

**FOURTH MEETING OF SIGNATORY STATES TO THE MEMORANDUM OF
UNDERSTANDING ON THE CONSERVATION AND MANAGEMENT OF DUGONGS
(*DUGONG DUGON*) AND THEIR HABITATS THROUGHOUT THEIR RANGE**

(Riyadh, 6-8 May2024)

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**PROPOSED AMENDMENTS
TO THE CONSERVATION AND MANAGEMENT PLAN FOR THE DUGONG MOU**

(Prepared by Secretariat of the Dugong MOU)

Summary: This document introduces proposed amendments to the Conservation and Management Plan for the Dugong MOU. The Meeting is invited to review and adopt the proposed amendments.

1. Paragraph 4 of the Dugong MOU Text calls for the Dugong MOU Signatory States to implement, subject to the availability of necessary resources, the Conservation and Management Plan (CMP) annexed to the MOU. It also states that the CMP will address the following:
 - (a) Direct and indirect causes of dugong mortality;
 - (b) Research and monitoring of dugong populations;
 - (c) Protection, conservation and management of habitats;
 - (d) Research into and monitoring of important dugong habitats;
 - (e) Awareness of dugong conservation;
 - (f) National, regional and international cooperation;
 - (g) Implementation of the MOU;
 - (h) Legal protection of dugong and their habitats; and
 - (i) Capacity building at all levels.
2. At the Third Meeting of Signatory States to the Dugong MOU (MOS3, Abu Dhabi, March 2017), Signatory States endorsed the need to undertake a full revision of the CMP to ensure correlation and consistency with relevant international mandates (see document CMS/Dugong/MOS3/Report*, paragraphs 127-131). In particular, the Strategic Plan for Biodiversity, the United Nations Sustainable Development Goals (SDGs), and the Strategic Plan for Migratory Species (SPMS) adopted at the Eleventh Meeting of the Conference of the Parties to CMS (COP11, Quito, November 2014).
3. At MOS3, Signatory States agreed that the Secretariat would work with the Dugong Technical Advisory Group (TAG) to develop terms of reference for the mentioned review so that a revised draft of the CMP could be made available for the consideration of Signatory States at the Fourth Meeting of Signatory States to the Dugong MOU.
4. Between December 2020 and May 2022, the Secretariat commissioned a consultant to review and update the CMP, ensuring it reflected relevant recommendations from MOS3, as well as synergies between the MOU and Resolutions adopted by the Conference of the Parties. As part of the work, the consultant was requested to liaise with the Secretariat of the Dugong MOU, TAG, Signatory States and other Range States, as needed.
5. The results of the commissioned review and update were presented at the First Meeting of the Technical Advisory Group to the Dugong MOU (TAG1, online, April 2023; see documents UNEP/CMS/Dugong/TAG1/Doc.5 and UNEP/CMS/Dugong/TAG1/Doc.6). In addition to reflecting the changes mentioned in paragraphs 2 and 4 above, the review also took into account the most recent scientific information available on threats to dugongs and their habitats, including climate change. Information on these threats was informed by evidence collated from the:
 - (a) 'A Summary Report on a Review of Recent National Dugong Action Plans to Inform Revision of the Dugong Memorandum of Understanding Conservation Management Plan' (see document UNEP/CMS/DUGONG/MOS4/Inf.1); and
 - (b) '2016-2019 National Report Analysis – Memorandum of Understanding on the Conservation and Management of Dugongs and their Habitats throughout their Range' (see document UNEP/CMS/DUGONG/MOS4/Inf.2).
6. TAG1 considered the commissioned review of the CMP and agreed to the Secretariat undertaking a further review of the document as to strengthen its conciseness, clarity, and unambiguous interpretation (see document UNEP/CMS/Dugong/TAG1/Report).

7. The review undertaken by the Secretariat addressed the following key aspects:
 - (a) Ensuring that the 'Objectives' of the CMP closely follow the items listed in paragraph 4 of the Dugong MOU Text, and that there is no overlap between the Objectives themselves;
 - (b) Removing the columns 'Timescale' (provided little informative value) and 'Target' (mostly paraphrased the text contained the column 'Action');
 - (c) Ensuring that the 'Examples of specific activities' contained in the CMP are as concise and unambiguous as possible, and that they are placed under the most pertinent objective;
 - (d) Clustering stakeholder types into more concise, overarching categories;
 - (e) Removing redundant and repetitive terms;
 - (f) Introducing and using acronyms when possible;
 - (g) Adding colouring to ease visual judgement of the 'Priority level' of each action;
 - (h) Implementing relevant editorial changes.
8. The combined results of the commissioned review and the review by the Secretariat are contained in Annex 1 to this document. They reflect the changes mentioned in paragraphs 2, 4, 5 and 7 above.

Action requested

9. The Meeting is invited to review and adopt the proposed amendments to the CMP as contained in Annex 1.

ANNEX 1

Proposed Amendments to the CMP

Note: underline = addition, ~~strikethrough~~ = deletion

CONSERVATION AND MANAGEMENT PLAN **FOR THE MEMORANDUM OF UNDERSTANDING ON THE CONSERVATION AND** **MANAGEMENT OF DUGONGS (*Dugong dugon*) AND THEIR HABITATS THROUGHOUT** **THEIR RANGE**

(as revised and adopted by the Fourth Meeting of Signatories to the Dugong MOU, Riyadh, 2024)

1. In signing the Memorandum of Understanding on the Conservation and Management of Dugongs (*Dugong dugon*) and their Habitats throughout their Range (henceforth Dugong MOU), Signatory States agree to implement, subject to the availability of necessary resources, the present Conservation and Management Plan (henceforth CMP) that addresses:
 - (a) Direct and indirect causes of dugong mortality;
 - (b) Research and monitoring of dugong populations;
 - (c) Protection, conservation and management of habitats;
 - (d) Research into and monitoring of important dugong habitats;
 - (e) Awareness of dugong conservation;
 - (f) National, regional and international co-operation;
 - (g) Implementation of the MOU;
 - (h) Legal protection of dugongs and their habitats; and
 - (i) Capacity building at all levels.
2. The CMP takes into account contemporary scientific developments in the understanding of dugong conservation biology; the effects of climate change on dugongs and their habitats; the value of the ecosystem services associated with dugongs and their seagrass habitats; and the cost-effectiveness of implementing initiatives that jointly benefit dugongs and other marine megafauna, such as dolphins and marine turtles.
3. The CMP also takes stock of learnings from existing regional and national action plans on dugong conservation (including from associated national reporting).
4. The CMP is composed of nine objectives:

<u>Objective 1</u>	<u>Reduce direct and indirect causes of dugong mortality</u>
<u>Objective 2</u>	<u>Improve the understanding of dugongs through research and monitoring</u>
<u>Objective 3</u>	<u>Protect, conserve and manage habitats for dugongs</u>
<u>Objective 4</u>	<u>Improve the understanding of dugong habitats through research and monitoring</u>
<u>Objective 5</u>	<u>Raise awareness of dugong conservation</u>

Objective 6	Enhance national, regional and international co-operation
Objective 7	Promote implementation of the MOU
Objective 8	Improve legal protection of dugongs and their habitats
Objective 9	Build national, regional and international capacity for the conservation of dugongs and their habitats

5. The objectives of the CMP are articulated into actions, each of which is accompanied by example activities that aim to support Signatory States and other relevant stakeholders in identifying specific ways to implement the actions of the CMP at local, national and/or regional levels.
6. The example activities provided apply to a variety of contexts. It is strongly recommended that Signatory States identify and articulate the context for implementing the Dugong MOU at national level (e.g., governance structure for marine megafauna management, size of dugong population, management and research capacity) before determining which example activities to implement.

**CONSERVATION AND MANAGEMENT PLAN FOR THE MEMORANDUM OF UNDERSTANDING
ON THE CONSERVATION AND MANAGEMENT OF DUGONGS (*Dugong dugon*)
AND THEIR HABITATS THROUGHOUT THEIR RANGE**

Species Aspects

Objective 1 – Reduce direct and indirect causes of dugong mortality					
Action	Priority Level	Time-scale	Concerned Organizations	Target	Examples of specific activities
1.1 Identify, assess and evaluate the threats to dugong populations and develop appropriate measures to address these threats <u>them</u>	High (Across all of the range of dugong)	Ongoing	<p>Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers</p> <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>Intergovernmental organizations (IGOs)</u> ▪ <u>Non-governmental organizations (NGOs)</u> ▪ <u>Research/academic institutions</u> ▪ <u>Local communities</u> 	Threats to dugongs and their required conservation measures are identified, assessed and evaluated	<p>a) <u>Identify financial and other capacity needs for reducing direct and indirect causes of dugong mortality</u></p> <p>b) <u>Establish baseline data collection and monitoring programmes appropriate to national dugong population size and distribution and national institutional capacity, to gather information on the nature and magnitude of threats, including climate change</u></p> <p>c) <u>Regularly update existing data on threats to dugong populations</u></p> <p>d) <u>Determine those populations affected by traditional subsistence and customary use, incidental capture in fisheries and other sources of mortality</u></p> <p>e) <u>Conduct socio-economic studies among communities that interact with dugongs and their habitats to support the identification of appropriate responses</u></p> <p>f) <u>Implement programmes to correct adverse social and economic incentives that threaten dugong populations</u></p> <p>g) <u>Facilitate the development of sustainable means of subsistence for affected communities to minimize adverse social and economic impacts</u></p> <p>h) <u>Enact, where not already in place, legislation that prohibits the taking (as defined by CMS¹) of, and trade</u></p>

¹ As defined in article I, 1, i) of the CMS Text, "Taking" means "taking, hunting, fishing capturing, harassing, deliberate killing, or attempting to engage in any such conduct".

					<p>in dugongs and their products, whilst allowing exceptions for traditional subsistence or customary use, as appropriate</p> <p>i) <u>Establish governance and management programmes at levels relevant to national circumstances to enforce legislation concerning taking and trade</u></p> <p>j) <u>Negotiate, where appropriate, management agreements in consultation with other concerned Range States in the region</u></p>
<p>1.2 <u>Reduce to the greatest extent practicable and monitor the incidental capture and mortality of dugongs in the course of linked to fishing activities</u></p>	High	Ongoing	<p>Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers, fishers and fishing communities</p> <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Research/academic institutions</u> ▪ <u>Fishers and their communities</u> 	Incidental fishing mortality of dugongs is minimized	<p>a) <u>Assess the level, location and impacts of artisanal and commercial fishing on dugongs at ecologically relevant scales</u></p> <p>b) <u>Develop and encourage the use of gears, devices and techniques that minimize incidental capture of dugongs and other relevant marine wildlife (e.g., small cetaceans and marine turtles) in artisanal and commercial fisheries, such as the use of alternative gears, and/or limit or control the use of gears known to be harmful to dugongs, such as gill nets</u></p> <p>c) <u>Explicitly include dugong and seagrass protection measures in marine protected areas (MPAs; at establishment or revision stages) that prohibit or limit fishing activities (i.e. spatial fishing closures), and measure their effectiveness</u></p> <p>d) <u>Develop procedures and extension programmes to promote implementation of protection measures</u></p> <p>e) <u>Exchange information and, upon request, provide technical assistance to Signatory States and Range States, particularly those in the same region, to promote protection measures</u></p> <p>f) <u>Liaise and coordinate with the fishing industry, fisheries management organizations and community groups to develop and implement protection measures</u></p> <p>g) <u>Ban the sale of products from dugongs caught incidentally in fishing gear and enforce such ban</u></p>

					<p>h) <u>Minimize the disposal of fishing gear at sea and on beaches by adhering to relevant international requirements and developing and implementing net marking, retention and recycling schemes</u></p> <p>i) <u>Provide and ensure the use of onshore facilities for the disposal of ship-borne waste</u></p>
<p>1.3 <u>Reduce to the greatest extent practicable Minimize and monitor the incidental mortality of dugongs arising from other-linked to anthropogenic activities other than fishing (e.g., vessel strikes, pollution, explosives)</u></p>	High	Ongoing	<p>Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers and other stakeholders (e.g., tourism operators, recreational fishers)</p> <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Research/academic institutions</u> ▪ <u>Tourism operators</u> ▪ <u>Recreational fishers</u> ▪ <u>Others</u> 	<p>Mortality arising from other anthropogenic activities on dugong is minimized</p>	<p>a) <u>Assess the level, location and impact of anthropogenic activities other than fishing on dugongs at ecologically relevant scales</u></p> <p>b) <u>Reduce to the extent possible all other anthropogenic impacts on dugongs and their habitats in areas that sustain traditional subsistence and customary use</u></p> <p>c) <u>Establish appropriate management programmes to ensure that anthropogenic impacts are addressed, taking account of the temporal and spatial variability of dugong reproductive rates and other impacts on the species</u></p> <p>d) <u>Explicitly include dugong and seagrass protection measures in MPAs (at establishment or revision stages) that prohibit or limit vessel traffic (e.g., slow zones, no go zones), and measure the effectiveness of such measures</u></p>
<p>1.4 <u>Reduce to the greatest extent practicable Minimize and monitor the illegal taking of dugongs</u></p>	High	Ongoing	<p>Relevant government agencies, intergovernmental and non-governmental organizations and communities</p> <ul style="list-style-type: none"> ▪ <u>Government agencies</u> 	<p>Illegal take of dugong is minimized</p>	<p>a) <u>Assess the levels, locations and impacts of the illegal taking of dugongs</u></p> <p>b) <u>Establish appropriate and effective management programmes to address the illegal taking of dugongs (e.g., full or partial hunting ban with adequate enforcement, awareness programmes)</u></p> <p>c) <u>Ban the sale of products from dugongs taken illegally and enforce this ban</u></p>

			<ul style="list-style-type: none"> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Local communities</u> 		
1.5 <u>Ensure that Manage and monitor the traditional subsistence and customary use of dugongs is sustainable in areas where it is permitted to ensure sustainability</u>	High (In areas where subsistence and customary harvest is permitted)	Ongoing	Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers and community-based organizations <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Research/academic institutions</u> ▪ <u>Community-based organizations, especially involving traditional leaders/elders</u> 	Subsistence and customary use is managed sustainably	<ul style="list-style-type: none"> a) <u>Assess the levels, locations and impacts of traditional subsistence and customary use of dugongs at ecologically and culturally relevant scales using culturally appropriate techniques</u> b) <u>Reduce as much as possible all other human impacts on dugongs and their habitats in areas that allow traditional subsistence and customary use</u> c) <u>Work with relevant local communities to establish culturally appropriate management programmes to ensure that traditional subsistence and customary use are sustainable, taking precautionary account of cultural practices, the temporal and spatial variability of dugong reproductive rates, and other impacts on the species</u> d) <u>Ensure that such programmes do not have adverse consequences (e.g., increase use of other threatened species, such as marine turtles)</u> e) <u>Work with local communities to develop culturally appropriate alternative means of subsistence in areas where the traditional subsistence and customary use of dugongs is permitted to alleviate adverse social and cultural impacts</u> f) <u>Negotiate, where appropriate, management agreements on the sustainable level of traditional subsistence and customary use where it is permitted, in consultation with other concerned Range States, to ensure that such use does not undermine traditional conservation efforts</u> g) <u>Ensure that the management of other species (including fisheries) does not have adverse consequences on the traditional customary use of dugongs where it is permitted</u>

Objective 2 – Improve our <u>the</u> understanding of dugongs through research and monitoring					
Action	Priority Level	Time-scale	Concerned Organizations	Target	Examples of specific activities
2.1 Determine the distribution and abundance of dugong populations to provide a <u>baseline data</u> for future conservation efforts and actions	High	Immediate	Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Research/academic institutions</u> ▪ <u>Local communities</u> 	An understanding, across the range of dugong, of distribution and numbers	<p>a) <u>Identify financial and other resources for the collection and analysis of data on the distribution and abundance of dugong populations</u></p> <p>b) <u>Use the Dugong and Seagrass Research Toolkit (http://www.conservation.tools/) to identify appropriate research techniques for different research questions and contexts</u></p> <p>c) <u>Conduct baseline studies and gather secondary information on dugong populations using cost effective techniques appropriate to national dugong population size and distribution and national institutional capacity, including community-based monitoring and megafauna stranding programmes</u></p>
2.2 Conduct <u>regular</u> research and monitoring <u>into of important</u> dugong populations	High	Ongoing	Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Research/academic institutions</u> 	Research and monitoring that promote dugong conservation are conducted	<p>a) <u>Identify sustainable financial and other resources for research and monitoring of important dugong populations</u></p> <p>b) <u>Identify and include priority research and monitoring needs in regional, sub-regional and national action plans</u></p> <p>c) <u>Initiate and/or continue long-term monitoring of locally important dugong populations at appropriate spatial scales to assess conservation status using, where appropriate, a combination of traditional, community-based and scientific techniques</u></p> <p>d) <u>Determine the cultural and provisioning services provided by the legal harvest of dugongs and estimate the relative perceived and monetary values of these services</u></p>

			<ul style="list-style-type: none"> ▪ <u>Local communities</u> 		<ul style="list-style-type: none"> e) <u>Conduct studies on genetic identity, conservation status, movements and other biological and ecological aspects of dugongs, taking advantage of collaborations</u> f) <u>Promote the use of traditional ecological knowledge in research and management studies, where appropriate</u> g) <u>Involve local communities in research and monitoring programmes, with training where required</u> h) <u>Periodically review and evaluate research and monitoring activities in the context of threats to dugongs, including climate change and associated extreme weather events, such as marine heatwaves, floods, cyclones and harmful algal blooms</u>
2.3 Collect and, analyze and make available data that supports the identification of sources of mortality, the mitigation of threats and improved conservation approaches to conservation practices	High	Ongoing	Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Research/academic institutions</u> ▪ <u>Local communities</u> 	Data are collected and analysed to improve conservation practices and are reported in national reports	<ul style="list-style-type: none"> a) <u>Identify and quantify dugong sources of mortality using local information, where appropriate</u> b) <u>Identify population trends using local information, where appropriate</u> c) <u>Identify and prioritize dugong populations for conservation actions</u> d) <u>Develop indicators to measure the effectiveness of management actions at meeting population management objectives</u> e) <u>Use research results to improve management, mitigate threats (e.g., habitat loss) and assess the efficacy of conservation activities</u> f) <u>Involve local communities in research and monitoring programmes, with training where required</u> g) <u>Develop and harmonize data collection, analysis and storage protocols</u> h) <u>Develop and harmonize data reporting formats to enhance evidence-based decision-making</u>

Habitat Aspects

Objective 3 – Protect, conserve and manage habitats for dugongs					
Action	Priority Level	Time-scale	Concerned Organizations	Target	Examples of specific activities
3.1 Identify and map and assess important dugong habitat areas of important dugong habitat such as sea grass beds and their threats (including climate change)	High	Immediate	Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers <ul style="list-style-type: none"> Government agencies IGOs NGOs Research/academic institutions Local communities 	Important dugong habitat identified and mapped	<p>a) Identify and map areas of important dugong habitat, such as seagrass communities, thermal refuges, vocalization hotspots and migratory corridors using, where appropriate, rapid assessment techniques, citizen science and traditional knowledge</p> <p>b) Establish baseline data collection and monitoring programmes appropriate to national dugong population size and distribution and to national institutional capacity, in order to gather information on the nature and magnitude of threats, including climate change</p> <p>c) Conduct socio-economic studies among communities that interact with important dugong habitats to identify appropriate responses to threats</p>
3.2 Establish, adapt and evaluate the effectiveness of necessary measures to protect and conserve dugong habitats	High	Ongoing	Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers and local communities <ul style="list-style-type: none"> Government agencies IGOs NGOs Research/academic institutions Local communities 	Measures to protect dugong habitat are developed and implemented	<p>a) Explicitly include dugong and seagrass protection measures in MPAs (at establishment or revision stages) and measure their effectiveness</p> <p>b) Clearly articulate dugong and habitat threat mitigation measures in the design of MPAs (e.g., restrictions on vessel traffic, modification of fishing gear, banning of destructive fishing practices and/or others, as appropriate) involving local communities as much as possible in the process, and measure the effectiveness of such mitigation measures</p> <p>c) Protect dugong habitats as part of ecosystem-based management approaches (e.g., networks of MPAs)</p> <p>d) Protect important dugong habitat areas that fall outside existing protected areas (e.g., through special management arrangements)</p> <p>e) Assess the environmental and social impacts of marine and coastal development and other human activities on dugong populations and their habitats, ensuring that they have been appropriately scoped and assessed as part of Environmental and Social Impact Assessment studies in line with both national and international best practices prior to granting</p>

					<u>Environmental Permits by local authorities for any coastal development</u> f) <u>Monitor and promote the protection of water quality from land-based and maritime pollution, including marine debris, which may adversely affect dugongs and their habitats</u> g) <u>Strengthen the application of existing bans on the use of poisonous chemicals and explosives in the exploitation of marine resources</u>
3.3 Assess the risk of, and develop measures to mitigate against, the degradation of dugong habitats	High	Ongoing	<ul style="list-style-type: none"> Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers and local communities 	Dugong habitats at risk are assessed and action to mitigate these risks are taken	
3.3 Identify important seagrass habitats vulnerable to climate change and increase their resilience to this threat	Medium		<ul style="list-style-type: none"> Government agencies IGOs NGOs Research/academic institutions Local communities 		a) <u>Identify seagrass habitats that are vulnerable to climate change within the range of dugongs</u> b) <u>Conduct climate vulnerability assessments of important dugong habitats in association with local communities</u> c) <u>Identify and implement appropriate adaptation responses to climate change hazards</u> d) <u>Identify and increase the resilience of seagrass communities vulnerable to climate change by minimizing the impact of threats other climate change</u>
Action	Priority Level	Time-scale	Organizations	Target	
3.4 Identify and where appropriate, rehabilitate degraded dugong habitats	Medium	Ongoing	Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and	Degraded important habitats for dugong are identified and where appropriate remedial	a) <u>Identify and undertake measures to enhance recovery of degraded seagrass habitats used by dugongs, where appropriate and where the causes of degradation are known and can be reversed</u> b) <u>Identify and enhance recovery of degraded mangrove and coral reef habitats used by dugongs, where the causes of degradation are known and can be reversed</u> c) <u>Undertake measures to restore degraded habitats</u> d) <u>Monitor and evaluate the outcomes of habitat restoration</u>

			<p>researchers and local communities</p> <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Research/academic institutions</u> ▪ <u>Local communities</u> 	steps are taken	<u>over time and use results to adapt management</u>
Objective 4 – Improve our <u>the</u> understanding of dugong habitats through research and monitoring					
Action	Priority Level	Time-scale	Concerned Organizations	Target	Examples of specific activities
4.1 Conduct research into <u>Identify</u> and monitoring of important dugong habitats	High	Ongoing	<p>Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers and local communities</p> <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Research/academic institutions</u> ▪ <u>Local communities</u> 	Research and monitoring that promote dugong conservation are conducted	<p>a) <u>Identify financial and other resources for the collection and analysis of data on dugong habitats</u></p> <p>b) <u>Use the Dugong and Seagrass Research Toolkit (http://www.conservation.tools/) to identify appropriate research techniques for different research questions and contexts</u></p> <p>c) <u>Conduct baseline studies or gather secondary information on dugong habitats using cost effective techniques, including community-based monitoring</u></p> <p>d) <u>Initiate and/or continue long-term monitoring of priority dugong habitats</u></p> <p>e) <u>Promote the use of traditional ecological knowledge in research and management studies, as appropriate</u></p> <p>f) <u>Involve local communities in research and monitoring programmes, with training where required</u></p> <p>g) <u>Review periodically and evaluate research and monitoring activities</u></p> <p>h) <u>Identify and include priority research and monitoring needs in regional and sub-regional action plans</u></p>
4.2 Conduct research to quantify and <u>qualify the value of the ecosystem services provided by important</u>	Medium		<ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Research/academic institutions</u> ▪ <u>Local communities</u> 		<p>a) <u>Conduct studies to:</u></p> <p>(1) <u>understand the ecosystems services of seagrass beds of importance to dugongs, including but not limited to sediment stabilization, biological diversity, fisheries nursery and feeding grounds, and human food security more broadly, blue carbon, tourism, and cultural services, and</u></p> <p>(2) <u>estimate the perceived and monetary values of these</u></p>

<u>dugong seagrass habitats</u>					<u>services</u>
4.3 <u>Conduct research to identify and understand the impacts of climate change on seagrass communities of importance to dugongs</u>	<u>High</u>		<ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Research/academic institutions</u> ▪ <u>Local communities</u> 		b) <u>Use research results to identify priority areas for management and appropriate actions</u> a) <u>Research the likely impacts of climate change on seagrass in collaboration with international research teams</u> b) <u>Conduct climate vulnerability assessments of seagrass communities of importance to dugongs</u> c) <u>Initiate and/or continue long-term monitoring of priority dugong habitats to determine the impacts of climate change, especially of associated extreme events, such as marine heatwaves, floods, cyclones and harmful algal blooms</u> d) <u>Promote the use of traditional ecological knowledge in research and management studies, where appropriate</u> e) <u>Involve local communities in climate change impact research, with training where required</u> f) <u>Regularly review and adapt relevant planned activities in the light of new findings on climate change impacts on seagrass</u>

Awareness and Education

Objective 5 – Raise awareness of dugong conservation					
Action	Priority Level	Time-scale	Concerned Organizations	Target	Examples of specific activities
5.1 <u>Establish education, and awareness and information programmes appropriate to the size of the national dugong populations</u>	<u>High</u>	<u>Ongoing</u>	Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Research/academic</u> 	Programmes are implemented and the conservation needs of dugong are widely understood by all stakeholders	a) <u>Identify and address gaps in stakeholder awareness of dugongs (presence, population significance, biology and ecology, cultural, environmental, and economic values, importance of seagrass habitats, among others)</u> b) <u>Develop appropriate dugong education and awareness programmes (e.g., mass media information programmes) targeting key groups (e.g., policy makers, teachers, schools, fishing communities, traditional subsistence and customary users, media) and integrate dugong programmes into other generic programmes on marine megafauna</u> c) <u>Collect, develop, coordinate and disseminate education materials (e.g., dedicated national or regional website for dugongs and other marine megafauna)</u> d) <u>Identify key persons/champions to help disseminate</u>

			<p><u>institutions</u></p> <ul style="list-style-type: none"> ▪ <u>Local communities</u> 		<p><u>messages about the need to conserve dugongs and other megafauna and their habitats</u></p> <ul style="list-style-type: none"> e) <u>Establish community learning and information centres</u> f) <u>Encourage the incorporation of dugong biology and conservation into school curricula in the context of marine megafauna conservation</u> g) <u>Organize special events related to dugongs and other marine megafauna conservation and biology (e.g., named days/years [World Dugong Day, World Seagrass Day, etc.] symposia, community education workshops)</u> h) <u>Involve key stakeholders, including policy-makers, traditional subsistence and customary users and local communities, in the planning and implementation of conservation and management measures</u> i) <u>Promote and encourage the participation of government institutions, IGOs, NGOs, the private sector and the general community (e.g., students, volunteers, fishing communities, local communities) in research, conservation and management activities</u> j) <u>Implement, where appropriate, incentive schemes to encourage public participation in education and awareness programmes and conservation activities (e.g., T-shirts, public acknowledgement, certificates)</u>
<p>5.2 <u>Consult Engage</u> with local communities to encourage their active participation in conservation efforts</p>	High	Ongoing	<p><u>Relevant government agencies, intergovernmental and non-governmental organizations, and local communities</u></p> <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Local communities</u> 	<p><u>Local communities are actively involved in dugong conservation</u></p>	<ul style="list-style-type: none"> a) <u>In consultation with local communities and other relevant stakeholders, identify, develop and facilitate sustainable alternative conservation programmes (including means of subsistence and incentives) that are not detrimental to dugongs and other marine megafauna and their habitats</u>

Objective 6 – Enhance national, regional and international co-operation					
Action	Priority Level	Time-scale	Concerned Organizations	Target	Examples of specific activities
6.1 Collaborate with, <u>cooperate and assist Signatory and non-Signatory Range States to in combatting illegal international and domestic trade, and to cooperate in enforcement activities relating to dugong products, including with regards to enforcement</u>	Medium	Ongoing	Relevant government agencies, inter-governmental and non-governmental organizations <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> 	Illegal trade is controlled by cooperative action	<p>a) <u>Encourage Range States, particularly neighboring States, that have not already done so to become Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)</u></p> <p>b) <u>Review national compliance with CITES obligations relating to international trade in dugong products and in other marine products with which dugong products may be traded</u></p> <p>c) <u>Facilitate better compliance with CITES through training of relevant authorities in co-operation with other Signatory States, the CITES Secretariat and other relevant organizations</u></p> <p>d) <u>Identify routes of international illegal trade in dugong products through monitoring</u></p> <p>e) <u>Seek co-operation to prevent, deter and eliminate illegal trade in dugong products</u></p> <p>f) <u>Exchange and discuss information on compliance with trade restrictions at regular intervals, such as through annual reporting and at relevant meetings</u></p>
6.2 Develop and implement mechanisms for effective exchange of information <u>on dugongs or marine megafauna generically</u>	High Medium	Ongoing	Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers and local communities <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Dugong MOU Secretariat</u> ▪ <u>Research/academic institutions</u> ▪ <u>Local communities</u> 	Mechanisms for cooperation and information exchange are established and used by Signatory States	<p>a) <u>Identify and strengthen existing mechanisms for co-operation at regional and sub-regional levels</u></p> <p>b) <u>Develop and deploy appropriate methods for disseminating information on dugongs and marine megafauna, including facilitating networking and information exchange (e.g., internet and community forums, websites, newsletters)</u></p> <p>c) <u>Develop a web-based information resource for dugong and other marine megafauna conservation (including data on populations and on on-going projects) based on information made available by IUCN</u></p> <p>d) <u>Maintain a regularly updated directory of experts and organizations concerned with dugong and marine megafauna conservation, grouping experts by language</u></p> <p>e) <u>Develop networks for co-operative management of shared dugong populations, within or across sub-regions, and, where appropriate, formalize co-operative management arrangements</u></p> <p>f) <u>Collate and manage information relevant for dugong and</u></p>

					<p><u>other marine megafauna conservation and management in a regional database that is easily accessible to all Range States</u></p> <p>g) <u>Develop a streamlined format for reporting and exchanging information (through the Dugong MOU Secretariat and among Signatory States) on the state of dugong and other marine megafauna conservation at national level</u></p> <p>h) <u>Encourage MOU Signatory States that have not already done so to become Parties to CMS and Signatories to other CMS MOUs, such as the IOSEA Marine Turtle MOU</u></p> <p>i) <u>Encourage Signatory States to become contracting parties to global fisheries-related agreements, such as the UN Fish Stocks Agreement (1995) and the FAO Compliance Agreement (1993), and to implement the FAO Code of Conduct for Responsible Fisheries (1995)</u></p> <p>j) <u>Establish relationships with regional fisheries bodies with a view to obtaining data on incidental capture of dugongs and other marine megafauna and encouraging them to require conservation measures for these species within Territorial Seas and Exclusive Economic Zones</u></p> <p>k) <u>Exchange at regular intervals scientific and technical information and expertise among nations, scientific institutions, IGOs and NGOs, in order to develop and implement best practice approaches on conservation of dugongs and other marine megafauna and their habitats</u></p> <p>l) <u>Disseminate traditional knowledge on dugongs and other marine megafauna, their habitats and traditional practices for conservation and management in a culturally appropriate manner</u></p> <p>m) <u>Update data on dugong populations of regional interest on a regular basis (e.g., country status reports)</u></p> <p>n) <u>Encourage, where appropriate, collaboration with the IUCN Sirenia Specialist Group especially in subpopulation listing assessments for dugongs</u></p>
6.3 Improve coordination among, and <u>adaptive management by government and</u>	High	Ongoing	Relevant government agencies, intergovernmental and non-governmental organizations, universities	Coordination amongst government and non-government and	<p>a) <u>Review the roles and responsibilities of government agencies related to the conservation and management of dugongs and their habitats in the context of marine megafauna management</u></p> <p>b) <u>Designate a lead agency responsible for coordinating national dugong or marine megafauna conservation and</u></p>

non-government sectors and communities in relation to the conservation of dugongs or marine megafauna generically and their habitats			and research institutions and local communities <ul style="list-style-type: none"> Government agencies IGOs NGOs Research/academic institutions Local communities 	community sectors is established for the conservation of dugong and their habitats	<u>management policies</u> c) <u>Identify NGOs and communities with an interest in dugong conservation and management</u> d) <u>Encourage co-operation within and among government and non-government sectors, including through the development and/or strengthening of national networks</u> e) <u>Co-operate in the establishment of transboundary MPAs using ecological rather than political boundaries</u> f) <u>Co-operate with neighbouring Range States in law enforcement to ensure harmonious application of laws, including through bilateral/multilateral agreements and intelligence sharing</u>
6.4 Develop and implement a regional database of relevant information in relation to dugong conservation and management	High	Ongoing	Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers	Important information in relation to dugong, across their range, is available to all parties to the MoU	
Objective 7 – Promote implementation of the MeQU					
Action	Priority Level	Time-scale	Concerned Organizations	Target	Examples of specific activities
7.1 Encourage all Range States to participate in sign the MeQU and/or implement its conservation and management activities <u>CMP</u>	Medium	Ongoing	Relevant government agencies, intergovernmental and non-governmental organizations <ul style="list-style-type: none"> Government agencies IGOs NGOs Dugong MOU Secretariat 	The MoU encompasses all dugong Range States	a) <u>Encourage non-Signatory Range States to sign the MOU</u> b) <u>Encourage all Range States to contribute to the implementation of the CMP</u> c) <u>Organize regional and sub-regional workshops involving non-Signatory Range States to raise awareness of the MOU, including in association with other instruments, such as the IOSEA Marine Turtle MOU</u>
7.2 Support the Secretariat of the MoU to ensure the	High	Ongoing	Relevant government agencies, intergovernmental and	The Secretariat is	a) <u>Assess progress in the implementation of the MOU and its CMP at each Meeting of Signatory States</u> b) <u>Propose amendments to the MOU and its CMP, as</u>

objectives of the Conservation and Management Plan are met <u>Undertake periodic reviews of the implementation of the MOU and its CMP</u>			non-governmental organizations <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Dugong MOU Secretariat</u> 	established and is effective in implementation of the MoU and Conservation and Management Plan	<u>appropriate</u>
7.3 Seek Identify resources to support the implementation of the MoU and its CMP	High	Ongoing	Relevant government agencies, intergovernmental and non-governmental organizations, donor agencies and the private sector <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Dugong MOU Secretariat</u> ▪ <u>Other MEAs</u> ▪ <u>Private and other financing organizations</u> 	Adequate resources are obtained to implement the MoU	<ul style="list-style-type: none"> a) <u>Secure reliable sources of funding for the implementation of the MOU and its CMP, including for the operation of the Dugong MOU Secretariat</u> b) <u>Identify conservation and management activities that should be prioritized for funding</u> c) <u>Explore funding opportunities with governments and other donors, such as the Asian Development Bank, European Union, GEF, UNDP, UNEP, World Bank and others</u> d) <u>Explore funding opportunities in association with seagrass and/or marine turtle conservation financing, including any funding opportunities in associates with the IOSEA Marine Turtle MOU</u> e) <u>Explore funding opportunities from industry sectors that impact dugongs and their habitats (e.g., fisheries, tourism, oil, real estate)</u> f) <u>Explore international funding support and other incentives for Signatory States that effectively manage their populations of dugongs and other marine megafauna and their habitats</u>
7.4 Create links and develop synergies with other relevant regional conservation conventions, MoUs and Agreements Identify and establish synergies between the MOU and other multilateral	Medium	Ongoing	Relevant government agencies, intergovernmental and non-governmental organizations and other agreement Secretariats <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Other MEAs</u> 	Potential complementarities between dugong and other marine wildlife species in conservation and manage	<ul style="list-style-type: none"> a) <u>Identify and establish synergies between the mandates of the MOU and of other conservation-relevant international, regional, and sub-regional instruments (conventions, agreements, MOUs, and others) to enhance the conservation and management of dugongs and their habitats</u> b) <u>Explore opportunities for enhanced synergies between the MOU and other CMS MOUs, such as the IOSEA Marine Turtle MOU</u> c) <u>Review synergies regularly and adapt them as needed</u>

<u>conservation-relevant instruments</u>				nt are identified and enhanced	
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Crosscutting Issues

Objective 8 – Improve legal protection of dugongs and their habitats					
Action	Priority Level	Time-scale	Concerned Organizations	Target	Examples of specific activities
8.1 Encourage all Range States, and ensure Signatory states, to incorporate dugong and habitat conservation and protection measures into national legislation and to implement these measures	High	Immediate	Relevant government agencies ▪ <u>Government agencies</u>	Dugongs and their habitats are given appropriate protection in the national legislation of all Range States	<p>a) <u>Encourage Signatory States that have not already done so to become Parties to CMS</u></p> <p>b) <u>Encourage Range States to enact legislation to protect dugongs and their habitats that from taking, hunting, fishing, capturing, harassing, deliberate killing, or attempting to engage in any such conduct, whilst recognizing existing traditional subsistence and customary use</u></p> <p>c) <u>Co-operate with neighbouring Range States in law enforcement to ensure harmonious application of laws, including through bilateral/multilateral agreements and intelligence sharing</u></p>
8.2 Review, and where necessary, strengthen national legal protection for of dugongs and their habitats	Medium	Ongoing	Relevant government agencies and other stakeholders (e.g., consultation with non-governmental organizations, local communities and academic institutions) ▪ <u>Government agencies</u> ▪ <u>NGOs</u> ▪ <u>Research/academic institutions</u> ▪ <u>Local communities</u>	Laws protecting dugong are reviewed, strengthened and where appropriate, enforced	<p>a) <u>Review domestic policies and legislation to address gaps or impediments to dugong conservation and management</u></p> <p>b) <u>Ensure appropriate sanctions for illegal taking, hunting, fishing, capturing, harassing, and deliberate killing of dugongs, or attempting to engage in any such illegal conduct, and for damaging or destroying dugong habitat</u></p> <p>c) <u>Train law enforcement officials in the interpretation and application of applicable legislation</u></p> <p>d) <u>Publicize prosecuted cases to raise public awareness and encourage the reporting of illegal activities</u></p>

Objective 9 – Enhance <u>Build</u> national, regional and international cooperation on capacity building					
Action	Priority Level	Time-scale	Concerned Organizations	Target	Examples of specific activities
9.1 Promote and build capacity building at all levels to strengthen conservation <u>measures of dugongs or marine megafauna generically and their habitats</u>	High	Ongoing	Relevant government agencies, intergovernmental and non-governmental organizations, universities and research institutions, scientists and researchers donor agencies, the private sector and philanthropic organizations <ul style="list-style-type: none"> ▪ <u>Government agencies</u> ▪ <u>IGOs</u> ▪ <u>NGOs</u> ▪ <u>Research/academic institutions</u> ▪ <u>Private and other financing organizations</u> ▪ <u>Dugong MOU Secretariat</u> 	Mechanisms to support capacity building activities within Signatory States are established and used	<ul style="list-style-type: none"> a) <u>Coordinate and provide training workshops and programmes on conservation and management techniques for dugongs or marine megafauna generically and their habitats to relevant agencies, individuals and communities</u> b) <u>Provide training on the development, implementation and monitoring of community rehabilitation programmes</u> c) <u>Organize opportunities with involvement of relevant stakeholders to enable knowledge sharing, capacity-building and exchange of lessons learnt</u> d) <u>Enhance capacity at all levels to develop and undertake joint research programmes on dugongs and their habitats</u> e) <u>Identify additional capacity-building needs (knowledge, programmes, facilities, materials, staffing, others) for ensuring that communities, IGOs, NGOs, the media, enforcement authorities and policy-makers maximize their potential in contributing to the conservation of dugongs and their habitats</u> f) <u>Develop partnerships with universities and other research institutions, training bodies, IGOs, NGOs, and other relevant organizations to support capacity-building initiatives</u> g) <u>Support local communities and relevant national organizations with necessary equipment and facilities to enable protection, conservation and management of dugongs or marine megafauna generically and their habitats</u>

~~ANNEX 1: EXAMPLES OF SPECIFIC ACTIONS THAT COULD BE IMPLEMENTED UNDER THE CMP~~

This annex provides a list of examples that are related to Conservation and Management Plan objectives. The examples provide an indication of the types of activities that could take place at local, national and regional scales. Some of the examples are only applicable to some areas and State Signatories to the Memorandum of Understanding will need to assess the relevance of particular approaches in the context of their own national circumstances.

Species Aspects

~~Objective 1—Reduce direct and indirect causes of dugong mortality~~

~~1.1 Identify, assess and evaluate the threats to dugong populations and develop appropriate measures to address these threats~~

~~Examples of specific actions that could be implemented:~~

- a) Establish baseline data collection and monitoring programmes to gather information on the nature and magnitude of threats*
- b) Regularly update existing data on threats to dugong populations and their habitats*
- c) Determine those populations affected by traditional subsistence and customary use, incidental capture in fisheries, and other sources of mortality*
- d) Conduct socio-economic studies among communities that interact with dugongs and their habitats*
- e) Implement programmes to correct adverse social and economic incentives that threaten dugong populations*
- f) Facilitate the development of means of subsistence to minimise resultant adverse social and economic impacts*
- g) Enact, where not already in place, legislation and prohibit the direct use (capture or killing) of, and domestic trade in, dugongs their parts or products, whilst allowing exceptions for traditional subsistence or customary use*
- h) Establish management programmes to enforce such legislation*
- i) Negotiate, where appropriate, management agreements in consultation with other concerned States*
- j) Identify resources and sources of funding for the above programmes*

~~1.2 Reduce to the greatest extent practicable the incidental capture and mortality of dugongs in the course of fishing activities~~

~~Examples of specific actions that could be implemented:~~

- a) Develop and use gear, devices and techniques to minimise incidental capture of dugongs in artisanal and commercial fisheries, such as the use of alternative gears and spatial closures or limit or control the use of gears known to be harmful to dugongs throughout the range of dugong*

- ~~b) Develop procedures and extension programmes to promote implementation of these measures~~
- ~~c) Exchange information and, upon request, provide technical assistance to other Signatory and cooperating States to promote these activities~~
- ~~d) Liaise and coordinate with fishing industries, fisheries management organisations and community groups to develop and implement these activities~~
- ~~e) Develop and implement net retention and recycling schemes to minimise the disposal of fishing gear at sea and on beaches~~
- ~~f) Provide and ensure the use of onshore facilities for the disposal of ship-borne waste~~

~~1.3 Reduce to the greatest extent practicable the incidental mortality of dugongs arising from other anthropogenic activities~~

~~Examples of specific actions that could be implemented:~~

- ~~a) Assess the level, location and impact of anthropogenic impacts on dugongs at ecologically relevant scales~~
- ~~b) Reduce as much as possible all other human impacts on dugongs and their habitats in areas that sustain subsistence and customary use~~
- ~~c) Establish appropriate management programmes to ensure that anthropogenic impacts are addressed, taking account of the temporal and spatial variability of dugong reproductive rates and other impacts on the species in a precautionary manner~~

~~1.4 Reduce to the greatest extent practicable the illegal take of dugong~~

~~Examples of specific actions that could be implemented:~~

- ~~a) Assess the level, location and impact of the illegal take of dugongs~~
- ~~b) Establish appropriate management programmes to ensure that the illegal take of dugongs is addressed~~

~~1.5 Ensure that subsistence and customary use of dugong is sustainable in areas where it is permitted~~

~~Examples of specific actions that could be implemented:~~

- ~~a) Assess the level, location and impact of subsistence and customary use on dugongs at ecologically relevant scales~~
- ~~b) Reduce as much as possible all other human impacts on dugongs and their habitats in areas that sustain subsistence and customary use~~
- ~~c) Determine the cultural and subsistence values and uses of dugongs (both consumptive and non-consumptive)~~
- ~~d) Establish culturally appropriate management programmes to ensure that subsistence and customary use is sustainable, taking account of the temporal and spatial variability of dugong reproductive rates and other impacts on the species in a precautionary manner~~
- ~~e) Ensure that such programmes do not have adverse unintended consequences (e.g., increase use of other threatened species such as marine turtles)~~
- ~~f) Consider the development of alternative means of subsistence in areas where the subsistence and customary use of dugong is permitted to alleviate adverse social and cultural impacts~~

- ~~g) Negotiate, where appropriate, management agreements on the sustainable level of subsistence and customary use where it is permitted, in consultation with other concerned States, to ensure that such use does not undermine conservation efforts~~
- ~~h) Ensure that the management of other species (including fisheries) does not have adverse unintended consequences on the subsistence and customary use of dugongs where it is permitted~~

~~Objective 2—Improve our understanding of dugong through research and monitoring~~

~~2.1 Determine the distribution and abundance of dugong populations to provide a base for future conservation efforts and actions~~

~~Examples of specific actions that could be implemented:~~

- ~~a) Conduct baseline studies or gather secondary information on dugong populations using cost effective techniques where possible, including community-based monitoring~~

~~2.2 Conduct research and monitoring into dugong~~

~~Examples of specific actions that could be implemented:~~

- ~~a) Initiate and/or continue long-term monitoring of priority dugong populations at appropriate spatial scales in order to assess conservation status, using a combination of traditional, community-based and scientific techniques where appropriate~~
- ~~b) Identify migratory routes through the use of techniques such as genetic studies and/or satellite tracking where appropriate~~
- ~~c) Carry out studies on dugong population dynamics and survival rates~~
- ~~d) Promote the use of traditional ecological knowledge in research and management studies, where possible~~
- ~~e) Involve local communities in research and monitoring programmes with training as required~~
- ~~f) Review periodically and evaluate research and monitoring activities~~
- ~~g) Identify and include priority research and monitoring needs in regional and sub-regional action plans~~
- ~~h) Conduct collaborative studies and monitoring of genetic identity, conservation status, migrations, and other biological and ecological aspects of dugongs~~

~~2.3 Collect and analyse data that supports the identification of sources of mortality, the mitigation of threats and improved approaches to conservation practices~~

~~Examples of specific actions that could be implemented:~~

- ~~a) Identify and prioritise populations for conservation actions~~
- ~~b) Identify population trends using local information where appropriate~~
- ~~c) Use research results to improve management, mitigate threats and assess the efficacy of conservation activities (e.g., habitat loss, etc.)~~
- ~~d) Involve local communities in research and monitoring programmes with training as required~~
- ~~e) Develop and harmonise data collection and analysis protocols~~

- ~~f) Where appropriate, develop and harmonise the reporting format that can be used for informing decision-making (local, national and regional)~~

Habitat Aspects

~~Objectives 3—Protect, conserve and manage habitats for dugong~~

~~3.1 Identify and map areas of important dugong habitat such as seagrass beds~~

~~Examples of specific actions that could be implemented:~~

~~Identify and map areas of critical habitat such as seagrass beds and migratory corridors, using rapid assessment techniques where appropriate~~

~~3.2 Establish necessary measures to protect and conserve dugong habitats~~

~~Examples of specific actions that could be implemented:~~

- ~~a) Designate and manage protected/conservation areas, sanctuaries or temporary exclusion zones in areas of critical habitat, or take other measures (e.g., modification of fishing gear, banning destructive fishing practices, restrictions on vessel traffic) to remove threats to such areas and involving the local community as much as possible~~
- ~~b) Consider protecting dugong habitats as part of ecosystem based management (e.g., networks of marine protected areas)~~
- ~~c) Develop incentives for adequate protection of areas of critical habitat outside protected areas~~
- ~~d) Assess the environmental impact of marine and coastal development and other human activities on dugong populations and their habitats~~
- ~~e) Monitor and promote the protection of water quality from land-based and maritime pollution, including marine debris, which may adversely affect dugongs and their habitats~~
- ~~f) Strengthen the application of existing bans on the use of poisonous chemicals and explosives in the exploitation of marine resources~~

~~3.3 Assess the risk of, and develop measures to mitigate against, the degradation of dugong habitats~~

~~Examples of specific actions that could be implemented:~~

- ~~a) Identify and enhance recovery of degraded seagrass habitats used by dugongs~~
- ~~b) Identify and enhance recovery of degraded mangrove and coral reef habitats used by dugong~~
- ~~c) Undertake measures to restore degraded habitats~~

~~3.4 Identify and where appropriate, rehabilitate degraded dugong habitats~~

~~Examples of specific actions that could be implemented:~~

~~a) Identify and undertake measures where appropriate to enhance recovery of degraded seagrass habitats used by dugongs~~

~~Objective 4—Improve our understanding of dugong habitats through research and monitoring~~

~~4.1 Conduct research into and monitoring of important dugong habitats~~

~~Examples of specific actions that could be implemented:~~

- ~~a) Conduct baseline studies or gather secondary information on dugong habitats using cost effective techniques where possible, including community-based monitoring~~
- ~~b) Initiate and/or continue long-term monitoring of priority dugong habitats~~
- ~~c) Promote the use of traditional ecological knowledge in research and management studies, where possible~~
- ~~d) Involve local communities in research and monitoring programmes with training as required~~
- ~~e) Review periodically and evaluate research and monitoring activities~~
- ~~f) Identify and include priority research and monitoring needs in regional and sub-regional action plans~~

Awareness and Education

~~Objective 5—Raise awareness of dugong conservation~~

~~5.1 Establish education, awareness and information programmes~~

~~Examples of specific actions that could be implemented:~~

- ~~a) Collect, develop, co-ordinate and disseminate education materials (e.g., dedicated regional web site)~~
- ~~b) Identify key persons/champions to help disseminate messages about the need to conserve dugongs and their habitats~~
- ~~c) Establish community learning/ information centres~~
- ~~d) Develop and implement mass media information programmes~~
- ~~e) Develop and conduct focused education and awareness programmes for target groups (e.g., policy makers, teachers, schools, fishing communities, subsistence and customary users, media)~~
- ~~f) Encourage the incorporation of dugong biology and conservation issues into school curricula~~
- ~~g) Organise special events related to dugong conservation and biology (e.g., Dugong Day, Year of the Dugong, symposia, community education workshops)~~
- ~~h) Promote public participation in conservation activities~~
- ~~i) Involve stakeholders, including key policymakers, subsistence and customary users, and local communities in particular, in planning and implementation of conservation and management measures~~

- ~~j) Encourage the participation of government institutions, intergovernmental government organisations, non-governmental organisations, the private sector and the general community (e.g., students, volunteers, fishing communities, local communities) in research, conservation and management efforts~~
- ~~k) Implement, where appropriate, incentive schemes to encourage public participation (e.g., T-shirts, public acknowledgement and certificates)~~

5.2 Consult with local communities to encourage their active participation in conservation efforts

Examples of specific actions that could be implemented:

~~Identify, develop and facilitate alternative programmes (including means of subsistence and incentives) that are not detrimental to dugongs and their habitats, in consultation with local communities and other stakeholders~~

Cooperative Aspects

~~Objective 6—Enhance national, regional and international cooperation~~

~~6.1 Collaborate with and assist Signatory and non-Signatory States to combat illegal international and domestic trade, and to cooperate in enforcement activities relating to dugong products~~

Examples of specific actions that could be implemented:

- ~~a) Encourage Signatory States that have not already done so to become Parties to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)~~
- ~~b) Review at a national level, compliance with obligations under CITES relating to illegal international trade in dugong parts or products~~
- ~~c) Facilitate better compliance with CITES through training of relevant authorities in cooperation with other Signatory States, the CITES Secretariat and other relevant organisations~~
- ~~d) Identify routes of international illegal trade through monitoring, and seeking cooperation to take action to prevent, deter and, where possible, eliminate i.t~~
- ~~e) Exchange and discuss information on compliance and illegal trade issues at regular intervals, such as through annual reporting to the MoU Secretariat and at meetings of the Signatory States~~
- ~~f) Identify, prevent, deter and, where possible, eliminate domestic illegal trade through monitoring, implementation of legislation, identification of gaps in enforcement capabilities in each country, and training of enforcement officers~~

~~6.2 Develop and implement mechanisms for effective exchange of information~~

Examples of specific actions that could be implemented:

- ~~a) Identify and strengthen existing mechanisms for cooperation at the regional and sub-regional level~~

- ~~b) Develop a website and/or newsletter to facilitate networking and exchange of information~~
- ~~c) Develop a web-based information resource for dugong conservation (including data on populations, migration, on-going projects) based on IUCN website~~
- ~~d) Regularly update a directory of experts and organisations concerned with dugong conservation~~
- ~~e) Develop networks for cooperative management of shared populations, within or across sub-regions, and, where appropriate, formalise cooperative management arrangements~~
- ~~f) Cooperate where possible in the establishment of transboundary marine protected areas using ecological rather than political boundaries~~
- ~~g) Develop a streamlined format for reporting and exchanging information (through the MoU Secretariat and among Signatory States) on the state of dugong conservation at the national level~~
- ~~h) Encourage MoU Signatory States that have not already done so to become Parties to the Convention on Migratory Species (CMS)~~
- ~~i) Encourage Signatory States to become contracting parties to global fisheries agreements such as the UN Fish Stocks Agreement (1995) and the FAO Compliance Agreement (1993) and implement the FAO Code of Conduct for Responsible Fisheries (1995)~~
- ~~j) Establish relationships with regional fisheries bodies with a view to obtaining data on incidental capture and encourage them to adopt dugong conservation measures within Exclusive Economic Zones (EEZ) and territorial waters~~
- ~~k) Determine the most appropriate methods for information dissemination e.g., internet and community forums~~
- ~~l) Exchange at regular intervals scientific and technical information and expertise among nations, scientific institutions, non-governmental and international organisations, in order to develop and implement best practice approaches to conservation of dugongs and their habitats~~
- ~~m) Disseminate traditional knowledge on dugongs, their habitats and traditional practices for conservation and management in a culturally appropriate manner~~
- ~~n) Update data on dugong populations of regional interest on a regular basis (e.g., country status reports).~~

~~6.3 Improve coordination among government and non-government sectors and communities in the conservation of dugongs and their habitats~~

~~Examples of specific actions that could be implemented:~~

- ~~a) Review the roles and responsibilities of government agencies related to the conservation and management of dugongs and their habitats~~
- ~~b) Designate a lead agency responsible for coordinating national dugong conservation and management policy~~
- ~~c) Identify non-governmental organisation with an interest in dugong conservation and management~~
- ~~d) Encourage cooperation within and among government and non-government sectors, including through the development and/or strengthening of national networks~~

~~6.4 Develop and implement a regional database of relevant information in relation to dugong conservation and management~~

~~Examples of specific actions that could be implemented:~~

~~Collate and manage information relevant for dugong conservation and management in a regional database that is easily accessible to all interested parties~~

~~Objective 7—Promote implementation of the MoU~~

~~7.1 Encourage all Range States to participate in the MoU and its conservation and management activities~~

~~Examples of specific actions that could be implemented:~~

- ~~a) Encourage non-Signatory States to sign the MoU~~
- ~~b) Arrange regional and sub-regional workshops involving non-Signatory States to raise awareness of the MoU~~
- ~~c) Consider at the first meeting of the Signatory States the development of a timetable for regular review of implementation the MoU~~

~~7.2 Support the Secretariat of the MoU to ensure the objectives of the Conservation and Management Plan are met~~

~~Examples of specific actions that could be implemented:~~

~~Secure reliable sources of funding to support the MoU Secretariat.~~

~~7.3 Seek resources to support the implementation of the MoU~~

~~Examples of specific actions that could be implemented:~~

- ~~a) Prioritise conservation and management activities for funding~~
- ~~b) Explore funding options with governments and other donors such as the Asian Development Bank, World Bank, UNDP, European Union, UNEP, GEF, etc.~~
- ~~c) Solicit funding and other contributions from industries that have impacts on dugongs and their habitats (e.g., fisheries, tourism, oil industry, real estate)~~
- ~~d) Explore international funding support and other incentives for Signatory States that effectively manage populations~~

~~7.4 Create links and develop synergies with other relevant regional conservation conventions, MoUs and Agreements~~

~~Examples of specific actions that could be implemented:~~

~~Identify, facilitate and explore links to other international, regional, sub-regional fora, conventions, agreements and MoUs~~

~~Cross-cutting Issues~~

~~Objective 8—Improve legal protection of dugongs and their habitats~~

~~8.1 Encourage all Range States, and ensure Signatory States incorporate dugong and habitat conservation and protection measures into national legislation~~

Examples of specific actions that could be implemented:

- ~~a) Encourage MoU Signatory States that have not already done so to become Parties to the Convention on Migratory Species (CMS)~~
- ~~b) Encourage the establishment of legislation to protect dugongs and their habitats while recognising existing traditional management systems~~
- ~~c) Review domestic policies and laws to address gaps or impediments to dugong conservation~~
- ~~d) Ensuring appropriate sanctions for harming dugongs or destroying habitat, training law enforcement authorities, raising public awareness to boost surveillance for reporting of illegal activities~~

8.2 Review, and where necessary, strengthen legal protection for dugongs and their habitats.**Examples of specific actions that could be implemented:**

~~Cooperate in law enforcement to ensure compatible application of laws across and between jurisdictions (including through bilateral/multilateral agreements and intelligence sharing)~~

Objective 9—Enhance national, regional and international cooperation on capacity building**9.1 Promote capacity building at all levels to strengthen conservation measures****Examples of specific actions that could be implemented:**

- ~~a) Identify needs for capacity building in terms of human resources, knowledge and facilities~~
- ~~b) Provide training (e.g., through workshops) in conservation and management techniques for dugongs and their habitats to relevant agencies, individuals and local communities~~
- ~~c) Coordinate training programmes and workshops~~
- ~~d) Develop partnerships with universities, research institutions, NGOs, training bodies and other relevant organizations to support capacity building initiatives~~
- ~~e) Identify assess, develop and implement training programmes for local communities, NGOs, community-based organisations, media, enforcement officers, policy makers, law makers and decision makers~~
- ~~f) Enhance capacity at all levels to develop and undertake joint research programmes on dugong and their habitats~~
- ~~g) Organise forums (local, national and regional as appropriate) with the involvement of all relevant stakeholders to enable knowledge sharing and capacity building~~
- ~~h) Provide training on development, implementation and monitoring of community rehabilitation programmes~~
- ~~i) Support local communities and relevant national organizations with necessary basic equipment and facilities to enable protection, conservation and management of dugong and their habitats~~

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