



# Strategic Action Programme

for the Arafura and Timor Seas

ATSEA Program  
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# **Strategic Action Programme** for the Arafura and Timor Seas Region



**Arafura and Timor Seas Ecosystem Action Program**

**2012**

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# Table of Content

## **Table of Content**

### **Abbreviations and Acronyms**

#### **Agreement**

Parties

Preamble

Signed:

#### **Executive Summary**

### **1. The Challenge: Sustainable Integrated Management of the Arafura-Timor Seas**

- a. Unsustainable fisheries and decline and loss of living coastal and marine resources
- b. Modification, degradation and loss of coastal and marine habitats
- c. Marine and land-based pollution
- d. Decline and loss of threatened and migratory species
- e. Impacts of climate change
- f. Conclusion

### **2. The Rationale for Cooperative Action**

- a. Applicable Principles
- b. Institutional Arrangements
  - i. The Coordination Committee
  - ii. The Stakeholder Partnership Forum
  - iii. The Coordinator/Secretariat
- c. Linkages with other forums
  - i. The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF)
  - ii. The Regional Plan of Action to Promote Responsible Fishing Practices including Combating IUU Fishing in the Region (RPOA-IUU)
  - iii. Partnerships in Environmental Management for the Seas of East Asia (PEMSEA=
  - iv. Convention on Migratory Species

### **3. SAP objective and Environmental Quality Objectives**

- a. Long-term, environmental quality and operational objectives
- b. Priority actions and activities to achieve ecosystem quality objective I: Recovering and sustaining fisheries
- c. Priority actions and activities to achieve ecosystem quality objective II: Restoring degraded habitats for sustainable provision of ecosystem services

- d. Priority actions and activities to achieve ecosystem quality objective III: Reducing land-based and marine sources of pollution
- e. Priority actions and activities to achieve ecosystem quality objective IV: Protecting key marine species
- f. Priority actions and activities to achieve ecosystem quality objective V: Support people and ecosystem-based adaptation to the impacts of climate change

#### **4. Institutional and Legislative Actions and Financial Mechanism for implementation of the SAP**

- a. Governance
  - i. Strengthening of ATS Regional Governance
  - ii. Strengthening of stakeholder participation
  - iii. Strengthening of national institutional and legal frameworks – development of NAPs
- b. Financial Mechanism
  - i. Portfolio of funding sources
  - ii. Other financial instruments and mechanisms
  - iii. Replication and up-scaling mechanism for demonstration projects

#### **5. Monitoring and Evaluation**

- a. Indicators for Monitoring and Evaluation
- b. Mechanism for Monitoring and Evaluation

#### **References**

#### **List of Figures**

Figure 1: The Arafura and Timor Seas region

Figure 2: Outline of the Strategic Action Programme for the ATS

# Abbreviations and Acronyms

APEC	Asia Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
ATS	Arafura & Timor Seas
ATSEA	Arafura & Timor Seas Ecosystem Action Program
ATSEF	Arafura & Timor Seas Expert Forum
CITES	Convention on International Trade in Endangered Species
CMS	Convention on Migratory Species
CTI	Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security
CTI-CFF	CTI on Coral Reefs, Fisheries and Food Security
DFG	Derelict Fishing Gear
EAFM	Ecosystem Approach to Fisheries Management
ENSO	El Nino-Southern Oscillation
FAO	Food and Agricultural Organization of the United Nations
FSP	Full Scale Project (of GEF)
GEF	Global Environment Facility
GPA	Global Programme of Action for the Protection of Marine Environment from Land Based Activities
ICM	Integrated Coastal Management
IUU	Illegal, Unregulated and Unreported (fishing)
LME	Large Marine Ecosystem
MPA	Marine Protected Area
NAP	National Action Plan
NAPA	National Adaptation Programme of Action
NBSAP	National Biodiversity Strategy and Action Plan
NGO	Non-Government Organization
NPOA-IUU	National Programme of Action to combat IUU fishing
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia
PES	Payment for Environmental Services
POPs/NIPs	Persistent Organic Pollutants/National Implementation Plans
REDD	Reduction of Emissions from Deforestation and Forest Degradation
RPOA-IUU	Regional Plan of Action to Promote Responsible Fishing Practices including Combating IUU Fishing in the Region
SAP	Strategic Action Programme
SEG	Stakeholder Engagement Group
TDA	Transboundary Diagnostic Analysis
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNOPS	United Nations Office for Project Services
WSSD	World Summit on Sustainable Development





# Executive Summary

## Background

The Strategic Action Programme (SAP) for the Arafura and Timor Seas (ATS) describes policy and institutional initiatives, and capacity development and investments needed to address the priority problems of a transboundary nature identified in the Transboundary Diagnostic Analysis (TDA) for the ATS region.

The warm tropical Arafura and Timor Seas are crucial globally, linking the Indian and Pacific Oceans and playing an important role in global ocean circulation. The ATS region is extremely rich in living and non-living marine resources, including major fisheries and oil and gas reserves. Significantly, the ATS region exhibits high productivity that sustains both small and large scale fisheries, including several high-value, shared transboundary fish stocks. These fisheries provide livelihoods for millions of people in the region and make a significant contribution to food security for both regional coastal communities and populations and also, large populations in export market countries to the north, such as China.

The ecosystems of the ATS region are under increasing pressure from unsustainable fisheries and decline and loss of living coastal and marine resources, modification, degradation and loss of coastal and marine habitats, marine and land-based pollution, decline and loss of threatened and migratory species, and impacts from climate change. This has led to loss of ecosystem services in the ATS that has negative impacts on human well-being and will affect food security and livelihoods, as well as having flow-on effects to each nation's economy and social structure. To respond to this, the ATS SAP will take an ecosystem-based approach to preserve vital ecosystem functions and ecosystem services important for human well-being.

## Purpose of SAP for the ATS

The SAP responds to the findings of the TDA for the ATS. The 10-year vision for the ATS and the long-term objective of the SAP is **'to promote sustainable development of the Arafura-Timor Seas region to improve the quality of life of its inhabitants through restoration, conservation and sustainable management of marine-coastal ecosystems'**.

This corresponds to the desired status of the ATS ecosystem, which will be pursued through achievement of five medium-term environmental quality objectives:

- Recovering and sustaining fisheries
- Restoring degraded habitats for sustainable provision of ecosystem services
- Reducing land-based and marine sources of pollution
- Protecting key marine species
- Adaptation to the impacts of climate change

## Regional actions and targets

Promotion of responsible fishing practices in the ATS, including combating IUU fishing will be addressed through ongoing efforts under the Regional Plan of Action to Promote Responsible Fishing Practices including Combating IUU Fishing in the Region (RPOA-IUU). The SAP will support these efforts through understanding and addressing the ecological impacts of fisheries. This is expected to result in 15-20 % reduction in IUU fishing and the application of the Ecosystem Approach to Fisheries Management (EAFM) across the ATS.

To ensure sustained provision of ecosystem services from key habitats in the ATS, the status of critical habitats and nurseries, their connectivity as well as pressures exerted on them will be identified and assessed. Regional coordination of national and local plans and actions to conserve coastal and marine ecosystems will be promoted in close coordination with the CTI. Local communities will benefit from sustainable management of coastal and marine resources through support to sustainable livelihoods and introduction of alternative or supplementary livelihoods when appropriate. This is expected to lead to enhanced management and protection of 20% of marine and coastal habitats (including mangroves, coral reefs, and seagrass beds).

Reducing land-based and marine sources of pollution in the ATS will be achieved through enhanced coordination of policies and implementing actions across sectors and different levels of government. Pollution hotspots will be identified across the region as an input to integrated coastal management (ICM), with links to the work of PEMSEA made where relevant. The impact of oil spills will be reduced by putting in place early warning systems at national level and regional response coordination arrangements. Marine debris, such as derelict fishing gear, will be reduced through regional collaboration to develop and implement cost-effective solutions. This is expected to result in reduction of total loading of nutrients in coastal waters from baseline level, and reduction in the incidence of marine-based pollution.

Regional coordination of plans and actions to conserve threatened and migratory species will be promoted in order to strengthen implementation of relevant global and regional agreements. Threatened and migratory species considerations will be incorporated into Marine Protected Area (MPA) design and management, and by-catch and direct harvesting will be reduced through education and awareness raising, introduction of good practices, alternative or supplementary livelihoods and other cost-effective solutions. This is expected to lead to enhanced protection of 10-20% of important habitats for threatened and migratory marine species, and 20% decrease in direct and indirect harvesting of threatened and migratory species.

The resilience of coastal ecosystems to climate change will be enhanced through an ecosystem-based approach to adaptation, including Payment for Environmental Services (PES) approaches that value climate change adaptation and mitigation services, and incorporation of climate change considerations in MPA design and management. The vulnerability of coastal communities to climate change will be reduced through development of management plans for communities at risk and early warning systems, and support for climate resilient livelihoods. This targets increased understanding of climate change impacts and incorporation of that knowledge into management plans and strategies, including establishment of management plans for more than 60% of at-risk coastal villages.

## Governance actions

New institutional and governance arrangements will be established through a non-legally binding arrangement to facilitate implementation of the SAP and NAPs. These arrangements will replace existing ATSEA and ATSEF governance arrangements. These institutional and governance arrangements will serve three key functions, namely:

- Planning implementation of the SAP, including identification of specific activities and projects, and associated costing,
- Mobilising and coordinating implementation support and activities
- Monitoring and reviewing progress, and adapting strategies and plans as required.

Three institutions will be established to perform these functions. These are:

- (i) a Coordination Committee;
- (ii) a Stakeholder Partnership Forum; and
- (iii) a Coordinator/Secretariat.

Indonesia and Timor-Leste will develop a National Action Plan (NAP) which will form an integral part of this SAP. Each NAP shall identify a suite of measures and present details of national actions for ecosystem-based management and sustainable use of natural resources that will be taken to effectively address strategic transboundary issues and the most urgent environmental concerns at the national level.

ATS countries shall strengthen their commitment to joint ecosystem-based management by providing or increasing resources to support actions outlined in the SAP and NAPs. To secure co-funding, ATS countries will equally seek the necessary funding for the actions agreed upon in this SAP and NAPs from national, regional and international sources and mobilise resources from private and general public funding for sustainable financing or through the application of appropriate economic incentives/instruments where possible.

## Conclusions

To address the transboundary environmental problems in the Arafura and Timor Seas, the ATS SAP will apply an ecosystem-based approach to reach the agreed regional environmental and governance targets summarized in Box 1. With the implementation of actions to reach these targets the environmental status of the ATS will improve, thereby enhancing the provision of different types of ecosystem services important for the millions of people dependent on the ATS for their livelihoods and well-being, including local communities and indigenous people.



## Environmental targets

- Target 1.1: IUU fishing reduced in the ATS by 15-20 %
- Target 1.2: Ecosystem Approach to Fisheries Management applied across the ATS
- Target 2.1: Enhanced management and protection of 20 % of marine and coastal habitats (including mangroves, coral reefs, and seagrass beds)
- Target 3.1: Reduction of the ecologically harmful impacts of nutrients in coastal waters from base year
- Target 3.2: Reduction in the incidence and impacts of marine-based pollution from base year
- Target 4.1: Enhanced protection of 10-20% of important habitats for threatened and migratory marine species; 20% decrease in direct and indirect harvesting of threatened and migratory species
- Target 5.1 Increased understanding of climate change impacts and incorporation of that knowledge into management plans and strategies, including establishment of management plans for more than 60% of at-risk coastal villages

## Governance targets

- Target 6.1: A regional mechanism for cooperation
- Target 6.2: A Stakeholder Partnership Forum of experts and practitioners involved in research and capacity development activities relevant to the SAP and NAPs

# AGREEMENT

## **PARTIES**

1. Australia
2. Indonesia
3. Timor-Leste

## **Observer**

4. Papua New Guinea

## **PREAMBLE**

We, the signatories to this Agreement, who are participating countries in the Arafura and Timor Seas Ecosystems Programme (ATSEA);

**NOTING** the progress achieved through ATSEA to enhance the sustainable management of the Timor and Arafura Seas;

**NOTING FURTHER** that the Arafura and Timor Sea is a semi-enclosed sea under the 1982 United Nations Convention on the Law of the Sea;

**RECALLING** Article 123 of the 1982 United Nations Convention on the Law of the Sea which requires cooperation by States bordering semi-enclosed seas to among other things, co-ordinate the management, conservation, exploration and exploitation of the living resources of the sea, co-ordinate the implementation of their rights and duties with respect to the protection and preservation of the marine environment; co-ordinate their scientific research policies and undertake where appropriate joint programmes of scientific research in the semi-enclosed sea;

**CONSCIOUS OF** Articles 192 and 194 of the 1982 United Nations Convention on the Law of the Sea which requires States to protect the marine environment, in particular rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other marine life and to cooperate to this effect;

**NOTING** the spirit of the United Nations Conference on the Human Environment (Stockholm, 1972), the United Nations Declaration on Environment and Development (Rio Declaration) and its Agenda 21, the FAO Code of Conduct for Responsible Fisheries (1995) and the four FAO international plans of action on IUU fishing (2001), fishing capacity (1999), seabirds (1999) and sharks (1999), the GEF Operational Strategy, the Global Programme of Action for the Protection of Marine Environment from Land Based Activities (GPA, 1995), the World Summit on Sustainable Development (WSSD) and its Johannesburg Plan of Implementation (2002), the Millennium Development Goals (2000) especially the National Poverty Reduction

Strategies, and the Regional Plan of Action (RPOA), the Coral Triangle Initiative (2009) and the Rio + 20 "the future we want" (2012);

**RECOGNIZING** the unique character of the Arafura and Timor Seas in linking the Pacific and Indian Oceans, and as an important reservoir of marine biological diversity, which make a major contribution to livelihood and employment and are a veritable source of goods and services for economic growth;

**WELCOMING** the international support to regional initiatives and the joint-commitments to cooperate in facilitating integrated management of the Arafura and Timor Seas region, its littoral and estuarine areas and sustainable use of their resources through the development and implementation of the ATSEA programme;

**CONSCIOUS** of the importance of the initiatives taken by non-governmental organizations towards conservation of coastal and marine resources and protection of the environment of the Arafura and Timor Seas;

**NOTING** of the Manado Declaration adopted at the World Ocean Conference on 14 May 2009;

**NOTING FURTHER** the progress achieved in the establishment and implementation of the Coral Triangle Initiative;

**CONSCIOUS FURTHER OF** the importance of the "Blue Economy" in promoting the conservation and sustainable management of coastal and marine environments;

**COMMITTED** to taking concrete actions individually and collectively to ensure transboundary cooperation for the **integrated management, protection and sustainability of the living resources of the Arafura and Timor Seas** region in accordance with their international obligations;

**ACKNOWLEDGING** the significant contribution made through the preparation of the Transboundary Diagnostic Analysis (TDA) in the development of the Strategic Action Programme (SAP) and towards integrating the information necessary for policy planning in the Arafura and Timor Seas region;

**DO HEREBY:**

AGREE ON THE OBJECTIVES AND ACTIONS OF THE **STRATEGIC ACTION PROGRAMME** DEFINED HEREIN

ADOPT THE PRESENT STRATEGIC ACTION PROGRAMME

# 1

## The Challenge: Sustainable Integrated Management of the Arafura-Timor Seas

The warm tropical Arafura and Timor Seas (ATS) are crucial globally, linking the Indian and Pacific Oceans and playing an important role in global ocean circulation (Figure 1). The world's climate is also greatly influenced by the El Nino-Southern Oscillation (ENSO) phenomenon and the

Indian Pacific Warm Pool that exists in these seas. At the regional scale, the ecosystems of both seas play an important economic and ecological role in the four littoral nations bordering the Arafura and Timor Sea: Indonesia, Timor-Leste, Australia and Papua New Guinea.



Figure 1. The Arafura and Timor Seas region.

The ATS region is extremely rich in living and non-living marine resources, including major fisheries and oil and gas reserves. Significantly, the ATS region exhibits high productivity that sustains both small and large scale fisheries, including several high-value, shared transboundary fish stocks. These fisheries provide livelihoods for millions of people in the region and make a significant contribution to food security for both regional coastal communities and populations and also, large populations in export market countries to the north, such as China. The region is adjacent to the Coral Triangle (CTI) which is considered to house the world's highest marine biodiversity. These seas contain the most pristine and some of the most highly threatened coastal and marine ecosystems in the world, underscoring the urgent need for transboundary management. The Transboundary Diagnostic Analysis (TDA) for the ATS (ATSEA, 2012) identified five transboundary priority environmental concerns that are summarised below.

#### **a. Unsustainable fisheries and decline and loss of living coastal and marine resources**

Poorly managed or unmanaged extraction of fish, prawns and other biota, coupled with decreased viability of stock through pollution and disease, has led to overexploitation and, in many instances, to a decline in living resources within some areas of the Arafura and Timor Seas. The fisheries of the Indonesian Sea large marine ecosystem (LME) are very complex and diverse, reflecting the region's extraordinarily heterogeneous geography and species richness. Great uncertainties exist on the status of local fish stocks due to serious discrepancies in fisheries data and a potentially high level of Illegal, Unreported and Unregulated (IUU) catches. Overexploitation occurs in some areas with some fish stocks exploited well beyond biological limits. Overexploited stocks include many species of reef fish, such as groupers, and

benthic invertebrates such as *trepang* (sea cucumber) and clams.

Unsustainable fisheries and decline and loss of coastal and marine resources have serious impacts on the functioning of the overall ATS ecosystem and the services it can provide.

Impacts include:

- Provisioning ecosystem services are reduced due to depletion of stock and loss of productivity of transboundary pelagic and demersal species, for example snappers and sharks
- Negative impacts on cultural ecosystem services include loss of traditional livelihoods and cultural identity associated with sea nomadism and cultural practices, such as rotational harvesting
- Alterations to the regulating ecosystem services include changes to the food chain and increased risk for invasion of alien species that exploit the loss of species due to overfishing
- Impacts on supporting ecosystem services includes disruption of nutrient recycling due to overharvesting and in some cases shift to algae dominated systems due to loss of herbivore fishes.

The loss of these ecosystem services also have negative impacts on human well-being in terms of health and nutrition, wealth distribution, conflicts over resources and reduction of human security, including food security, equity, education, access to a clean environment, job opportunities and diversification of livelihoods.

#### **b. Modification, degradation and loss of coastal and marine habitats**

Modification of coastal habitats has resulted in major changes in population structure as well as functional group composition, notably on coral reefs, and massive changes in ecosystem services of coral reefs, seagrass beds and mangroves. For instance, the important nursery and feeding ground role of mangroves as well



as seagrass beds for fish and marine mammals have been lost over extensive areas. Habitat modification and loss have also contributed to the decline in populations of marine mammals such as dugong. Habitat degradation has significant transboundary implications in terms of reduced fish recruitment and impacts on migratory species as well as on biodiversity throughout the region.

Modification, degradation and loss of coastal and marine habitats have serious impacts on the functioning of the overall ATS ecosystem and the services it can provide. Impacts include:

- Negative impacts on provisioning ecosystem services include loss of food production from key coastal and marine habitats, loss of access to timber from mangroves for housing, fuel and boats, reduced income and loss of genetic resources
- Negative impacts on cultural ecosystem services include loss of ability to carry out cultural and spiritual practices, such as burials in mangroves, loss of tourism and recreational opportunities, loss of educational opportunities and decline in local ecological knowledge, skills and technology pertaining to habitat management as well loss of supporting social and cultural capital of local communities
- Loss of regulating ecosystem services include loss of hydrodynamics barriers and protection from erosion from storm surges by mangrove swamps, loss of connectivity among habitats, decline in coastal water quality, decline in freshwater quality from groundwater salinization, as well as reduction in carbon sequestration in mangroves and seagrass beds
- Impacts on supporting ecosystem services include loss of nursery function of habitats, alteration of nutrient cycling, reduction in primary and secondary production, increase in acid-sulphate soils, and change to microclimates.

The losses of these ecosystem services also have negative impacts on human well-being in terms of loss of access to safe food and water, and traditional food and medicine, which affects health. It also leads to loss of livelihood opportunities and increased vulnerability of coastal communities, as well as reduced social security caused by break down of social systems and cultural norms.

### **c. Marine and land-based pollution**

Due to the lack of major urban settlements in the ATS region, major marine and land-based pollution impacts are largely localized and confined to coastal mining activities, poor catchment practices, offshore oil/gas exploration and the effects of fisheries (e.g. marine debris, derelict fishing nets). The coastal and marine ecosystems of northern Australia are regarded as intact, containing some of the most pristine ecosystems in the world, due principally to low human population density. In contrast, the Indonesian Sea LME is polluted in many coastal areas.

Marine and land-based pollution has serious impacts on the functioning of the overall ATS ecosystem and the services it can provide. Impacts include:

- Negative impacts on provisioning ecosystem services caused by pollution include mortality of marine species, such as dugong and turtle and of economically important fisheries. In addition, noise pollution affects fish catches and migratory species
- Negative impacts on cultural ecosystem services include loss of culturally important species, such as turtles, dugongs and crocodiles, loss of skills – e.g. hunting, and loss of tourism and recreation opportunities
- Loss of regulating ecosystem services has led to increased run-off on near-shore ecosystems, such as mangroves, alteration of coastal hydrology and increased tidal flat development

- Supporting ecosystem services affected by pollution include nutrient cycling, often leading to eutrophication of coastal waters.

The loss of these ecosystem services also have negative impacts on human well-being in terms of livelihood opportunities, nutrition and health, access to resources and security from disasters, such as landslides.

#### **d. Decline and loss of threatened and migratory species**

Unsustainable direct harvesting and also indirect harvesting (via fisheries by-catch) is having a significant impact on populations of key marine species in the ATS region, particularly globally and regionally threatened marine fauna (i.e. turtles, dugongs, seabirds/shorebirds, sea snakes, sharks and rays). The largest direct harvest of green turtles in the world occurs in the ATS, and this represents a significant threat to the green turtle population. In Timor-Leste, illegal turtle harvesting for meat and shell remains a major issue. Populations of hawksbill turtle face major threats from direct harvest particularly in Papua New Guinea, and the northeast Australian hawksbill turtle population is in decline.

Decline and loss of threatened and migratory species have serious impacts on the functioning of the overall ATS ecosystem and the services it can provide. Impacts include:

- Negative impacts on provisioning ecosystem services include loss of food provided by threatened species, loss of materials for handicrafts, such as shells, bones, coral, fibre, etc. and loss of genetic resource
- Negative impacts on cultural ecosystem services include loss of traditional livelihoods associated with e.g. hunting of culturally important species, such as dugongs and harvesting of turtle, loss of tourism and recreational opportunities, loss of educational opportunities and decline in

local ecological knowledge, skills and technology, such as hunting, as well as loss of supporting social and cultural capital of local communities

- Alterations to the regulating ecosystem services include changes to the food chain and increased risk for invasion of alien species that exploit the loss of indigenous species due to overharvesting
- Impacts on supporting ecosystem services include disruption of nutrient recycling due to overharvesting, and reduction of primary and secondary production.

The loss of these ecosystem services also has negative impacts on human well-being in terms of loss of access to diverse food and traditional medicine, which affects health. It also leads to loss of livelihood opportunities and increased vulnerability of coastal communities, as well as reduced social security caused by break down of social systems and cultural norms.

#### **e. Impacts of climate change**

Low profile coasts, shallow continental shelves and macro-tidal conditions mean that the coastal and marine environments of the ATS region are particularly vulnerable to the impacts of climate change. By 2100, sea-level is projected to rise by between 18 – 59 cm. In the coast of West Papua, trend in sea level rise has been predicted to be between 0.75 – 0.765 cm/year. Such a rise in sea level is expected to increase the salinity of coastal groundwater as aquifers are affected by salt water intrusion. The low-lying coastal ecosystems of Northern Australia, such as mangroves and other wetlands, may be particularly vulnerable to climate change. The interactive effects of rise in sea-level and cyclonic intensity, increased coastal inundation and storm surges may result in these ecosystems either retreating landwards as sea-level rises or disappearing if inundation is rapid and coastal relief is low. Predicted rises in sea-level by the end of the century will impact rocky intertidal,

mud and sand flats, coral reef, seagrass and mangrove communities.

Impacts of climate change negatively affect the functioning of the ATS ecosystem and the services it can provide. Impacts include:

- Negative impacts on provisioning ecosystem services include changes in food production caused by shifts in species distribution, composition and migration patterns, changes to aquaculture and mangroves caused by inundation, and habitat changes caused by rising temperatures, such as coral reef reduction
- Negative impacts on cultural ecosystem services include loss of livelihoods associated with e.g. fisheries and agriculture, and loss of culturally significant species caused by e.g. changing sex ratios (turtles), etc.
- Alterations to the regulating ecosystem services include changes to coral reef systems, coral bleaching, changes to ocean currents and upwelling in the Indonesian Through-Flow, increased incidence of extreme climatic events, changes in rainfall patterns, and life cycle changes – e.g. mass spawnings and seagrasses
- Impacts on supporting ecosystem services include changes in zooplankton/phytoplankton production, changes to the chemical composition of water leading to acidification and coral reef reduction, and decreased production of *Helimeda*.

The loss of these ecosystem services also have negative impacts on human well-being and will affect food security and livelihoods, as well as having carry-on effects to each nation's economy and social structure. Moreover, a decline in coral reefs and mangroves will affect shoreline stability, tourism, groundwater resources, sewage, and flood mitigation. It will increase poverty and malnutrition, affect food

prices, unemployment and urban migration, making adaptation to climate change a top priority among coastal communities.

## f. Conclusion

In summary, the key challenges and barriers in the ATS region in addressing the priority environmental concerns identified in the TDA are linked to:

- Inter-sectoral coordination and collaboration – the need for better coordination between relevant sectors as well as between central government and local government in all participating countries
- The regulatory framework – the lack of a regulatory and enforcement framework for environmental management in Timor-Leste, as well as weak enforcement of existing laws and regulations in Indonesia and Papua New Guinea
- Lack of land, marginalisation, poverty, and lack of rights for local communities is hampering the development of sustainable environmental management practices and alternative livelihoods
- Multi-stakeholder participation – the need to ensure strong local participation in all countries while also engaging with relevant national and international institutions and processes with a mandate in coastal and marine management to strengthen the regional governance of the ATS.
- Inadequate financial resources, insufficient equipment, trained staff, and environmentally sound technology.

Based on these general conclusions, specific actions to remove the barriers to sustainable environmental management of the ATS are further elaborated in Chapter 3.



# 2

## The Rationale for Cooperative Action

The Arafura and Timor Seas Experts Forum (ATSEF) was established in 2004 to foster collaboration between government and non-governmental organisations in Australia, Indonesia, Papua New Guinea and Timor-Leste in the pursuit of the conservation and sustainable management of the living resources of the Arafura and Timor Seas. The Forum led the development of the ATSEA project, which has produced a TDA, this SAP, and new institutional arrangements to facilitate ongoing collaboration. These arrangements and history of past collaboration recognises that the ecosystems of the ATS are interconnected across boundaries, and coordinated efforts are required to ensure their conservation and sustainable management. It also recognises that the countries have much to gain from working together, including through the sharing of experiences, expertise and capabilities.

### a. Applicable Principles

The following principles will guide the working together to implement the SAP and associated National Action Plans (NAPs):

- i. Cooperation should focus on people-centered ecosystem-based management. Actions under the SAP should address both biodiversity conservation and poverty reduction, including food security, sustainable livelihoods for coastal communities and sustainable incomes.
- ii. Solid science and data should form a basis for establishing goals and implementation activities. In the absence of conclusive scientific information, the precautionary approach will apply
- iii. Relevant existing forums should be used to implement actions in the ATS. These include, for example, CTI, CMS memoranda of understanding, and Partnership for Environmental Management of the Seas of East Asia (PEMSEA) and RPOA - IUU
- iv. Objectives and activities should be supportive of international and regional commitments already made under relevant legal instruments and multilateral processes (e.g. Convention on Biological Diversity, Millennium Development Goals, ASEAN, APEC, CITES, CMS, UNCLOS, UNFCCC, CTI and Manado World Oceans Declaration
- v. The SAP and its implementation do not affect or prejudice maritime boundary arrangements.
- vi. Multiple stakeholder groups should be actively encouraged to partner with each other and governments in implementing the SAP and NAPs in collaborative efforts including state/provincial governments, local governments, NGOs, private sector companies, bilateral donor agencies, multilateral agencies, indigenous and local communities, coastal communities and the academic and research sector.

## **b. Institutional Arrangements**

New institutional and governance arrangements will be established through a non-legally binding arrangement to facilitate implementation of the SAP and NAPs. These arrangements will replace existing ATSEA and ATSEF governance arrangements. The detail of arrangements will be developed collaboratively by the countries and stakeholders, including ATSEF and the ATSEA Stakeholder Engagement Group and Scientific Advisory Committee. These institutional and governance arrangements will serve three key functions, namely:

- Planning implementation of the SAP, including identification of specific activities and projects, and associated costing,
- Mobilising and coordinating implementation support and activities
- Monitoring and reviewing progress, and adapting strategies and plans as required.

Three institutions will be established to perform these functions. These are (i) a Coordination Committee; (ii) a Stakeholder Partnership Forum; and (iii) a Coordinator/Secretariat.

### *i. The Coordination Committee*

The Coordination Committee will comprise senior officials from member countries as determined by each member country. The Coordination Committee, which will serve as the primary decision-making body, will:

- be responsible for the development of implementation plans (and development of associated costing and identification of funding sources);
- periodically review progress and adapt strategies and plans as required; and
- meet annually to review progress and plan implementation activities;

### *ii. The Stakeholder Partnership Forum*

The Stakeholder Partnership Forum will comprise experts and practitioners involved in research and capacity development activities relevant to the SAP and NAPs. The Stakeholder Partnership Forum will be open to all through self-nomination. Membership from all key sectors/interests, including non-governmental organizations (NGOs), academic groups, local and indigenous groups and the private sector will be encouraged. Coordination Committee members will participate in the Stakeholder Partnership Forum as Observers only.

The chair of the Stakeholder Partnership Forum will be drawn from and selected by the membership. The Stakeholder Forum will meet annually, back-to-back with the Coordination Committee and at other times as necessary. The Forum is intended as a means of fostering partnerships among experts and organisations with an interest in the ATS, with a view to mobilisation and coordination of activities to implement the SAP and NAPs. The functions of the Stakeholder Partnership Forum are to:

- assist the Coordination Committee in the development of SAP implementation plans and the periodic review of progress;
- facilitate the implementation of the SAP through coordination of efforts, alignment of efforts around the SAP and implementation plans, generating partnerships and collaborative projects among members countries, proposing projects to the Coordination Committee, etc.

### *iii. The Coordinator/Secretariat*

The Coordinator/Secretariat will serve as the regional point of contact for SAP issues. Initially, a single coordinator would be appointed on the nomination of one of the three countries. This could grow to a small secretariat should the need arise. The Coordinator/Secretariat will:



- facilitate the operations of the Coordination Committee and Stakeholder Partnership Forum, including coordinating the scheduling and organisation of meetings, and the preparation of meeting papers;
- facilitate the mobilisation and coordination of support, including by identifying funding opportunities and coordinating the preparation of funding applications; developing and utilising networks with experts and practitioners to coordinate their activities and align them with SAP priorities and implementation plans;
- track activities contributing to SAP and NAP implementation; and
- coordinate SAP implementation monitoring and reporting.

The coordinator position would be provided by a nominated country for a period of at least five years. At the end of each term, the Coordination Committee will make new arrangements which may include continuation of existing arrangements, or rotation of the role to a different country. The coordinator position will be funded by the nominating country. There will be no requirement for financial contributions by other countries, but other countries will support the coordinator in the implementation of specific tasks according to capabilities. For example, if a meeting needs to be organised, the host country would work with the coordinator. Members of the Stakeholder Partnership Forum may also assist with specific tasks on request.

Should GEF or similar project funding be obtained, the Coordinator/Secretariat would serve as the project manager (subject to relevant requirements of the funding agency).

#### *iv. Implementation Plan*

To drive implementation of the SAP, every 3 years, an implementation plan will be developed outlining specific activities that will be undertaken, associated costing and funding sources. Implementation plans will be

developed with input from the Stakeholder Partnership Forum, and through discussion and agreement of the Coordination Committee. The countries will also endeavour to have implementation plans endorsed by a meeting of Ministers from the participating countries. Prior to developing a new implementation plan, a report on activities and achievements under the previous plan will be prepared as an input.

### **c. Linkages with other forums**

#### *i. The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF)*

The ATS SAP shares the same general objectives as the Regional Plan of Action (RPOA) of the CTI and CTI National Plans of Action for Indonesia and Timor-Leste, and geographically, the implementation areas of the two initiative overlap.

The actions and activities in the ATS SAP are aligned with, and can serve to give effect to, the CTI RPOA and NPOAs. The countries, including Australia as a Partner to the CTI, will ensure that their engagement in the two forums is well coordinated.

#### *ii. The Regional Plan of Action to Promote Responsible Fishing Practices including Combating IUU Fishing in the Region<sup>1</sup> (RPOA-IUU)*

The objective of the RPOA is to enhance and strengthen the overall level of fisheries management in the region, in order to sustain fisheries resources and the marine environment, and to optimise the benefit of adopting responsible fishing practices. The actions cover:

- Conservation of fisheries resources and their environment;
- Managing fishing capacity, and combating illegal, unreported and unregulated (IUU)

<sup>1</sup> Republic of Indonesia, Australia, Brunei Darussalam, Cambodia, Malaysia, Papua New Guinea, The Philippines, Singapore, Thailand, Timor-Leste, Vietnam

fishing in the areas of the South China Sea, Sulu-Sulawesi Seas (Celebes Sea) and the Arafura-Timor Seas.

The ATS SAP countries are all members of the RPOA-IUU, and have established an Arafura and Timor Seas sub-forum on monitoring, control and surveillance under the RPOA-IUU.

The Fisheries component of the ATS SAP will largely be implemented through the RPOA-IUU. The SAP will complement this through a focus on the ecosystem impacts of fisheries.

### *iii. Partnerships in Environmental Management for the Seas of East Asia (PEMSEA)*

The Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) is coordinating the implementation of the Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) that provides an overarching framework for the EAS. The SDS-SEA has the following foci:

- Ensure sustainable use of coastal and marine resources;
- Preserve species and areas of the coastal and marine environment that are pristine or are of ecological, social or cultural significance;
- Protect ecosystems, human health and society from risks occurring as a consequence of human activities;

- Develop economic activities in the coastal and marine environment that contribute to economic prosperity and social well-being while safeguarding ecological values;
- Implement international instruments relevant to the management of the coastal and marine environment; and
- Communicate with stakeholders to raise public awareness, strengthen multisectoral participation and obtain scientific support for the sustainable development of the coastal and marine environment.

The implementation of the ATS SAP will be coordinated with PEMSEA, especially activities that are applying integrated coastal management (ICM) approaches.

### *iv. Convention on Migratory species*

The CMS aims to conserve migratory species, their habitats and migration routes. A number of globally and regionally important migratory species listed under the CMS inhabit the ATS, and memoranda of understanding and action plans are in place to support collaborative management among range states. This includes species of turtles, dugong, whales, sharks and seabirds. The actions in these memoranda of understanding and action plans are broadly aligned with the objectives of this SAP, and in implementing the SAP, the countries will seek to make use of such existing platforms and efforts.



# 3

## SAP Objective and Environmental Quality Objectives

### a. Long-term, environmental quality and operational objectives

The Strategic Action Programme (SAP) responds to the TDA for the ATS (ATSEA, 2012), which identified the Priority Environmental Concerns summarised in Chapter 1. The SAP also undertook a sectoral analysis of the direct and indirect drivers of environmental degradation that have formed the basis for identifying remedial priority actions and activities.

The long-term objective and vision of the SAP is 'to promote sustainable development of the Arafura-Timor Seas region to improve the quality of life of its inhabitants through restoration, conservation and sustainable management of marine-coastal ecosystems'.

This corresponds to the desired status of the ATS ecosystem, which is reached through achievement of five medium-term (10 years) environmental quality objectives that are listed in no particular order of priority:

- Recovering and sustaining fisheries
- Restoring degraded habitats for sustainable provision of ecosystem services
- Reducing land-based and marine sources of pollution
- Protecting key marine species
- Adaptation to the impacts of climate change in relevant sectors

These ecosystem-based objectives will in turn be achieved through seven operational objectives that are presented in Figure 2 and associated priority actions and activities presented in tables 1-5.

Each operational objective has a regional target for environmental stress reduction that will lead to long-term improvement of state of the marine and coastal ecosystems of the ATS and shared living marine resources.

**Figure 2.** Outline of the Strategic Action Programme for the ATS



**b. Priority actions and activities to achieve ecosystem quality objective I: Recovering and sustaining fisheries**

Promotion of responsible fishing practices in the ATS, including combating IUU fishing will be addressed through ongoing efforts under the RPOA-IUU. The SAP will support these efforts through understanding and addressing the ecological impacts of fisheries.

**Table 1:** Recovering and sustaining fisheries.

<b>Objective 1.1: To promote responsible fishing practices, including combating IUU fishing</b>			
Target 1.1: IUU fishing reduced in the ATS by 15-20 %			
<b>Priority Actions</b>	<b>Key national activities</b>	<b>Supporting regional activities</b>	<b>Indicator(s)</b>
Strengthen through the RPOA-IUU, joint action by member countries in the ATS region to promote responsible fishing practices, including combating IUU fishing	See NPOAs-IUU	Strengthen through the RPOA-IUU, joint action by member countries in the ATS region to promote responsible fishing practices, including combating IUU fishing	See NPOAs-IUU

  

<b>Objective 1.2: Understand and address the ecological impacts of fisheries</b>			
Target 1.2: Ecosystem Approach to Fisheries Management applied across the ATS			
<b>Priority Actions</b>	<b>Key national activities</b>	<b>Supporting regional activities</b>	<b>Indicator(s)</b>
Regional transboundary ecosystem assessment	Assessment of ecosystem impacts of fisheries	Regional ecosystem assessment, including impacts of fisheries management	Regional transboundary ecosystem assessment
Apply Ecosystem Approach to Fisheries Management (EAFM)	Evaluate gaps and shortfalls in governance and implementation of fisheries management arrangements as they relate to ecosystem impacts of fisheries	Share and support the use of EAFM frameworks and tools  Provide inputs on ecosystem issues to the RPOA-IUU and NPOA-IUU Steering Committees	Actions implemented to reduce stress on marine and coastal ecosystems compared to baseline

**c. Priority actions and activities to achieve ecosystem quality objective II: Restoring degraded habitats for sustainable provision of ecosystem services**

To ensure sustained provision of ecosystem services from key habitats in the ATS, the status of critical habitats and nurseries, their connectivity as well as pressures exerted on them will be identified and assessed. Regional coordination of national and local plans and actions to conserve coastal and marine ecosystems will be promoted in close coordination with the CTI. Local communities will benefit from sustainable management of coastal and marine resources through support to sustainable livelihoods and introduction of alternative or supplementary livelihoods when appropriate. Payment for ecosystem services (PES) approaches, such as REDD+ schemes, and best practices in habitat management, are also expected to contribute to sustainable local livelihoods.

**Table 2:** Restoring degraded habitats for sustainable provision of ecosystem services

<b>Objective 2.1: To strengthen the management of biodiversity, especially ecologically important habitats, including mangroves, coral reefs and seagrass beds</b>			
Target 2.1: Enhanced management and protection of 20 % of marine and coastal habitats (including mangroves, coral reefs, and seagrass beds)			
<b>Priority Actions</b>	<b>Key national activities</b>	<b>Supporting regional activities</b>	<b>Indicator(s)</b>
Identify and assess the status of critical habitats, nurseries and other key ecosystem assets	Routine monitoring and rapid assessments to identify critical habitats	Develop a regional profile of ecosystem assets and connectivity, and evaluate pressures	Regional profile of ecosystems assets and assessment of current and emerging pressures
Promote regional coordination of national and local plans and actions to conserve coastal and marine ecosystems and critical habitats	Review of national and local ecosystem management plans and actions, where needed  Strengthen the implementation of MPAs best practices	Develop regional connections between national MPA networks  Strengthen the institutional aspects of MPA Networks in the ATS region (e.g. FORUM of MPAs network)  Share and introduce good practices in habitat management, including MPAs, habitat restoration, etc.	Expansion in coverage of MPAs  Regional connections between the MPA networks established  Capacity for MPA establishment and management capacity enhanced Use of non – MPA conservation tools enhanced and better coordinated
Empower local communities to manage coastal ecosystems in a sustainable manner	Increase awareness of how to manage and benefit from marine resources in a sustainable manner, including fisheries  Determine the potential for and promote alternative, supplementary and sustainable livelihoods in the ATS region	Share and support approaches to community-based management, including through regional exchanges	Number of communities involved, and people trained on sustainable livelihoods, including alternative/ supplementary livelihoods
Promote payment for ecosystem services (PES approaches)	Scoping and development of PES schemes, including potential linkages to REDD+  Review and analysis of relevant legal and policy framework, where required	Pilot and share experiences on PES at regional level	Number of PES schemes established

**d. Priority actions and activities to achieve ecosystem quality objective III:  
Reducing land-based and marine sources of pollution**

Reducing land-based and marine sources of pollution in the ATS will be achieved through enhanced coordination of policies and implementing actions across sectors and different levels of government. Pollution hotspots will be identified across the region as an input to integrated coastal management (ICM), with links to the work of PEMSEA made where relevant. The impact of oil spills will be reduced by putting in place early warning systems at national level and regional response coordination arrangements. Marine debris, such as derelict fishing gear, will be reduced through regional collaboration to develop and implement cost-effective solutions.

**Table 3:** Reducing land and marine based pollution.

<b>Objective 3.1: To prevent and reduce inputs of pollutants from coastal point land sources (wastewater, sewage and industrial) and diffuse sources (land-use)</b>			
Target 3.1: Reduction of the ecologically harmful impacts of nutrients in coastal waters from base year			
<b>Priority Actions</b>	<b>Key national activities</b>	<b>Supporting regional activities</b>	<b>Indicator(s)</b>
Enhanced coordination of policies across sectors and different levels of government	<p>Improvement (where required) of existing policies and legislation and filling of gaps, including through:</p> <ul style="list-style-type: none"> <li>- Gap analysis of regulations to control land-based sources of marine pollution</li> <li>- Harmonise standard procedures to control land-based pollution</li> <li>- Strengthening of intersectoral coordination mechanism</li> <li>- Improve coordination between different levels (district provincial, national)</li> </ul>	<p>Identify pollution hotspots and associated impacts as an input to ICM</p> <p>Sharing and supporting experiences and approaches, including regional training and exchanges</p>	<p>Number of laws and policies strengthened</p> <p>Intersectoral coordination mechanisms in place in each country</p> <p>Hotspots identified across the ATS</p> <p>Training and exchanges completed</p>
<b>Objective 3.2: To prevent and reduce pollution from marine sources (ports and shipping)</b>			
Target 3.2: Reduction in the incidence and impacts of marine-based pollution from base year			
<b>Priority Actions</b>	<b>Key national activities</b>	<b>Supporting regional activities</b>	<b>Indicator(s)</b>
Enhance oil spill prevention and response arrangements	<p>Development of early warning and response measures at national level, such as oil spills contingency plan</p> <p>Introduce good practices</p>	<p>Development of regional oil spill response co-ordination arrangements, including communication protocols</p> <p>Sharing of good practices, including evaluation of environmental risks and sensitivities, and environmental impact assessment and approval practices.</p>	<p>Early warning systems in place at national level</p> <p>Coordinated oil spill response arrangements in place across the ATS region</p> <p>Number of good practices adopted</p>
Reduce marine debris	<p>Improve monitoring and strengthen awareness</p> <p>Awareness raising at national and local levels of environmental impacts of marine debris, through means such as beach clean-up campaigns</p>	<p>Strengthen regional collaboration on marine debris (including DFG) to identify key sources and impacts, and develop and implement cost-effective solutions</p>	<p>Reduction of marine debris compared to baseline</p> <p>Reduction in amount of derelict fishing gear (DFG) in the ATS</p> <p>Implementation of actions to reduce marine debris, such as port reception facilities, gear locators etc</p>

**e. Priority actions and activities to achieve ecosystem quality objective IV:  
Protecting key marine species**

This environmental quality objective will be implemented in close coordination with objective II on habitat management as well as the CTI RPOA. Regional coordination of plans and actions to conserve threatened and migratory species will be promoted in order to strengthen implementation of relevant global and regional agreements, such as CITES and CMS. Threatened and migratory species considerations will be incorporated into MPA design and management, and by-catch and direct harvesting will be reduced through education and awareness raising, introduction of good practices, alternative or supplementary livelihoods and other cost-effective solutions.

**Table 4:** Protecting key marine species.

<b>Objective 4.1: To reverse the decline in threatened and migratory marine species (such as turtles, dugongs, seabirds/shorebirds, sea snakes, sharks and rays) in the ATS region</b>			
Target 4.1: Enhanced protection of 10-20% of important habitats for threatened and migratory marine species; 20% decrease in direct and indirect harvesting of threatened and migratory species			
<b>Priority Actions</b>	<b>Key national activities</b>	<b>Supporting regional activities</b>	<b>Indicator(s)</b>
Promote regional coordination of plans and actions to conserve threatened and migratory species	Establishment/review and implementation of national and local plans and actions to conserve threatened and migratory species, where required	Increasing understanding of migratory species including distribution of biologically important habitat and connectivity between the three countries  Cooperate in the implementation of relevant global and regional agreements (e.g. CITES, CMS, CTI, etc.)	Review reports  Strengthened implementation of global and regional agreements in the ATS as seen in national reports to conventions, etc.
Incorporate threatened and migratory species considerations in MPA design and management (see 2.1)	See 2.1	See 2.1	Strengthened protection of important habitats in the ATS and upscaling of good practices in MPA management that consider threatened and migratory species (number of best practices)
Reduce by-catch of threatened and migratory species	Improve understanding of by-catch of threatened and migratory species, through means such as surveys  Strengthen monitoring and enhance public awareness of by-catch issues  Education and training on by-catch reduction methods	Improve understanding of by-catch issues through surveys and research  Implement cost-effective solutions, including education public awareness, and capacity building	Survey reports  Number of local communities trained  Reduction of by-catch compared to baseline

Priority Actions	Key national activities	Supporting regional activities	Indicator(s)
Reduce direct harvesting of threatened and migratory species	<p>Introduce alternative livelihoods (see 2.1)</p> <p>Introduce good practices for community-based threatened and migratory species conservation</p>	Exchange experience in managing direct harvesting including traditional usage of threatened and migratory species (turtles, mammals, marine birds, etc.) at regional level	<p>Establishment of management practices that eliminate or reduce direct harvesting</p> <p>Increase in income generated from alternative and supplementary livelihoods compared to baseline</p>

**f. Priority actions and activities to achieve ecosystem quality objective V: Support people and ecosystem-based adaptation to the impacts of climate change**

The resilience of coastal ecosystems to climate change will be enhanced through an ecosystem-based approach to adaptation, including PES approaches that value climate change adaptation and mitigation services, and incorporation of climate change considerations in MPA design and management. The vulnerability of coastal communities to climate change will be reduced through development of management plans for communities at risk and early warning systems, and support for climate resilient livelihoods.

**Table 5:** Adaptation to the impacts of climate change.

<b>Objective 5.1: To promote the adaptive capacity and resilience of coastal and marine ecosystems and reduce vulnerability of local communities to climate change</b>			
<b>Target 5.1 Increased understanding of climate change impacts and incorporation of that knowledge into management plans and strategies, including establishment of management plans for more than 60% of at-risk coastal villages</b>			
Priority Actions	Key national activities	Supporting regional activities	Indicator(s)
Promote ecosystem-based approach to adaptation	<p>Capacity building of scientists and policy-makers in ecosystem-based approach to adaptation, including blue carbon</p> <p>Implement good practices for vegetation restoration together with local communities</p>	<p>Exchange good practices and experience in ecosystem-based adaptation at technical and policy levels</p> <p>Pilot and share approaches to PES that value climate change adaptation and mitigation services, including blue carbon</p>	Increased climate change resilience of coastal and marine ecosystems and communities compared to baseline
Incorporate climate change consideration into MPA design and management	See 2.1	See 2.1	MPA networks in the ATS incorporate consideration of climate change impacts

Priority Actions	Key national activities	Supporting regional activities	Indicator(s)
Improve the understanding of climate change impacts on coastal communities	<p>Climate change impact monitoring</p> <p>Analyse and reassess existing data to determine potential impacts</p> <p>Spatial mapping of areas at risk</p> <p>Vulnerability assessments at relevant scales</p> <p>Develop early warning system to monitor major events</p>	<p>Regional collaboration on spatial mapping of vulnerability to climate change impacts</p> <p>Share and support experiences and approaches to vulnerability assessment</p>	<p>Reports from impact monitoring and vulnerability assessments</p> <p>Early warning system in place at national level</p>
Educate and raise awareness of local communities of climate change impacts	<p>Training and awareness raising, through means such as Field Schools for local communities on adaptation to climate change</p> <p>Disseminate information on weather, climate change impacts on livelihoods, and adaptation measures</p>	<p>Regional training, training of trainers and exchanges on climate change adaptation measures</p>	<p>Number of people trained on adaptation to climate change</p>
Support climate change resilient livelihoods (linked to 2.2)	<p>Develop management plans for local communities at risk</p> <p>Testing and upscaling of climate change resilient livelihoods</p>	<p>Share and support approaches to establishing climate change resilient livelihoods</p>	<p>Number of people with climate resilient livelihoods</p>



# 4

## Institutional and Legislative Actions and Financial Mechanism for implementation of the SAP

### a. Governance

#### i. Strengthening of ATS Regional Governance

A regional mechanism for cooperation will be initiated to ensure coordination and capacity building to promote sustainable and integrated management of the ATS region. Actions to strengthen regional governance of the ATS will include:

**Table 6:** Strengthening of regional governance.

6.1 To strengthen the regional governance of the ATS region		
Target 6.1: A regional mechanism for cooperation		
Priority Actions	Activities	Indicator(s)
Establish a Coordinator/Secretariat and Coordination Committee for cooperation in management of coastal and marine ecosystems in the ATS	Promote active regional planning and cooperation in implementation of the SAP and NAPs, including participation in ATS regional meetings	A regional mechanism for cooperation  Active participation by member countries in ATS regional meetings
	Development of three-yearly implementation plans	Implementation plans are developed and implemented.

#### ii. Strengthening of stakeholder participation

A Stakeholder Partnership Forum will be established comprised of a regional network of institutions engaged in community mobilisation and empowerment, research and capacity development to strengthen stakeholder participation and support coastal livelihoods improvement.

**Table 7:** Strengthening of stakeholder participation.

6.2 To strengthen stakeholder participation in ATS governance and management		
Target 6.2: A Stakeholder Partnership Forum of experts and practitioners involved in research and capacity development activities relevant to the SAP and NAPs		
Priority Actions	Activities	Indicator(s)
Establishment of a Stakeholder Partnership Forum to facilitate stakeholder participation in ATS SAP and NAP implementation	Establish a Stakeholder Partnership Forum	Stakeholder partnership Forum established
	Encourage active participation by Stakeholders in the Forum Arrange meetings of the Forum	Number of Forum meetings Contributions of Forum participants to implementation of the SAP and NAPs
Promotion of community-based and participatory measures at the national level	Undertake evaluation of best practice community-based mechanisms and approached that may be adapted at the national level	Best practice community based governance measures developed

*iii. Strengthening of national institutional and legal frameworks – development of NAPs*

Indonesia and Timor-Leste will develop a National Action Plan (NAP) which will form an integral part of this SAP. Each NAP shall identify a suite of measures and present details of national actions for ecosystem-based management and sustainable use of natural resources that will be taken to effectively address strategic transboundary issues and the most urgent environmental concerns at the national level.

Each NAP will include cost data to take full account of the cost estimates of financing the implementation of actions required in the short, medium and long-term and any additional funding to strengthen the financial sustainability and ensure the prompt and adequate provision of funding for priority environmental actions identified in the NAP/SAP.

The NAP as the overarching framework for coastal and marine environmental management at the country level, will incorporate relevant proposed policy reforms and investment actions already

identified in the various action plans (e.g. National Biodiversity Strategy Action Plan (NBSAP), National Adaptation Programmes of Action (NAPAs), POPs National Implementation Plans (POPs/NIPs), CTI, ICM, etc.), for the avoidance of duplication. Each NAP is to be adopted and endorsed by the relevant by-laws to be enacted by each member country of the ATS region and therefore represent the major tool that shall facilitate the implementation of the SAP at the national level. The successful implementation of the NAPs will therefore enable the achievement of the objectives of the SAP.

Member Countries will be supported to implement NAPs for the successful national level implementation of the SAP, and where necessary provide national and regional training for achieving same.

Within Australia, the objectives and actions of the SAP will inform the implementation of established plans and policies, including Marine Bioregional Plans for the north and

north – west marine regions, management plans for Australia’s MPA network, and threatened species recovery plans.

Australia will prepare and keep updated a document that outlines the key activities being undertaken at national level that support achievement of SAP objectives.

## **b. Financial Mechanism**

The estimated cost of implementing the priority actions and activities of the ATS SAP will be identified in the context of detailed implementation plans. These plans will identify specific activities that will be undertaken, associated costs, and funding/support services. ATS countries shall strengthen their commitment to joint ecosystem-based management by providing or increasing resources to support actions outlined in the SAP and NAPs. To secure co-funding, ATS countries will equally seek the necessary funding for the actions agreed upon in this SAP and NAPs from national, regional and international sources and mobilise resources from private and general public funding for sustainable financing or through the application of appropriate economic incentives/instruments where possible. To ensure the financial sustainability of the ATS SAP, the sources of funding for its implementation are listed below.

### *i. Portfolio of funding sources*

- National and local governments
- Private sector (e.g. fishing industry, tourism sector, etc.)
- Multilateral and bilateral donors
- NGOs
- Foundations
- CTI Programme

### *ii. Other financial instruments and mechanisms*

- Payment for Environmental Services (PES)
- Public Private Partnerships (PPPs)
- Corporate Social Responsibility (CSR)
- Climate Change funding
  - Carbon markets
  - Adaptation funding

### *iii. Replication and up-scaling mechanism for demonstration projects*

The national and regional demonstration projects implemented as part of the TDA and SAP development process are the following:

1. Management of mangrove areas as a buffer zone for coastal ecosystem, seaweed farming and mud crab rearing in Indonesia
2. Coastal livelihood project in Timor-Leste
3. Regional Community-based management project and sustainable livelihood development

Experiences and lessons learned from the demonstration projects will be replicated and up-scaled as appropriate, as best practices examples of how to address common concerns related to coastal and marine management in the ATS provide a cost-effective way of implementing the SAP.



# 5 Monitoring and Evaluation

**M**onitoring and evaluation will be undertaken under the NAPs and the SAP to support achieving the objectives of recovering and sustaining fisheries; restoring degraded habitats; reducing land and marine based pollution; protecting key marine species; and adapting to climate change. The implementation of the SAP is projected for a period of 10 years.

## a. Indicators for Monitoring and Evaluation

Indicators for monitoring and evaluation provided for each priority action and activity under the respective SAP component in tables 1-7 are summarised in Table 8 below. Indicators for monitoring have been classified into process, stress reduction and state indicators following the categorisation in the GEF International Waters tracking tool.

**Table 8:** Indicators for monitoring and evaluation of SAP implementation.

Operational objective	Process indicator	Stress reduction indicator	State indicator to be monitored by ATS regional mechanism
1.1 To promote responsible fishing practices, including combating IUU fishing		IUU fishing reduced by 15-20%	Improved status of transboundary and straddling fish stocks
1.2. Understand and address the ecological impacts of fisheries		Ecosystem approach to fisheries management applied across the ATS	Improved status of marine habitats and threatened species affected by fishing
2.1: To strengthen the management of biodiversity, especially ecologically important habitats, including mangroves, coral reefs and seagrass beds		Enhanced management and protection of 20% of marine and coastal habitats (including mangroves, coral reefs, and seagrass beds)	Improved status of marine and coastal habitats (mangroves, coral reefs and seagrass beds)
3.1: To prevent and reduce inputs of pollutants from point land sources (wastewater, sewage and industrial) and diffuse sources (land-use)		Reduction of total loading of nutrients in coastal waters from baseline (year) level	Improvement in water quality (e.g. N, P, BOD)
3.2: To prevent and reduce pollution from marine sources (ports and shipping)		Reduction in the incidence of marine-based pollution from base year	Improvement in water quality (reduction in marine pollutants and marine debris)
4.1: To reverse the decline in threatened and migratory marine species (such as turtles,		Enhanced protection of 10-20% of important habitats for threatened and migratory	Populations of threatened and migratory species increased (e.g. turtles, dugongs,

Operational objective	Process indicator	Stress reduction indicator	State indicator to be monitored by ATS regional mechanism
dugongs, seabirds/ shorebirds, sea snakes, sharks and rays) in the ATS region		marine species; 20%decrease in direct and indirect harvesting of threatened and migratory species	seabirds/ shorebirds, sea snakes, sharks and rays)
5.1: To promote the adaptive capacity and resilience of coastal and marine ecosystems and reduce vulnerability of local communities to climate change		Increased understanding of climate change impacts and incorporation of that knowledge into management plans and strategies, including establishment of management plans for more than 60% of at-risk coastal villages	Improved ecosystem resilience and reduced community vulnerability(measured through sustainable livelihoods indicators)
6.1 To strengthen the regional governance of the ATS region	A regional mechanism for cooperation	Mechanism in place to produce a report on stress reduction measures	Mechanisms and indicators in place to monitor the environmental and socio-economic status of the ATS
6.2 To strengthen stakeholder participation in ATS governance and management	A Stakeholder Partnership Forum of experts and practitioners involved in research and capacity development activities relevant to the SAP and NAPs		Alignment of stakeholder activities with the SAP, NAPs and implementation plans, and coordination of efforts among stakeholders and governments.
1.1 To promote responsible fishing practices, including combating IUU fishing		IUU fishing reduced by 15-20 %	Improved status of transboundary and straddling fish stocks
1.2. Understand and address the ecological impacts of fisheries		Ecosystem approach to fisheries management applied across the ATS	
2.1: To strengthen the management of biodiversity, especially ecologically important habitats, including mangroves, coral reefs and seagrass beds		Enhanced management and protection of 20% of marine and coastal habitats (including mangroves, coral reefs, and seagrass beds)	Improved status of marine and coastal habitats (mangroves, coral reefs and seagrass beds)
3.1: To prevent and reduce inputs of pollutants from point		Reduction of total loading of nutrients in coastal waters from baseline	Improvement in water quality (e.g. N, P, BOD)
land sources (wastewater, sewage and industrial) and diffuse sources (land-use)		(year) level	
3.2: To prevent and reduce pollution from marine sources (ports and shipping)		Reduction in the incidence of marine-based pollution from base year	Improvement in water quality (reduction in marine pollutants and marine debris)

Operational objective	Process indicator	Stress reduction indicator	State indicator to be monitored by ATS regional mechanism
4.1: To reverse the decline in threatened and migratory marine species (such as turtles, dugongs, seabirds/ shorebirds, sea snakes, sharks and rays) in the ATS region		Enhanced protection of 10-20% of important habitats for threatened and migratory marine species; 20% decrease in direct and indirect harvesting of threatened and migratory species	Populations of threatened and migratory species increased (e.g. turtles, dugongs, seabirds/ shorebirds, sea snakes, sharks and rays)
5.1: To promote the adaptive capacity and resilience of coastal and marine ecosystems and reduce vulnerability of local communities to climate change		Increased understanding of climate change impacts and incorporation of that knowledge into management plans and strategies, including establishment of management plans for more than 60% of at-risk coastal villages	Improved ecosystem resilience and reduced community vulnerability(measured through sustainable livelihoods indicators)
6.1 To strengthen the regional governance of the ATS region	A regional mechanism for cooperation	Mechanism in place to produce a report on stress reduction measures	Mechanisms and indicators in place to monitor the environmental and socio-economic status of the ATS
6.2 To strengthen stakeholder participation in ATS governance and management	A Stakeholder Partnership Forum of institutions engaged in community mobilisation and empowerment, research and capacity development		

Identification of baselines for monitoring was initiated in during the TDA process and will be finalised during the first year of implementation of the SAP.

### **b. Mechanism for Monitoring and Evaluation**

The ATS Regional Mechanism is the overall responsible body for monitoring and evaluation of the implementation of the SAP. The following reporting mechanisms will be put in place:

- i) Annual reporting of implementation progress and key indicators
- ii) Three yearly reporting on SAP implementation plan
- iii) Mid-term evaluation (after five years) of implementation progress and changes to process, pressure and state indicators in the ATS
- iv) Final evaluation (after 10 years) of changes to process, pressure and state in the ATS region thanks to the implementation of the SAP.

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