over-fishing.

<sup>1</sup> Categories of Management Effectiveness: Low: Area declared or proposed to be declared for management; Management Plan developed and approved. Medium: Existing Management Framework is implemented with inadequacy of manpower, finance and/or equipment: High: Existing Management Framework is implemented with enough trained manpower, equipment, facilities and sustainable finance.

Table 3: Status of known seagrass sites and related targets of the Strategic Action Programme for seagrass in Indonesia coastal waters

| Name             | Area (ha)    | Legal Status                    | Area under Management | Management Effectiveness |
|------------------|--------------|---------------------------------|-----------------------|--------------------------|
| <b>Indonesia</b> | <b>3,035</b> |                                 | <b>0</b>              |                          |
| Medang-Mesanak   | 5            | None                            | No                    | N/A                      |
| Temiang          | 5            | None                            | No                    | N/A                      |
| East Bintan      | 2,000        | Proposed Marine Management Area | No                    | N/A                      |
| Mapor            | 275          | Proposed Marine Management Area | No                    | N/A                      |
| Anambas          | 150          | Proposed Marine Management Area | No                    | N/A                      |
| Bangka-Belitung  | 350          | Proposed Marine Management Area | No                    | N/A                      |
| Senayang         | 250          | Proposed MPA                    | No                    | N/A                      |

As to the progress of achieving the SAP targets at the national level, the rehabilitation for seagrass ecosystem areas in Indonesia are as follows:

- Coastal of Bintan Island District, Riau Islands Province, for 2 ha
- Ambon Bay Areas, Maluku Province, Indonesia for 5 ha
- Coastal of South of Halmahera District, North Maluku Province, Indonesia for 5 ha

### Coastal wetland management

In Indonesia, the total area of wetlands is 3,252,780 ha with four specific types of wetlands as follows: estuaries (785,000 ha), peat swamps (517,450 ha), non-peat swamps (1,585,000 ha) and inter-tidal flats (365,330 ha). Table 4 presents the areas and management status of wetlands types in Indonesia.

Table 4 Legal and management status of known inter-tidal mudflats, estuaries, coastal lagoons and coastal peat swamps in Indonesia.

| Name of site                    | Area (ha) | Legal and Management Status                  |                 |                     |
|---------------------------------|-----------|--|-----------------|---------------------|
|                                 |           | Protected – Non-use (Subsistence/commercial) | Sustainable use | Non-sustainable use |
| <b>Estuaries</b>                |           |  |                 |                     |
| Bakau Selat Dumai               | 60,000    | Yes  |                 |                     |
| Pulau Padang dan Tanjung Pandan | 111,500   | -  |                 | √                   |
| Muara Sungai Guntung            | 26,000    | Small part                                   |                 | √                   |
| Delta Banyuasin                 | 200,000   | Yes  |                 |                     |
| Sembilang                       | 387,500   | Yes  | -               | -                   |
| <b>Peat Swamps</b>              |           |  |                 |                     |
| Berbak NP                       | 162,700   | Yes  |                 |                     |
| SM Terusan Dalam                | 74,750    | Yes  |                 |                     |
| Way Kambas NP                   | 130,000   | Yes  |                 |                     |
| Sungai Merang                   | 150,000   | Yes  |                 |                     |
| <b>Non-peat Swamps</b>          |           |  |                 |                     |
| Tulang Bawang                   | 86,000    | Partly                                       |                 |                     |

| Name of site                | Area (ha) | Legal and Management Status                  |                 |                     |
|-----------------------------|-----------|--|-----------------|---------------------|
|                             |           | Protected – Non-use (Subsistence/commercial) | Sustainable use | Non-sustainable use |
| Rawa-rawa Kubu Padang Tikar | 1,499,000 | -  |                 |                     |
| <b>Inter-tidal flats</b>    |           |  |                 |                     |
| CA Pulau Burung             | 200       | Yes  |                 |                     |
| Tanjung Datuk               | 25,000    | -  |                 |                     |
| Tanjung Jabung              | 3,000     | Yes  |                 |                     |
| Paloh                       | 176,548   | Yes  |                 |                     |
| Muara Kendawangan           | 150,000   | Yes  |                 |                     |
| CA Pulau Dua                | 30        | Yes  |                 |                     |
| Pualu Rambut                | 46        | Yes  |                 |                     |
| Muara Angke                 | 25        | Yes  |                 |                     |
| CA Muara Gembong            | 10,481    | Yes  |                 |                     |

### 3. SAP TARGETS AND PLANNED ACTIONS

#### 3.1 Mangroves

The Strategic Action Programme targets for mangroves in Indonesia focus on: improving the management of mangrove areas utilized for the sustainable use of mangrove resources. This will be achieved via the development and implementation of sustainable use management plans for 490,800 ha of mangroves, as well as the reform of laws and regulations for the sustainable use of mangrove areas in Thailand. This aims to increase the total area of mangrove being managed effectively on a sustainable use basis from 869,000 ha to 1,359,800 ha. The Strategic Action Programme targets also focus on increasing the area of mangrove designated as a National Park or assigned Protected Area status from 158,000 to 178,000 ha including the designation and plans for the management of 165,000 ha of mangrove as non-conversion, sustainable use areas. Priority areas for management in Indonesia include Batu Ampar, Bengkalis and Belitung Island. Table 5 details the specific Strategic Action Programme targets for mangrove in Indonesia.

Table 5: Strategic Action Programme targets for future mangrove management in Indonesia

| Strategic Action Programme Outputs and Targets   | Area (ha)      |
|--|----------------|
| 1.1.1 Declaration of 57,400 ha of mangrove as National Parks and Protected Areas   | 20,000         |
| 1.1.2 Designation and plans for the management of 166,600 ha of mangrove as non-conversion, sustainable use areas                            | 165,000        |
| 1.1.3 Reform of laws and regulations for the sustainable use of 602,800 ha of mangrove forest  | 490,800        |
| 1.1.4 Replanting of 21,000 ha of deforested mangrove land  | 0              |
| 1.1.5 Biodiversity increased for 11,200 ha of mangrove forest via enrichment planting  | 0              |
| 1.1.6 Established mechanism for monitoring management, ecological and socio-economic indicators at 26 sites [based on SAP results framework] | <b>675,800</b> |



The National Strategy and Action Plan for Mangrove Management in Indonesia (2002) identified the changes in land use pattern and ineffective laws and enforcement to control mangrove utilization as key challenges in achieving sustainable mangrove management. The specific major threats identified include: domestic exploitation, salt production, rice cultivation, aquaculture, oil pollution, industrialization, settlement and urbanization, agriculture pesticides, weed invasion, coastal erosion, and perception of the public. Attempt was made to develop agriculture, fishing and forestry through state and commercial enterprises but this led to a more rapid destruction of mangroves. Community livelihoods are concentrated more on shrimp production, which provides more profits compared with mangrove forest utilization.

The strategy and action plan outlined the national objectives and policies concerning the mangrove resources, and the appropriate strategic actions to be taken by coordinating and line agencies concerned with the management of mangroves at the central level. This general strategy provided the rationale and guidelines for the formulation of more specific provincial strategies and action plans. The actions, referred to as Key Strategic Actions, which require immediate implementation, are the trigger mechanisms for implementing the national and provincial strategies. To meet the mangrove management and preservation goals outlined in the national strategy and action plan, Key Strategic Actions and their objectives were identified as follows:

- Key Strategic Ecological Action. The objectives are: To define more precisely the location, area and condition of the mangrove resources in Indonesia; To assist the integration of data on mangroves and other coastal resources that are generated by projects under different agencies; and To protect and conserve a significant proportion of the 1 million plus hectare of undisturbed mangroves in Irian Jaya.
- Key Strategic Institutional Action. The objective is to establish an effective body to coordinate the formulation, implementation and monitoring of the strategy and action plan for the sustainable mangrove management within the concept of coastal zone resource management.
- Key Strategic Socio-Economic Action. The objectives are: To formulate an appropriate economic evaluation system for mangroves (and other coastal resources) that take into account the externalities present in any natural system and apply this to the development of sustainable management plans for mangroves that satisfy the guiding principles of protection, conservation and sustainable development; To improve knowledge and awareness of the values of mangroves among all levels of society particularly among decision-makers and local people who live in and around the mangroves forests.
- Key Strategic Legal Action. The objectives are: To strengthen the understanding, application and enforcement of the Spatial Planning Act in Law No.24 of 1992 with respect to coastal zone planning; To achieve legal recognition of the importance of the coastal zone in national development, the interdependence of the natural resources in the zone, and the need to plan sustainable management of those resources in an integrated manner.

## 3.2 Coral Reefs

The targeted coral reef area to be added for management through SAP implementation is 5,580 ha, bringing the total area across the seven sites under management to 18,081 ha (Table 6). The implementation of the Strategic Action Programme also aims to increase the management effectiveness across all 7 sites (Natuna, Anambas and Bareleng dan Bintan, Senayang Lingga, Belitung, Bangka, Karimana) from low and/or medium to high.

**Table 1. Outcome 1.2 outputs, sites and targets for the management of coral reefs in Indonesia**

| Outputs   | Indonesia   |
|---|---|
| 1.2.1 Management capacity built for 46 coral reef sites   | Anambas<br>Bangka<br>Belitung<br>Karimata<br>Senayang Lingga<br>Bareleng dan Bintan<br>Natuna |
| 1.2.2 Management approaches and policy, legal & institutional reforms (integrated, community-based, multiple use) improved at 46 coral reef sites |   |
| 1.2.3 Management tools (licensing and permit systems, seasonal closures, zoning) developed and utilized to address key threats at priority sites  |   |
| 1.2.4 Established mechanism for the monitoring of management, ecological and socio-economic indicators at 82 sites                                |   |
| Total coral reef area of Indonesia in the South China Sea (ha)  | 39,300  |
| Total coral reef area of the 7 target sites in Indonesia  | 39,300  |
| Coral reef area to be supported in SCS SAP project  | 18,100  |

At the site and national levels, activities will include: supporting building management capacity (number/levels human resources, facilities and equipment, and sustainable financing mechanisms) for the 7 coral reef sites; improving management approaches (integrated, community-based, multiple use) at 7 coral reef sites; developing management tools (licensing and permit systems, seasonal closures, zoning) in support of legal and regulatory reforms to address key threats at the 7 priority sites; and establishing mechanisms for monitoring management, ecological and socio-economic indicators at the 7 coral reef sites. These are all aimed at increasing management effectiveness and assisting in achieving the coral reef related target of the Strategic Action Programme which is aimed at reducing the decadal loss of live coral cover in the South China Sea from 16 to 5 percent.



The National Strategies and Action Plans outlined the framework and guideline in addressing the issues and problems associated with coral reef management. It intends to assist policy and decision makers in undertaking their duties and authority with respect to coral reef management in Indonesia. The National Strategies and

Action Plans was formulated to serve as: a reference or input to assist government institutions and regional authorities prepare rules and regulations; guidelines and directions on the management of coral reefs, and an academic document which can be used in formulating laws and regulations on coral reef management. The objectives are:

- To balance the management between the conservation and utilization based on available scientific data and the carrying capacity of the environment.
- To develop management systems, which consider national economic priorities, the local community and the conservation of coral reef resources.
- To develop cooperative coral reef management systems involving stakeholders.
- To implement formal and informal regulations.
- To create an incentive for equitable and balanced management.

It is expected that these objectives can be applied through active involvement of all stakeholders in planning and implementation. Successful coral reef management is a combination of science, laws and administration which depends on the social, economic and political situation in each province or region. The specific targets of the National Strategies and Action Plans are:

- Increasing stakeholders' awareness and participation in management of coral reefs.
- Empowering communities at large to actively participate in the management of coral reefs.
- Delegation of authority to regional government in the management of coral reefs.
- Creating a cooperative approach among stakeholders in the management of coral reef ecosystem.
- Reducing coral reef degradation.
- Creating a mechanism and framework for the management of scientific data concerning potentials, utilization and carrying capacity of coral reef ecosystem.
- Implementing community-based management in natural resources management, especially coral reef resources.

### 3.3 Seagrass

In Indonesia, all seven seagrass sites covering an area of 2,420 ha will be targeted for management through the Strategic Action Programme (Table 7).

Table 7. Outcome 1.3 outputs, sites and targets for the management of seagrasses in Indonesia

| Outputs   | Indonesia   |
|---|---|
| 1.3.1 Twenty seagrass areas totalling 15,848 ha under sustainable management with supporting laws and regulations   | Medang-Mesanak<br>Temiang<br>East Bintan<br>Mapor<br>Anambas<br>Bangka-Belitung<br>Senayang |
| 1.3.2 Amended management plans for 7 existing MPAs with significant seagrass areas, to include specific seagrass-related management actions and policy, legal & institutional reforms |   |
| 1.3.3 Designation of 7 new Marine Protected Areas focusing on seagrass areas  |   |
| 1.3.4 Established mechanism for monitoring management, ecological and socio-economic indicators at 21 sites   |   |
| Total seagrass area in the 7 target sites in Indonesia (ha)   | 3,035   |
| <b>Target for management through the SCS SAP project</b>  | <b>2,420</b>  |

Among 7 sites, the significant site is located in East Bintan. The details of target area for management at these sites is summarized in Table 8.

Table 8: The targets of the Strategic Action Programme for seagrass in Indonesia coastal waters

| Name             | Area (ha)    | Target for Management through SAP |
|------------------|--------------|-----------------------------------|
| <b>Indonesia</b> | <b>3,035</b> | <b>2,420</b>                      |
| Medang-Mesanak   | 5            | 5                                 |
| Temiang          | 5            | 5                                 |
| East Bintan      | 2,000        | 1,500                             |
| Mapor            | 275          | 275                               |
| Anambas          | 150          | 35                                |
| Bangka-Belitung  | 350          | 350                               |
| Senayang         | 250          | 250                               |

Specific national activities will include putting under sustainable management with supporting laws and regulations of seagrass areas, amending national management plans for existing MPAs with significant seagrass areas, to include specific seagrass-related management actions, designating new Marine Protected Areas focusing on seagrass areas identified in the prioritized listings of the SCS Project and establishing mechanisms for monitoring management, ecological and socio-economic indicators at 4 sites.

The Seagrass National Action Plan for Indonesia (2005) was developed to serve as general guideline for policy makers and for all stakeholders that are concerned with the sustained management of seagrass resources. The National Action Plan outlined the goals, objectives and proposed actions to be done in East Bintan Seagrass Demonstration Site. The overall goal is to reduce environmental stress on transboundary waterbody of the South China Sea and Gulf of Thailand, along with other stress reduction activities taking place in the region, in particular those of the SCS Project and a number of demonstration projects planned and implemented under the framework of the SCS Project. The objective is to demonstrate integrated management of regionally significant seagrass habitats connected to the South China Sea and Gulf of Thailand for the prevention of future ecosystems degradation and sustainable utilization of coastal resources in East Bintan, which contributes the overall goal above. Specifically, it aims to establish an integrated management of 1,500 ha of coastal and marine environment including seagrass and associated habitats, which ensure cross-sectoral and participatory approaches to address the threats and degradation of the habitats, and to disseminate and exchange the lessons learnt in East Bintan and other similar ecosystem management sites both at national and regional level.



The proposed actions include: information on the proposed managed site, the criteria used in selecting the site, responsibilities of each unit in the proposed organizational structure to implement the activities, estimated budget for implementing the proposed activities and time frame of the implementation plan.

### 3.4 Coastal wetlands

In Indonesia, Strategic Action Programme implementation will result in the adoption and implementation of management plan for one estuary at Sembilang National Park with large area of 387,500 ha (Table 9). This includes the declaration of wetland areas with protection status and needed management reforms, and adoption of a regional estuary monitoring scheme for national implementation.

Table 9. Outcome 1.4 outputs, sites and targets for the management of wetlands

| Outputs  | Indonesia           |
|--|---------------------|
| 1.4.1 Integrated management plans developed and under implementation for at least 3 lagoons (26,818 ha), 9 estuaries (614,680 ha), 5 tidal flats (96,903 ha), 1 peat swamp (45,700 ha) and 1 non-peat swamp (9,808 ha) | Sembilang (estuary) |
| 1.4.2 Declaration of at least 7 wetland areas with protection status (i.e. non-hunting area, nature reserves, protected areas, Ramsar Sites).  |                     |
| 1.4.3 Adoption of a regional estuary monitoring scheme and its national implementation   |                     |
| <b>Total wetland area in the 1 target sites (ha) in Indonesia</b>  | <b>387,500</b>      |



The National Strategy and Action Plan for Coastal Wetlands Management (2004) was developed to cover management activities in all wetland ecosystems/types and by all stakeholders. The strategy focused on important national and international issues of wetlands management to provide local stakeholders (provincial/regency/municipality) a broad space and knowledge in developing their own strategy based on specific wetlands characteristic in their region. The strategy will be a kind of guidelines for all stakeholders in national and local level in utilizing wetlands, wisely and sustainably, including the guidelines for coastal wetlands such as South China Sea area.

The strategy’s vision is a “Coastal wetlands optimally functioning as life supporting system for the welfare of present and future generation”. Its missions are:

- To raise awareness, capability, and actively participation of stakeholders in management and utilization of coastal wetlands, wisely and sustainably.
- To raise understanding among stakeholders in management and utilization of coastal wetlands, wisely and sustainably.

- To strengthen inter-sectoral and inter-regional coordination in management and utilization of coastal wetlands, wisely and sustainably
- To identify and develop appropriate science and technology including indigenous knowledge in management and utilization of coastal wetlands, wisely and sustainably
- To strengthen international cooperation in management and utilization of coastal wetlands, wisely and sustainably

Specifically, the strategy and action plan focused on: establishment and development of modern data base, encouraging public participation, developing policy, law and its enforcement, institutional strengthening, education and public awareness, improving international cooperation and network, financial aspect of coastal wetlands management, wise use of coastal wetlands, restoration and rehabilitation, and climate change control.

### **3.5 Land-based pollution**

National level activities will support the: reviews of legislative and institutional frameworks for land-based pollution management in participating countries; harmonization of national Standard Operating Procedures for land-based pollution control and management, including agreed sediment, biota, and water quality criteria; revision of national/provincial policies; development, enactment and implementation of supporting regulations for land-based pollution; and the updating and adoption of National Action Plans, including institutional reform and sustainable financing strategies, for land-based pollution management in the SCS.

The Strategic and Action Plan on Land-Based Pollution of Indonesia (2005) reviewed the sources of land-based pollution to the marine environment, the legal framework and related institutional and international arrangements including recommendations for better implementation of the legal framework on land-based pollution management in Indonesia. It also outlined the problems of land-based pollution including the challenges in protecting the marine and coastal environment in Indonesia. The general problems by source categories of land-based pollution are: sewage, litter and plastics, persistent organic pollutants (POPs), nutrients and organics, sedimentation/siltation, heavy metals, hydrocarbons, radioactivity and *Escherichia coli*.

To address the problems identified, the strategic goals and objectives per source categories are:

- Sewage: To follow the new paradigm of 4R: Reduce, Reuse, Recover and Recycle. After using the 4R principle, the government needs to improve the Domestic Sewerage and Faeces System: Management Optimization of Domestic Waste Water Installation or existing Waste Water Sewerage system; Establishment of Communal Septic Tanks for collection of Individual Human Waste Outlets or Toilets if there are limited space for such as purpose; and Establishment of Oxidation Ponds if there are lot of Spaces therefore.
- Litter and Plastics: Similar to sewage, since they are part of sewage and will follow the above-mentioned 4R system .
- Persistent Organic Pollutants (POPs): Based and in-line with the Toxic and Hazardous Substances that will be based on Ministry of Environment's Decree No. 02 of 1998 on Management of Toxic and Hazardous Substances.
- Nutrients and Organics: Overcome its impact to the environment / marine and coastal waters, including from agricultural activities and industrial plants, and to justify the results or outcomes with the Sea Water Quality Standard.
- Sedimentation/Siltation: Formulation and insertion of sedimentation/siltation in the Sea Water Quality Standard of Indonesia.
- Heavy Metals: Based on the Toxic and Hazardous Substances Waste Management regime under the Minister of Environment Decree No. 02 of 1998 on Toxic and Hazardous Waste Management.
- Hydrocarbon: To obligate and implement the International Convention on Oil Pollution at Sea, such as the finalization of the National Oil Spill / Pollution Contingency Planning that will be published in the form of a Presidential Decree.

- Radioactivity: Based on the Toxic and Hazardous Substances Waste Management regime under the Minister of Environment Decree No. 02 of 1998 on Toxic and Hazardous Waste Management, and the Radioactivity / Nuclear Management Act published and executed by the National Body for Nuclear Energy or BATAN.
- Escherichia coli: Similar to sewage, since it is part of sewage and related to human waste, and will follow the system of domestic human waste that is under the Control of the Office of Domestic Public Health at the local level.



## 4. NATIONAL BASELINE INFORMATION AND DATA

### 4.1 National reports

Detailed National Reports on the status and trends in mangrove, coral reef, seagrass and wetland management in Indonesia were prepared as a baseline resource for Strategic Action Programme implementation. A series of National Action Plans were also developed in order to implement the SAP targets at the national level. Other documents were published for information and upscaling good practices (Table 10) and documents related to good practices on coral reef management<sup>2</sup>

---

<sup>2</sup> Available at [http://www.unepscs.org/South\\_China\\_Sea\\_Knowledge/Lessons\\_Learned/SCS\\_Lessons\\_Learned.html](http://www.unepscs.org/South_China_Sea_Knowledge/Lessons_Learned/SCS_Lessons_Learned.html)

Table 10. List and contacting points of document developed during the SCS Project

| Component | Title  | Date | Focal Point/Institution   |
|-----------|--|------|---|
| Mangroves | Mangrove Awareness Material Report Phase 1   | 2006 | Nyoto Santoso<br>Indonesian Institute<br>of Mangrove<br>Research and<br>Development |
|           | Review Data and Information Indonesian Mangrove Ecosystem in the SCS (East Java Province)          | 2004 |   |
|           | Assessment of Current Use and Economic Values and Development of the Business Plan                 | 2007 |   |
|           | Economic Valuation of Mangrove Ecosystem in Indonesia  |      |   |
|           | Field Survey of Habitat and Land Use Report Phase 1  | 2006 |   |
|           | Flora Fauna Inventory Report Phase 1   |      |   |
|           | Flora and Fauna of Indonesian Mangrove Ecosystem in the South China Sea                            | 2004 |   |
|           | Legal Meters and Local Regulation Report Phase 1   | 2006 |   |
|           | Profil and Management Plan Coastal Village in Nipah Panjang Village Batu Ampar                     | 2005 |   |
|           | Capacity Building and Management of Mangrove Forest  | 2005 |   |
|           | Review Data and Information Indonesian Mangrove Ecosystem in the SCS (Banten Province)             | 2004 |   |
|           | Review Data and Information Indonesian Mangrove Ecosystem in the SCS (Banka Belitung Province)     | 2004 |   |
|           | Review Data and Information Indonesian Mangrove Ecosystem in the SCS (DKI Jakarta)                 | 2004 |   |
|           | Review Data and Information Indonesian Mangrove Ecosystem in the SCS (Jambi Province)              | 2004 |   |
|           | Review Data and Information Indonesian Mangrove Ecosystem in the SCS (Central Java Province)       | 2004 |   |
|           | Review Data and Information Indonesian Mangrove Ecosystem in the SCS (Central Kalimantan Province) | 2004 |   |
|           | Review Data and Information Indonesian Mangrove Ecosystem in the SCS (Lampung Province)            | 2004 |   |
|           | Review Data and Information Indonesian Mangrove Ecosystem in the SCS (Riau Province)               | 2004 |   |
|           | Review Data and Information Indonesian Mangrove Ecosystem in the SCS (South Kalimantan Province)   | 2004 |   |
|           | Review Data and Information Indonesian Mangrove Ecosystem in the SCS (South Sumatra Province)      | 2004 |   |
|           | Review Data and Information Indonesian Mangrove Ecosystem in the SCS (West Java Province)          | 2004 |   |
|           | Review Data and Information Indonesian Mangrove Ecosystem in the SCS (West Kalimantan Province)    | 2004 |   |
|           | Prosiding Seminar Mangrove DKI Jakarta Konservasi...   | 2002 |   |
|           | Strategi Nasional Pengelolaan Ekosistem Mangrove Indonesia Buku 1 Strategi Dan Program             | 2005 |   |
|           | Strategi Nasional Pengelolaan Ekosistem Mangrove Indonesia Buku 2 Ekosistem Mangrove Di Indonesia  | 2005 |   |
|           | National Strategy on Mangrove Management in Indonesia Book 1 Strategy and Program                  | 2005 |   |
|           | National Strategy on Mangrove Management in Indonesia Book 2 Mangrove Ecosystem in Indonesia       | 2005 |   |
|           | Summary of the Activities and Output Demosite Mangrove Batu Ampar                                  |      |   |
|           | Demosite Characteristic - Mangrove Forest of Bengkalis   | 2003 |   |
|           | Demosite Characteristic - Ngurah Rai National Forest Park  |      |   |

| Component   | Title   | Date   | Focal Point/Institution              |
|---|---|--|--------------------------------------|
|   | Demosite Characteristic - Mangrove Forest of Batu Ampar                 |  |                                      |
|   | Demosite Characteristic - Angke Kapuk                                   |  |                                      |
|   | Demosite Characteristic - Belitung Island                               |  |                                      |
|   | Final Report Field Survey of Habitat and Landuse                        | 2007   |                                      |
|   | Final Report Flora Fauna Inventories                                    | 2007   |                                      |
|   | Batu Ampar Penilaian Ekonomi Kawasan Hutan Mangrove Batu Ampar          | 2005   |                                      |
|   | Report Phase II Legal Matters and Local Regulations                     | 2007   |                                      |
|   | Metadata and GIS Database of Indonesian Mangrove Ecosystem in the SCS   | 2005   |                                      |
|   | Potensi Pengembangan Matapencaharian Alternatif Di Batu Ampar           |  |                                      |
|   | Budidaya Kepiting Dalam Deramba   |  |                                      |
|   | Ekosistem Mangrove Di Batu Ampar Kabupaten Pontianak                    |  |                                      |
|   | Final Report Public Awareness Material                                  | 2007   |                                      |
|   | Flora and Fauna of Indonesian Mangrove Ecosystem in the South China Sea | 2003   |                                      |
|   | Coral Reefs   | Sumber Daya Alam Selat Nasik: Potensi, Pemanfaatan...(Belitung Coral Reef Site Report) |                                      |
| Tecknologi Tepat Guna Wilayah Kepulauan... (Belitung Coral Reef Site Report)  |   |  |                                      |
| Laporan Kegiatan Pelatihan Pengenalan Ekosistem... (Belitung Coral Reef Site Report)  |   | 2007   |                                      |
| Selat Nasik: Monitoring Kondisi Sosial Ekonomi...(Belitung Coral Reef Site Monitoring)  |   | 2008   |                                      |
| Monitoring Terumbu Karang Di Perairan... (Belitung Coral Reef Site Monitoring)  |   |  |                                      |
| Rencana Pengelolaan Sumber Data Terumbu Karang...(Belitung Coral Reef Site Report)  |   | 2008   |                                      |
| Survei Ekologi Di Perairan Kec Selat Nasik...(Belitung Coral Reef Site Survey)  |   |  |                                      |
| Database on Coral Reefs and their Resources Ver 1   |   | 2004   | Suharsono<br>Puslit Oseanografi-LIPI |
| Review Data and Information and Economic Valuation  |   | 2004   |                                      |
| National Policy, Strategies, Programs, Action Plans and Activities of Coral Reefs Management in Indonesia                             |   | 2004   |                                      |
| Metadata of Natuna Sea  |   |  |                                      |
| Laporan Kegiatan COBSEA 2002-2004   |   | 2005   |                                      |
| National Policy, Strategies, Programs, Action Plans and Activities of Coral Reefs Management in Indonesia Ver 3                       |   | 2006   |                                      |
| Mengenal dan Menyayangi Lingkungan 1 (The Coast and Our Sea 1)  |   |  |                                      |
| Integration of Traditional Wisdom and Practices in the Development and Implementation of a Coral Reef Management Plan and Legislation |   | 2008   |                                      |
| Mengenal dan Menyayangi Lingkungan 2 (The Coast and Our Sea 2)  |   |  |                                      |
| Kehidupan di Pesisir dan Laut 3 (The Coast and Our Sea 3)   |   |  |                                      |
| Mengenal dan Memahami Ekosistem 4 (The Coast and Our Sea 4)   |   |  |                                      |
| Fungsi, Manfaat dan Dampak 5 (The Coast and Our Sea 5)  |   |  |                                      |
| Permasalahan dan Pengelolaan 6 (The Coast and Our Sea 6)  |   |  |                                      |
| Panduan Untuk Guro Sekolah Dasar (The Coast and Our Sea Teachers Guide)   |   |  |                                      |

| Component            | Title   | Date      | Focal Point/Institution   |
|----------------------|---|-----------|---|
|                      | National Policy, Strategies, Programs, Action Plans and Activities of Coral Reefs Management in Indonesia Ver 2                       | 2005      | Suharsono<br>Puslit Oseanografi-LIPI  |
| Seagrass             | Reports of the Public Meetings  | 2003      | Tri Edi Kuriandewa<br>Puslit Oseanografi-LIPI                               |
|                      | Review National Data: Status of Seagrass Ecosystem and Past and Ongoing Activities...   | 2003      |   |
|                      | Assessment of Institution and Legal Aspects Relevant to Management of Seagrass Ecosystem in Indonesia                                 | 2003      |   |
|                      | Policy, Strategy and Action Plan for Management of Seagrass Ecosystem in Indonesia  | 2003      |   |
|                      | Metadata Base of Indonesian Seagrass  | 2005      |   |
|                      | National Metadatabase: Seagrass Ecosystem in Indonesia  | 2003      |   |
|                      | National Action Plan for Indonesia Seagrass   | 2005      |   |
|                      | Laporan Tentang Lamun (Seagrass) di Indonesia   | 2005      |   |
|                      | Indonesian Seagrass Report  | 2005      |   |
|                      | Laporan Tentang Lamun (Seagrass) di Indonesia   | 2005      |   |
|                      | National Seagrass Action Plan for Indonesia   | 2007      |   |
| Wetlands             | National Strategy and Action Plan for Coastal Wetlands Management   |           | Tri Edi Kuriandewa<br>Puslit Oseanografi-LIPI                               |
|                      | Laporan Akhir Wetland Subcomponent 2002-2004  | 2005      |   |
|                      | Strategi Nasional dan Rencana Aksi - Pengelolaan Lahan Basah Indonesia  | 2004      | Dibjo Sartono<br>Wetlands International Indonesia                           |
|                      | Metadata Base Wetlands Subcomponent   |           |   |
|                      | Final Report Coastal Wetlands Subcomponent of Indonesia 2002-2004   |           |   |
| Land-based Pollution | Tinjauan Ulang Data Kualitas Air Nasional Dan Evaluasi Kondisi Pencemaran...(Land-based Pollution National Report)                    | 2005      | Wahyu Indraningsih<br>Ministry of Environment                               |
|                      | Industry and Local Community Involvement in Land-based Pollution Management in Batam, Indonesia                                       | 2008      |   |
|                      | Strategic and Action Plan on Land-based Pollution of Indonesia  | 2005      |   |
|                      | Review National Water Quality Data and Evaluate the Transboundary Fate of Pollutants in SCS Phase 2                                   | 2003      |   |
| Economic Valuation   | Prosedur Penentuan Nilai Ekonomi Nasional...  |           | Matius Suparmoko<br>Jenderal Soedirman University/<br>Budi Luhur University |
|                      | Petunjuk Pelaksanaan Valuasi Ekonomi...   |           |   |
|                      | Review of Economic Valuation Studies on Coastal Ecosystems in Indonesia   | 2005/2006 |   |
| Others               | National Report of Indonesia on the Formulation of a Transboundary Diagnostic Analysis and Preliminary Framework of a SAP for the SCS |           |   |

## 4.2 Site characterizations

The Strategic Action Program for the SCS identified 20 priority sites for habitat sub-component in Indonesia, including 5 for Mangroves, 7 for Coral Reefs, 7 for Seagrass and 1 for Wetlands. Two large area were prioritized for Fisheries *Refugia* (Table 11).

Table 11. The priority sites in implementing the SAP in Indonesia including the Fisheries Refugia sites

| Mangroves       | Coral Reefs         | Seagrass        | Wetlands   | Fisheries Refugia                        |
|-----------------|---------------------|-----------------|------------|--|
| 5 sites         | 7 sites             | 7 sites         | 1 site     | 2 sites                                  |
| 686,630 ha      | 18,100 ha           | 2,420 ha        | 387,500 ha |  |
| Belitung Island | Anambas             | Medang-Mesanak  | Sembilang  | Bangka-Belitung<br>– Mitre squid         |
| Angke Kaput     | Bangka              | Temiang         |            | West Kalimantan<br>– Indian white shrimp |
| Batu Ampar      | Belitung            | East Bintan     |            |  |
| Ngurah Rai      | Karimata            | Mapor           |            |  |
| Bengkalis       | Senayang Lingga     | Anambas         |            |  |
|                 | Barelang dan Bintan | Bangka-Belitung |            |  |
|                 | Natuna              | Senayang        |            |  |

The site characterizations contain best available information for each priority site identified for action as part of Strategic Action Programme implementation. Specific site-level information and data compiled in each site characterization include details of: the geographical locations and boundaries of the sites (including coordinate); the site's physical environment; environmental state; socio-economic and resource use information; biological data; and information on the status of existing management. These baseline assessments of the sites have been made accessible online at <http://gis.unepscs.org>.

The tables 12, 13, 14 below were quoted from “*Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand*”. South China Sea Knowledge Document No. 2. UNEP/GEF/SCS/Inf.2. These indicated that baseline data collected before 2008 was good availability for the sites of mangroves and seagrass but poorer for coral reef sites and no available for wetland site.

Table 9. Selected physical and biological properties and variables for mangrove potential demonstration sites in Indonesia (M = data unavailable)

| Site                   | Belitung Island | Angke Kaput | Batu Ampar | Ngurah Rai | Bengkalis |
|------------------------|-----------------|-------------|------------|------------|-----------|
| Present Area           | 22,457          | 328         | 65,585     | 1,374      | 42,459    |
| Zones spp. assoc       | 5               | 9           | 5          | 6          | 7         |
| % change in area       | 0               | -2          | 0          | 27         | -15       |
| True mangrove spp.     | 8               | 12          | 21         | 25         | 18        |
| Density >1.5m high /Ha | 467             | 569         | 2,391      | 660        | 490       |
| % cover                | 100             | 70          | 100        | 100        | 99        |
| No. Crustacean. spp.   | 5               | 29          | 11         | 38         | 12        |
| No Bivalve             | 26              | 21          | 15         | 10         | 8         |
| No. Gastropod spp.     | 43              | 4           | 17         | 32         | 9         |
| No Fish spp.           | 71              | 22          | 51         | 34         | 3         |
| No Bird spp.           | M               | 40          | 19         | 38         | 16        |
| No migratory bird spp. | M               | 4           | 27         | 42         | 15        |

Table 10. Biodiversity and other environmental properties and variables for selected seagrass sites in Indonesia (M = data unavailable)

| Site Name     | Area (ha) | % cover | Depth range | Seagrass spp. | Penaeid spp. | Gastropod spp. | Siganid spp. | Urchin spp. | Threatened spp. | Associated ecosystems | Migratory species |
|---------------|-----------|---------|-------------|---------------|--------------|----------------|--------------|-------------|-----------------|-----------------------|-------------------|
| Trikora Beach | 280       | 95      | 2           | 9             | 3            | 16             | 3            | 4           | 6               | 2                     | 3                 |
| Mapur         | 275       | 85      | 3           | 9             | 3            | 11             | 3            | 4           | 5               | 2                     | 3                 |

Table 11 Properties and variables for potential coral reef demonstration sites used in determining similarities and differences among sites. (M = data unavailable)

| Site Name | Hard coral species | live coral cover (%) | No. of algae spp. | No. of crustacean species | No. of echinoderm species | No. of coral reef fish species | Other ecosystem | No. of endangered and threatened species |
|-----------|--------------------|----------------------|-------------------|---------------------------|---------------------------|--------------------------------|-----------------|--|
| Anambas   | 206                | M                    | 26                | 24                        | 25                        | 128                            | 3               | 2  |
| Bangka    | 126                | M                    | M                 | 25                        | 23                        | 169                            | 3               | 2  |
| Belitung  | 164                | 38.46                | M                 | 10                        | 35                        | 170                            | 3               | 2  |
| Karimata  | 192                | M                    | M                 | 15                        | 15                        | 200                            | 3               | 2  |

## 5. NATIONAL COORDINATION ARRANGEMENTS

### 5.1 National inter-ministry committee

The National Inter-Ministry Committee (IMC) for Indonesia will be revitalized and assume overarching responsibility for Strategic Action Programme implementation in Indonesia. The IMC will review and approve reports from the National Technical Working Group and the Specialized Executing Agencies for mangroves, coral reefs, seagrass, wetlands, land-based pollution, and economic valuation regarding the outputs and outcomes of efforts to achieve Strategic Action Programme targets. Indonesia's IMC will meet on a biannual basis during the operational phase of SAP implementation to guide the timely execution of national-level activities. The Inter-Ministry Committee Members are in the process of being established with the leadership of Ministry of Environment and Forestry as the lead agency.

### 5.2 National technical working group

Indonesia's National Technical Working Groups (NTWG) will review and co-ordinate national scientific and technical activities of Strategic Action Programme implementation. The NTWG will review and evaluate, from a scientific and technical perspective, progress in the achievement of Strategic Action Programme targets, and provide guidance for improvement when necessary. The NTWG will provide the IMC with: recommendations on proposed national and site-based activities, work plans, and budgets; technical guidance and suggestions to improve Strategic Action Programme activities where necessary, including the reform of policy, legislation and institutional arrangements; facilitate co-operation with relevant national and provincial organizations and projects to enhance the information and science base for use in achieving Strategic Action Programme targets and in preparing updated National Action Plans and a revised Strategic Action Programme in Indonesia; and compile and evaluate national level sources of information and data for sharing at the regional level.

Membership of the NTWG in Indonesia and National Technical Working Group Members are in the process of being established.

### 5.3 Specialized executing agencies

National Specialized Executing Agencies (SEAs) will be engaged by the Strategic Action Programme Implementation Unit (SAP-IU) and assume overall responsibility for the execution of the national-level activities in their respective areas of expertise for Strategic Action Programme implementation in accordance with the initiative's results framework. The SEAs will convene quarterly meetings of national committees for mangroves, coral reefs, seagrass, wetlands, land-based pollution, and economic valuation, and will nominate a National Focal Point to: (a) act as the main point of contact with the SCS SAP-IU; (b) act as Chair of the his/her respective National Committee; (c) act as a member of NTWG; and (d) act as a member of the respective Regional Working Group or Task Force. The SEAs will also plan and implement activities aimed at achieving the national-level goals and targets Strategic Action Programme for the South China Sea. In doing so, the SEAs will engage with national networks to the fullest extent possible, and establish institutional linkages with provincial and local governments and communities. The National Committee will be a core group of this engagement, including representatives from organizations and experts which are related to each thematic area

Members of SEAs and their Focal Points are in the process of being established.

## **5.4 Stakeholder participation**

The Strategic Action Programme for the South China Sea emphasizes a high degree of provincial/local government and community participation in its implementation. This will involve, for example, community participation in the identification of Terms of Reference and membership for community-based management committees at the sites where management plans will be developed and implemented. Intensive consultation processes will also be undertaken to identify key threats at priority areas, agree upon management measures, and to facilitate high-levels of provincial/local government and community stakeholder ownership of management plan development and formal endorsement. In support of local implementation of the management plans, national committees and National Technical Working Groups will be engaged in supporting governments and communities in the design of awareness programmes, development of local networks of management practitioners, and capturing and sharing information about the results and best practices generated at these sites.

A range of other mechanisms to facilitate stakeholder input and participation are included in the programme of work for SAP implementation. These include: the operation of consultative processes in support of the updating and Ministerial adoption of a revised Transboundary Diagnostic Analysis and Strategic Action Programme for the SCS marine basin, including prioritization of national management actions to address climate variability and change; knowledge exchanges between government and the scientific community through biennial Regional Scientific Conferences; best practice exchanges between local government officials and coastal managers on science-based management via annual Mayor's Round-Table meetings; coordination with the UNEP/GEF fisheries refugia initiative and other GEF-financed initiatives operating in the East Asian Seas, including PEMSEA; and the operation of an award program on best practices in coastal habitat and land-based pollution management for communities, local governments and industry.

Mechanisms to further facilitate NGO, CSO, and CO participation in Strategic Action Programme implementation include: the revitalization of cooperative arrangements with GEF SGP in the commissioning and implementation of community-level initiatives in support of the achievement of SAP targets, including those relating to reforestation and enrichment planting at priority mangrove sites. Annual NGO forums will also be convened to elicit CSO and CO inputs to planning, and monitoring and evaluation, of the SCS-SGP partnership. Similar processes will be operated to engage the private sector in identify opportunities for private sector investment (e.g. oil and gas, fisheries, tourism) in implementation of an updated Strategic Action Programme. The planning of cooperation between governments and the private sector for the implementation of the updated Strategic Action Programme will be facilitated via the operation of partnership forums.

In Indonesia, the Ministry of Environment and Forestry will lead project national-level project execution and will draw on inputs from its Directorate of Marine and Coastal Degradation Control, Directorate of Water Pollution Control, Directorate of Management of Essential Ecosystem, Directorate of Environmental Impact Assessment and Regional Planning, and Directorate General of Catchment Area Management and Conservation

Forest. The Ministry of Marine Affairs and Fisheries and Coordinating Ministry of Maritime and Natural Resources are also a primary stakeholder at the level of national coordination and governance, and operation of the Inter-Ministerial Committee will ensure engagement of the Ministry of Foreign Affairs, the Ministry of Agriculture, the Ministry of Administrative and Bureaucratic Reform; Ministry of Communications and Informatics; and the Ministry of Research, Technology and Higher Education, Ministry of Transportation, Ministry of Tourism, Ministry of Public Work and Housing, Ministry of Spatial Planning, Ministry of National Development Planning, and Geo Spatial Information Board.

Technical expertise of the above-mentioned Ministries will also be harnessed in support of the scientific, knowledge exchange, and national execution of project activities. The latter will also engage key research and academic stakeholders from the Center for Coastal and Marine Resources Studies of Bogor Agricultural University, Research Center for Oceanography of the Indonesian Institute for Sciences, the Faculty of Economics of Budi Luhur University, and the Faculty of Law at the University of Padjadjaran-Bandung.

The provincial governments of Riau, Kepulauan Riau, Jambi, West Kalimantan and Bangka-Belitung are also primary stakeholders in terms of local operational management and on-the-ground implementation of the SAP. The city-level governments of these provinces also play a significant role given Indonesia's decentralized approach. Specific offices identified during project preparation to be engaged include the Environmental Office of West Kalimantan Province, the Batu Ampar Local Government and the Regional Planning and Development Agency of Bangka-Belitung. In Riau, the Sub-Directorate of Sea, Shore and Land Ecosystems of the Environmental Management Impact Board of Batam City Government, the Sub-Directorate of Environment Monitoring and Rehabilitation of Batam City Government, the Local Office of Fisheries and Marine Affairs in Batam, the Infrastructure and Natural Resources Division of Bintan City Government, and the Local Agency for Development Planning in Bintan were identified as key local stakeholders.

As in other countries, the past five years has seen the emergence and improved capacities of NGOs, CSOs and COs working the field of coastal and marine environmental management in the abovementioned provinces of Indonesia bordering the South China Sea. These include, among others, Indonesian Institute of Mangrove Research and Development, WWF Indonesia, Wetland Indonesia, Komunitas Sahabat Alam, Koperasi Panter, Yayasan Karya Banua Pulanggana, Kelompok Peduli Lingkungan Belitung, Komunitas Sahabat Alam, Lembaga Pengelola Sumberdaya Terumbu Karang (LPSTK) Desa BENAN, Lembaga Swadaya Masyarakat Pelita Alam, Belukap and Yayasan Gema Lingkungan Indonesia.

## **6. NEXT STEPS**

During 2020-2021 National Implementation Reports (NIR) will be developed to elaborate for each of the SCS SAP Outcomes and Outputs the activities to be executed in each site in order to achieve the SAP targets. This will include updated information and adjustments to address current status of SAP implementation since 2008 and revision of sites and planned activities if appropriate. The NIR will also include a detailed workplan and budget including partnerships and co-financing, to be adopted by the SCS SAP Project Steering Committee.