



**MEMORANDUM OF UNDERSTANDING  
ON THE CONSERVATION AND  
MANAGEMENT OF MARINE TURTLES  
AND THEIR HABITATS OF THE INDIAN  
OCEAN AND SOUTH-EAST ASIA**

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8<sup>TH</sup> MEETING OF THE SIGNATORY STATES

Da Nang, Viet Nam, 21-25 October 2019

Agenda Item 9.1

**MOZAMBIQUE – NATIONAL REPORT 2019**

*(Prepared by Mozambique)*

# IOSEA MARINE TURTLES MEMORANDUM OF UNDERSTANDING - NATIONAL REPORTING 2019

## IOSEA Marine Turtles MoU - National Reports

The purpose of completing the national report is to provide information on your country's implementation of the IOSEA Marine Turtle MoU including, as far as possible, contributions of cooperating non-governmental partners. Implementation will be assessed in terms of the six objectives of the Conservation and Management Plan (CMP). The online questionnaire is divided into these six main objectives, and asks specific questions in relation to the activities that need to be carried out to fulfil those objectives.

Please answer all questions as fully and as accurately as possible. It may seem time-consuming, but once you have completed the first report, the next time will be much easier because you can simply revise your existing report online. Comprehensive responses to the questions posed in Section 1.4 should satisfy many of the reporting requirements of the 2004 FAO Guidelines to Reduce Sea Turtle Mortality in Fishing Operations, thereby avoiding duplication of effort.

Description text is provided below some of the questions to explain what information needs to be provided. Text boxes can be expanded to accommodate longer answers or to explain and provide additional information, beyond what is requested. Details of future plans are especially encouraged. Wherever possible, please try to indicate the source of information used to answer a particular question, if a published reference is available. Remember that you are sharing information with other countries about your progress, so that it may be of benefit to them. At the same time, you may find it useful to look at other countries' reports to get ideas for marine turtle conservation that might be adapted to your context.

When working on the online questionnaire, save your information by clicking on the "Save all" button inside each section. An auto-save feature also saves any changed responses every 30 seconds, and whenever you move between sections. Feel free to attach additional material (published reports, maps etc) to this questionnaire.

Throughout the questionnaire, alongside each question you will find one or more 3-letter abbreviations within square brackets. These are used to indicate the purpose for which the information provided will be used in the subsequent analysis of all of the national reports, as shown in the following table.

To some extent, the order in which these different types of information are listed below is a reflection of their importance - ranging from critical indicators of performance to factual details that are merely informative.

### **Abbreviation**

#### **Type**

#### **Treatment / Purpose**

IND

Indicator

The information provided serves, in and of itself, as a key indicator of successful implementation or of pre-requisites for same (eg. of core actions undertaken, resource availability, capacity etc.)

PRI

Priorities

The collective data will be synthesized to give an indication of what has been done already (helping to avoid duplication of effort); what is generally not being done (gaps that need to be addressed); and what interventions or specific assistance may be required.

TSH

Trouble-shooting

Particular implementation problems and issues (possibly of special interest to a small group of countries) are identified/highlighted with a view to stimulating remedial action in the short-term.

BPR

Best practice

Well-documented examples of best practices / success stories will be compiled and presented as approaches that other Signatory States might consider pursuing (ie adopting or adapting to suit their own circumstances).

SAP

Self-Appraisal

Self-assessment of effectiveness and completeness of actions undertaken - intended to stimulate reflection within a given Signatory State on what more could or should be done in relation to a particular activity.

INF

Information

The information will be collected and compiled, with little or no modification, mainly for purpose of sharing of information that could be of interest or value to other readers and/or other analyses.

## **GENERAL INFORMATION**

Signatory State:

Which agency or institution has been primarily responsible for the preparation of this report?

> Ministry of Land, Environment and Rural Development

Centre for Sustainable Development of Coastal Zones

Praia de Xai-Xai, Edifício do MICOA, Xai-Xai

GAZA 66

Mozambique

List any other agencies, institutions, or NGOs that have provided input:

> Centro Terra Viva (Estudos e Advocacia Ambiental)

Memorandum in effect in Signatory State since (dd/mm/yyyy):

> 05/12/2008

This report was last modified (dd/mm/yyyy):

> 2014

Designated Focal Point (and full contact details):

> Henriques Jacinto Balidy

Email: balidy.balidy@gmail.com

Cellphones: +258842747130; +258846168830

Address:

Centre for Sustainable Development of Coastal Zones

Praia de Xai-Xai, Edifício do MICOA, Xai-Xai

GAZA 66

Mozambique

# OBJECTIVE I: REDUCE DIRECT AND INDIRECT CAUSES OF MARINE TURTLE MORTALITY

## 1.1 Introduction to marine turtle populations and habitats, challenges and conservation efforts

Please introduce and summarise, in an abstract of less than a page, the marine turtle populations and their habitats in your country. Comment on their status and highlight the main conservation challenges and achievements to date. It is not necessary to list here by name the individual nesting beaches, feeding areas and developmental habitats that are important for marine turtles in your country, as this information can be generated from the 'Site-Threat' data sheets to be completed in Annex 1. **[INF]**

> The eleventh annual report on monitoring, tagging and conservation of marine turtles in Mozambique presents the results of the 2017/18 season. These results are based on the compilation of data on nesting females, tracks, nests and hatchlings, strandings and mortalities, including sporadic sightings, from different monitoring and conservation programs, occurring within and outside marine protected areas (MPA) along the coastline. The report also highlights current research and published studies, training and awareness talks, as well as priorities for monitoring and research.

In total, 2 133 tracks and 976 nests were recorded. The most abundant species were loggerheads (1 935 tracks; 823 nests) and greens (120 tracks; 93 nests), followed by leatherback turtles (66 tracks; 47 nests), hawksbill turtles (4 tracks; 4 nests) and non - identified species (8 tracks; 3 nests). No olive ridley turtles were reported.

A total of 86 marine turtles mortalities were reported along the coastline of Mozambique. Of these, 81.4% derived from anthropogenic causes, 15.1% from non-identified causes and 3.5% are potentially from natural causes. It is important to highlight that this number does not reflect the current level of marine turtle mortality in the country. Although marine turtles are a protected species in Mozambique since 1965, these results show that these marine migratory species are facing great pressures and urgent measures are required to protect individuals, their habitats and migratory corridors. These measures, amongst others, should continue to cater for strict enforcement and penalties, as well as promotion of sustainable practices, especially in the fisheries sector.

## 1.2 Best practice approaches to minimizing threats

Describe any protocol or approaches practiced in your country, which you consider exemplary, for minimising threats to marine turtle populations and their habitats, which may be suitable for adaptation and adoption elsewhere. **[BRP]**

> Yes, national legislation provides for actions to minimize the decline of marine turtles and their habitats

## 1.3 Programmes to correct adverse economic incentives

1.3.1 Describe any socio-economic studies or activities that have been conducted among communities that interact with marine turtles and their habitats. **[BPR, INF]**

Elaborate on the nature of the socio-economic study/ activity undertaken, the results obtained (successful or otherwise) and the desirability/ suitability for replication.

Include references to published reports, where available.

> Use of turtle exclusion devices in the industrial and semi-industrial shrimp trawling fisheries  
Sensitization of artisanal fishermen to release accidentally caught turtles

1.3.2 Which of these adverse economic incentives are underlying threats to marine turtles in your country? **[TSH]**

- Low penalties against illegal harvesting
- Others (Please describe)

> Extreme poverty of the coastal population

1.3.3 Has your country taken any measures to try to correct these adverse economic incentives? **[BPR]**

Yes (If yes, please describe these measures in detail)

> Formation of new specialty of policia of protection of natural resources, policia coastal protection and lacustrine  
Criminalization of environmental crimes  
Financial and social support for artisanal fishermen for the adoption of good fishing practices  
Combat illegal fishing

## 1.4 Reduction of incidental capture and mortality

**1.4.1 Indicate, and describe in more detail, the main fisheries occurring in the waters of your country, as well as any high seas fisheries in which flag vessels of your country participate and interact with marine turtles.**

Tick 'YES' to indicate that a fishery is present and interacting marine turtles or 'NO' to indicate that a fishery is not present or is not interacting with marine turtles. **[INF]**  
 If a fishery is present, use the text box to indicate, for example, the approximate geographic distribution of the fishery, how long it has been operating, how many vessels are involved, etc.

a) Shrimp trawls:

Yes (Please provide details)

> Sofala Bank  
 Maputo

b) Set gill nets:

Yes (Please provide details)

> All coastal zone

c) Anchored Fish Aggregating Devices (FADs):

No (Please provide details)

> we dont have

d) Purse seine (with or without FADs):

Yes (Please provide details)

> Yes we have without FADs

e) Longline (shallow or deepset):

Yes (Please provide details)

> All coastal zone

f) Driftnet:

No (Please provide details)

g) Others (Please provide details)

> No adicional information

> No adicional information

h) None of the above (Please provide details)

> No adicional information

**1.4.2 Please indicate the relative level of fishing effort and perceived impact of each of the above fisheries on marine turtles (e.g. in terms of by-catch) [TSH]. Select from one of the following descriptions: RELATIVELY HIGH, MODERATE, RELATIVELY LOW, NONE (i.e. not present), UNKNOWN (i.e. unable to answer for whatever reason).**

a) Shrimp trawls

*Please select only one per line*

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
Fishing efforts:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Perceived impact:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- Source of information / clarification

> Abdula et al. 2018

b) Set gill nets

*Please select only one per line*

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
Fishing effort:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perceived impact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Source of information / clarification

> Abdula et al. 2018

c) Anchored Fish Aggregating Devices (FADs)

Please select only one per line

	<b>UNKNOW N</b>	<b>NON E</b>	<b>RELATIVELY LOW</b>	<b>MODERAT E</b>	<b>RELATIVELY HIGH</b>
Fishing effort:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perceived impact:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Source of information / clarification

> Abdula et al. 2018

d) Purse seine (with or without FADs)

Please select only one per line

	<b>UNKNOW N</b>	<b>NON E</b>	<b>RELATIVELY LOW</b>	<b>MODERAT E</b>	<b>RELATIVELY HIGH</b>
Fishing efforts:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perceived impact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Source of information / clarification

> Abdula et al. 2018

e) Longline (shallow or deepset)

Please select only one per line

	<b>UNKNOW N</b>	<b>NON E</b>	<b>RELATIVELY LOW</b>	<b>MODERAT E</b>	<b>RELATIVELY HIGH</b>
Fishing effort:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perceived impact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Source of information / clarification

> Abdula et al. 2018

f) Driftnet

Please select only one per line

	<b>UNKNOW N</b>	<b>NON E</b>	<b>RELATIVELY LOW</b>	<b>MODERAT E</b>	<b>RELATIVELY HIGH</b>
Fishing effort:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perceived impact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Source of information / clarification

> Abdula et al. 2018

g) Others (from 1.4.1 g) )

Please select only one per line

	<b>UNKNOW N</b>	<b>NON E</b>	<b>RELATIVELY LOW</b>	<b>MODERAT E</b>	<b>RELATIVELY HIGH</b>
Fishing effort:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perceived impact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Source of information / clarification

> Abdula et al. 2018

1.4.3 Describe any **illegal fishing** that is known to occur in or around the waters of your country that may impact marine turtles. Describe the measures being taken to deal with this problem and any difficulties encountered in this regard. **[TSH]**

> There is illegal fishing by mainly Chinese

**1.4.4 Which of the following methods are used by your country to minimise incidental capture/mortality of marine turtles in fishing activities? [IND]**

a) **Appropriate handling** of incidentally caught turtles (e.g. resuscitation or release by fishers using equipment such as de-hooking, line cutting tools and scoop nets)

YES (Details/future plans)

b) **Devices that allow the escape of marine turtles** (e.g. turtle excluder devices (TEDs) or other measures that are comparable in effectiveness)

NO (Details/future plans)

> Not yet used TDEs, but is already legislated

c) **Measures to avoid encirclement** of marine turtles in purse seine

NO (Details/future plans)

d) **Appropriate combinations** of hook design, type of bait, depth, gear specifications and fishing practices

NO (Details/future plans)

e) **Monitoring and recovery of fish aggregating devices** (FADs)

UNDER INVESTIGATION or NOT APPLICABLE

f) **Net retention and recycling schemes**

UNDER INVESTIGATION or NOT APPLICABLE (Details/future plans)

g) **Spatial and temporal control of fishing** (e.g. seasonal closures of fishing activities)

YES (Details/future plans)

> only for shrimp

h) **Effort management control**

YES (Details/future plans)

**1.4.5 Which of the following programmes has your country developed - in consultation with the fishing industry and fisheries management organisations - to promote implementation of measures to minimise incidental capture and mortality of turtles in national waters and in the high seas? [IND]**

Please use the corresponding text boxes to explain/clarify each of your responses, including 'NOT APPLICABLE' responses, and indicate future plans in this regard. [IND]

Please describe the collaboration, when/where the programmes were introduced, any difficulties encountered, and general results obtained (i.e. successful and unsuccessful). Provide references to publications, where available.

a) **Onboard observer programmes**

X

YES (Details/future plans)

b) **Vessel monitoring systems**

YES (Details/future plans)

c) **Inspections** (i.e. at sea, in port, at landing sites)

YES (Details/future plans)

d) **Training programmes / workshops** to educate fishers

YES (Details/future plans)

e) **Informative videos, brochures, printed guidelines** etc.

YES (Details/future plans)

1.4.6 Are the mitigation measures described in 1.4.4 and 1.4.5 periodically reviewed and evaluated for their efficiency? **[SAP]**

YES (Please give details)

> law enforcement

1.4.7 In your country, what types of data collection, research and development have been undertaken to support the reduction of marine turtle incidental catch (while taking into consideration the impact of various mitigation measures on other species)? **[SAP]**

> Control of fishing gear, promoting those that have little impact on biodiversity, including sea turtles

Socioeconomic survey data for artisanal fishermen related to sea turtle catches

Data collected regularly from industrial fishing vessels

1.4.8 Has your country exchanged information and provided technical assistance (formally or informally) to other Signatory States to promote the activities described in 1.4.4, 1.4.5 and 1.4.7 above? **[SAP]**

UNSURE

> I'm not sure but it's not interdicted.

1.4.9 What legislative and practical measures has your country taken in support of UN General Assembly Resolution 46/215 concerning the moratorium on the use of large-scale driftnets? **[SAP]**

> Legislation on the sea, inland waters and fisheries

Framework Law on the Environment

Constitution of the republic

Forestry and wildlife law

Civil code (criminalizes environmental crimes)

## **1.5 Addressing harvest of, and trade in, marine turtles; and protecting of habitat**

1.5.1 Does your country have legislation to prohibit direct harvest and domestic trade in marine turtles, their eggs, parts and products; and to protect important turtle habitats? **[IND]**

Please provide details (title/date) of the relevant legislation, as well as any exemptions (e.g. for traditional harvest) under that legislation.

YES

> Constitution of the Republic

Law of the Environment - Law nr20 / 97, of October 1

Regulation on the Environmental Impact Assessment Process - Decree nr. 45/2004 of 29 September

Law of Tourism- Law nr 4/2004, of 17 of October

Regulation on Maritime Fisheries - Decree 16/96 of 28 May

Land Law - Law 19/97 and its Regulations - Decree 66/98

Regulation of the Forest and Wildlife Law (Decree 12/2002 of 6 June)

Sporting and Recreational Fishing Regulations (Decree 51/99 of 31 August)

General Regulation on Maritime Fisheries (Decree 43/2003 of 10 December)

Regulation for the Prevention of Pollution and Protection of the Marine and Coastal Environment (Decree 45/2006 of 30 November)

### **1.5.2 Which, among the following list, are economic uses and cultural values of marine turtles in your country? [INF]**

Please rate the relative prevalence / importance of each consumptive or non-consumptive use.

Use the text boxes below each rating to explain or clarify your responses.

#### **a1) Meat consumption**

YES

a2) Meat consumption: relative prevalence/importance

UNKNOWN

#### **b1) Egg consumption**

YES

b2) Egg consumption: relative prevalence/importance

UNKNOWN

#### **c1) Shell products**

YES



c2) Shell products: relative prevalence/importance

UNKNOWN

**d1) Fat consumption**

YES

d2) Fat consumption: relative prevalence/importance

UNKNOWN

**e1) Traditional medicine**

YES

e2) Traditional medicine: relative prevalence/importance

UNKNOWN

**f1) Eco-tourism programmes**

YES

f2) Eco-tourism programmes: relative prevalence/importance

UNKNOWN

**g1) Cultural / traditional significance**

YES

g2) Cultural/traditional significance: relative prevalence/importance

UNKNOWN

h) Other (list and rank):

> No adicional information

1.5.3 Please indicate the relative level and impact of traditional harvest on marine turtles and their eggs.

**[IND, TSH]**

	RELATIVELY HIGH	UNKNOWN	NONE	RELATIVELY LOW	MODERATE
Level of harvest:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impact of harvest:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Source of information / explanation:

> No adicional information

1.5.4 Have any domestic management programmes been established to limit the levels of intentional harvest? **[SAP]**

Use the text box to give details.

NO

1.5.5 Describe any management agreements negotiating between your country and other States in relation to sustainable levels of traditional harvest, to ensure that such harvest does not undermine conservation efforts. **[BPR]**

> We have no agreement between the states, we only have transboundary marine protected area with South Africa.

**1.6 Minimizing mortality through nesting beach programmes**

**1.6.1 Measures and effectiveness**

**First, tick one of the YES/NO-boxes** to indicate whether or not your country has any of the following measures in place to minimise the mortality of eggs, hatchlings and nesting females. If yes, then **estimate the relative effectiveness** of these measures. **[IND, SAP]**

Use the text boxes below each rating to elaborate on your responses, including any lessons learned that might be of value to other Signatory States, and indicate your plans for the coming year. Please explain any "Not Applicable (N/A)" responses.

**a1) Monitoring/protection programmes**

NO

a2) Monitoring/protection programmes: relative effectiveness

UNKNOWN

**b1) Education/awareness programmes**

YES

b2) Education/awareness programmes: Relative effectiveness

UNKNOWN

**c1) Egg relocation/hatcheries**

NO

c2) Egg relocation/hatcheries: Relative effectiveness

UNKNOWN

**d1) Predator control**

NO

d2) Predator control: Relative effectiveness

UNKNOWN

**e1) Vehicle / access restrictions**

YES

e2) Vehicle/access restriction: relative effectiveness

UNKNOWN

**f1) Removal of debris / clean-up**

NO

f2) Removal of debris /clean-up: relative effectiveness

UNKNOWN

**g1) Re-vegetation of frontal dunes**

YES

g2) Re-vegetation of frontal dunes: relative effectiveness

UNKNOWN

**h1) Building location/design regulations**

YES

> According to the law of land, the constructions in the coastal zone must be located after 100m counted from the high sea line. This zone can not be granted the title of use and use of land, only a special license for exploration.

h2) Building location/design regulations: relative effectiveness

UNKNOWN

**i1) Light pollution reduction**

YES

> According to the law of land, the constructions in the coastal zone must be located after 100m counted from the high sea line. This zone can not be granted the title of use and use of land, only a special license for exploration.

i2) Light pollution reduction: Relative effectiveness

UNKNOWN

j.) Other (list and rate them)

> No additional information

1.6.2 Has your country undertaken any evaluation of its nest and beach management programmes? **[SAP]**

Use the text box to elaborate on your response, if necessary.

NO

## **OBJECTIVE II: PROTECT, CONSERVE AND REHABILITATE MARINE TURTLE HABITATS**

### **2.1 Measures to protect and conserve marine turtle habitats**

2.1.1 What is being done to protect critical habitats outside of established protected areas? (NB: It is assumed that legislation relating to established protected areas will have been described in Section 1.5.1) **[BPR, SAP]**

> The Mocambican legislation considers the coastal zone as an area of special protection due to the fragility of its ecosystem and the presence of protected and threatened species. All economic activities and uses for coastal zone should be preceded by an environmental impact study. The coastal strip of 100m counted from the high sea line is not allowed the granting of a right of use and use of land, only a special license may be granted if there is evidence of non-occurrence of critical habitats for migratory species or key marine species.

2.1.2 Are assessments routinely made of the environmental impact of marine and coastal development on marine turtles and their habitats? **[IND, SAP]**

Use the text box to elaborate on your response.

YES

> Yes, according to national legislation, environmental impact assessment has been carried out for any economic activity or any other activity that could potentially create negative impacts on the environment, not only for marine turtles and their habitats.

2.1.3 Is marine water quality (including marine debris) monitoring near turtle habitats? If yes, describe the nature of this monitoring and any remedial measures that may have been taken. **[SAP]**

NO

2.1.4 Are measures in place to prohibit the use of poisonous chemicals and explosives? **[SAP]**

Use the text box to elaborate on your response.

YES

> Yes, according to national legislation, the use of explosives or chemical substances in fishing is not allowed.

### **2.2 Rehabilitation of degraded marine turtle habitats**

2.2.1 Are efforts being made to recover degraded coral reefs? If yes, give details (location, duration, effectiveness, lessons learned, future plans etc.). **[IND, SAP]**

Provide sufficient details of the measures taken, especially those measures shown to have been effective in recovering degraded coral reefs. Please indicate future plans in this regard.

NO (Details/future plans)

> In the country we still do not have this experience, but we believe that in the future the country can adopt learning from the experiences of other countries.

2.2.2 Are efforts being made to recover degraded mangrove habitats that are important for turtles? If yes, give details (location, duration, effectiveness, lessons learned future plans etc.). **[IND, SAP]**

YES (Details/future plans)

> Yes, there is great effort by the country to restore degraded mangroves. It has an experience of success (MANGROVE RESTORATION PROGRAM BASED ON THE COMMUNITY, IN THE ESTUARY OF LIMPOPO). National legislation promotes degraded mangrove restoration efforts. There is a STRATEGY AND NATIONAL ACTION PLAN FOR MANGROVE MANAGEMENT, 2019-2023 which constitutes a more important operational instrument with all mangrove management actions in the country. There is also a national reforestation strategy, a national adaptation strategy for climate change, and the national strategy for wetlands.

2.2.3 Are efforts being made to recover degraded sea grass habitats? If yes, give details (location, duration, effectiveness, lessons learned future plans etc.). **[IND, SAP]**

YES (Details/future plans)

> Yes, there is great effort in the country for restoration of the sea grasses, but still in an experimental regime at Eduardo Mondlane University.

# OBJECTIVE III: IMPROVE UNDERSTANDING OF MARINE TURTLE ECOLOGY AND POPULATIONS THROUGH RESEARCH, MONITORING AND INFORMATION EXCHANGE

## 3.1 Studies on marine turtles and their habitats

3.1.1 Give a list of available literature that includes baseline information from studies carried out in your country on marine turtle populations and their habitats. **[INF]**

> Brito, Atanasio 2012 an interviews-based assessment of incidental capture and mortality of sea turtles of Mozambique's Sofala Bank commercial shrimp fishery. Rev Mocambicana de informacao pesqueira no 30 Abdula, S.N. Dias, A. Lourenco (2018). Avaliacao do Camarao no Banco de Sofala 2016. Relatorio interno de investigacao IIP. Maputo.

Fernandes, R. S., J. L., Williams, S. Gonzalez-Valladolid, L. Muaves & M. A. M. Pereira (2018). Monitoring, tagging and conservation of marine turtles in Mozambique: Annual report 2017/18. 36 pp. Maputo, CTV.

Fernandes. S. R, Litulo. C. Pereira. M. A. M & C. M. M. Louro (2018). Artisanal Fisheries Still Represent a Significant Threat to Marine Turtles in Mozambique.

Fernandes, R. S., J. L. Williams, S. G. Valladolid, Muaves L., C. M. M. Louro & M. A. M. Pereira (2017). Mozambique marine turtle monitoring, tagging and conservation: highlights from the 2016/17 nesting season

Fernandes, R. S., J. L. Williams, S. G. Valladolid, Muaves L., C. M. M. Louro & M. A. M. Pereira (2017). Monitoria, marcação e conservação de tartarugas marinhas em Moçambique: Relatório anual 2016/17. 30 pp. Maputo, CTV.

Pereira, M. A. M. & C. M. M. Louro (2017). A review of recent marine turtle strandings at the Quirimbas National Park, northern Mozambique, and a call for action. African Sea Turtle Newsletter, 7: 29-33.

Fernandes, R. S., J. L. Williams, S. G. Valladolid, Muaves L., C. M. M. Louro & M. A. M. Pereira (2017). Mozambique marine turtle monitoring, tagging and conservation: highlights from the 2016/17 nesting season

Louro, C. M. M., C. Litulo, M. A. M Pereira & T. I. F. C. Pereira (2017). Investigação e monitoria de espécies e ecossistemas nas áreas de conservação marinhas em Moçambique: Parque Nacional das Quirimbas 2016, 43 pp. Maputo, Centro Terra Viva. [Biodiversidade e Ecossistema] - [2017]

Fernandes, R. S., J. L. Williams, S. G. Valladolid, Muaves L., C. M. M. Louro & M. A. M. Pereira (2017). Mozambique marine turtle monitoring, tagging and conservation: highlights from the 2016/17 nesting season

Louro, C. M. M., M. A. M Pereira & C. Litulo (2017). Investigação e monitoria de espécies e ecossistemas nas áreas de conservação marinhas em Moçambique: Parque Nacional do Arquipélago do Bazaruto 2016, 30 pp. Maputo, Centro Terra Viva.

Louro, C. M. M., C. Litulo, M. A. M. Pereira & T. I. F. C. Pereira (2017). Investigação e monitoria de espécies e ecossistemas nas áreas de conservação marinhas em Moçambique: Reserva Nacional do Pomene 2016, 37 pp. Maputo, Centro Terra Viva.

Louro, C. M. M., M. A. M Pereira & C. Litulo (2017). Investigação e monitoria de espécies e ecossistemas nas áreas de conservação marinhas em Moçambique: Parque Nacional do Arquipélago do Bazaruto 2016, 30 pp. Maputo, Centro Terra Viva.

Fernandes, R. S., J. Williams & J. Trindade (2016). Monitoring, tagging and conservation of marine turtles in Mozambique: Annual report 2015/16. 28 pp. Maputo, CTV.

Fernandes, R. S., J. Williams & J. Trindade (2016). Monitoria, marcação e conservação de tartarugas marinhas em Moçambique: Relatório anual 2015/16. 27 pp. Maputo, CTV.

Louro, C. M. M., Gonçalves, P. M. B, Fernandes R.S., & M.A.M Pereira (2016). Marine Turtle Strandings at Ponta do Ouro Partial Marine Reserve, Southern Mozambique

Pereira, M. A. M (2015). Official Celebration Of 20 Years Of Monitoring And Conservation Of Marine Turtles at the Ponta do Ouro Partial Marine Reserve.

Pereira, M. A. M., R. Fernandes, & Videira. E. Cristina M. M. Louro & P. M. B Gonçalves (2014) Celebrating 20 years of marine turtle tagging and monitoring in southern Mozambique

Fernandes, R S, J Williams, C M M Louro & M A M Pereira (2014). Monitoria, marcação e conservação de tartarugas marinhas em Moçambique: relatório anual 2013/14. 6 pp. Maputo, CTV.

Pereira, M. A. M., & Videira. P. M. B Gonçalves & R. Fernandes (2014) Post-nesting Migration of Logger Turtles (*Caretta caretta*) from Southern Mozambique

Fernandes, R S, J Williams, C M M Louro & M A M Pereira (2014). Monitoring, tagging and conservation of marine turtles in Mozambique: annual report 2013/14. 6 pp. Maputo, CTV.

3.1.2 Have **long-term** monitoring programmes (i.e. of at least 10 years duration) been initiated or planned for priority marine turtle populations frequenting the territory of your country? **[IND, BPR]**

Please give details of the nature, duration and continuity of these programmes.

YES

> yes we have monitoring programs dated since 1988, currently the program is conducted by CTV

3.1.3 Has the genetic identity of marine turtle populations in your country been characterised? **[INF, PRI]**

Please give details (e.g. which species, which populations?).

YES

> Caretta caretta have genetic information on mitochondrial DN and micro satellites, Chelonia mydas and Eretmochelys imbricata have mitochondrial DNA information

**3.1.4 Which of the following methods have been or are being used to try to identify migration routes of turtles? Use the text boxes to provide additional details [INF, PRI]**

**a) Tagging**

YES (Details/future plans)

> Yes Mozambique has studies on tagging marine turtles

**b) Satellite tracking**

YES (Details/future plans)

> Mozambique has yet done genetic identity studies of its sea turtle population

**c) Other OR None of the above**

None of the above

3.1.5 Have studies been carried out on marine turtle population dynamics and survival rates (e.g. including studies into the survival rates of incidentally caught and released turtles)? **[INF, PRI]**

NO

> We do not have studies but we have statistics of incidental capture of shrimp in the Sofala Bank for industrial fleet (Abdula 2019)

3.1.6 Has research been conducted on the frequency and pathology of diseases in marine turtles? **[INF, PRI]**

NO

> We have no studies anthropological studies and diseases of sea turtles in Mozambique

3.1.7 Is the use of traditional ecological knowledge in research studies being promoted? **[BPR, PRI]**

UNSURE

**3.2 Collaborative research and monitoring**

- 3.2.1 List any **regional** or **sub-regional action plans** in which your country is already participating, which may serve the purpose of identifying priority research and monitoring needs. **[INF]**

Use the text box to elaborate on your response.

> Caretta caretta have genetic information on mitochondrial DN and micro satellites, Chelonia mydas and Eretmochelys imbricata have mitochondrial DNA information  
Satellite tagging

**3.2.2 On which of the following themes have collaborative studies and monitoring been conducted? Use the text boxes to describe the nature of this international collaboration or to clarify your response. Answer 'NO' if the studies/monitoring undertaken do not involve international collaboration. [INF, PRI]**

**a) Genetic identity**

YES (Details/future plans)

> Satellite studies of Chelonia mydas with Scyecheles (2014)

**b) Conservation status**

YES (Details/future plans)

> Status report of the sea turtle conservation in Mozambique (CDS ZC, 2009)

**c) Migrations**

YES (Details/future plans)

> Satellite studies of *Chelonia mydas* with Seychelles (2014)

d) Other biological and ecological aspects

NO (Details/future plans)

### 3.3 Data analysis and applied research

3.3.1 List, in order of priority, the marine turtle populations in your country in need of conservation actions, and indicate their population trends. **[PRI]**

> LEATHERBACK TURTLES - The number of nesting females per season from Ponta do Ouro do Santa Maria (approx. 90 km of coastline) fluctuates. Tracks varied from 54 (2018/19) to 98 (2016/17); Number of nests varied from 31 (2014/15) and 75 (2013/14). Other nesting areas, such as Inhaca Island, Bilene and Manhiça may have less than 30 nests per season.

Since 2010, a maximum of 22 female turtles were reported during 2014/15 nesting season based on tag/recapture information. No studies available on population size.

GREEN TURTLES - The number of nesting females per season from Vamizi Islands (approx. 12 km) fluctuates. Number of nests varied from 78 (2013/14) to 250 (2010/11);

Tag and recapture turtles were only reported for 2017/18 nesting season with a total of 34 females.

LOGGERHEAD TURTLES - The number of nesting females per season from Ponta do Ouro do Santa Maria (approx. 90 km of coastline) fluctuates between 1189 (2009/10) to 1997 and (2014/15) tracks; Nests varied from and 622 (2009/10) to 906 (2013/14). The data showed an increase in number of tracks until 2014/156 but data from 2015/16 to 2018/19 nesting season showed lower numbers of tracks when compared with 2014/15.

Since 2010, a maximum of 450 female turtles were reported in 2013/14 based on tag/recapture information. The effective population ( $N_e$ ) estimate for loggerhead nesting females turtles given by genetic analysis was 276 to 428.

Data from hawksbills and olive ridley is very scarce and insufficient to determine relevant nesting beaches in Mozambique. Fortunately monitoring and conservation program will be reestablished in Rongui Island (approx. 7 km of coastline), where few numbers of hawksbills were reported.

3.3.2 Are research and monitoring activities, such as those described above in Section 3.1, periodically reviewed and evaluated for their efficacy? **[SAP]**

UNSURE

> not official data series of Mozambique Government

3.3.3 Describe how research results are being applied to improve management practices and mitigation of threats (in relation to the priority populations identified in 3.3.1, among others). **[SAP]**

> These studies could support the governance of sea turtles and their habitats if the country adopts.

### 3.4 Information exchange

3.4.1 Has your country undertaken any initiatives (nationally or through collaboration with other Range States) to standardise methods and levels of data collection? **[BPR, INF]**

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> not exist.

3.4.2 To what extent does your country exchange scientific and technical information and expertise with other Range States? **[SAP, IND]**

RARELY

3.4.3 If your country shares scientific and technical information and expertise with other Range States, what mechanisms have commonly been used for this purpose? Comment on any positive benefits/outcomes achieved through these interactions. **[INF]**

> no used

3.4.4 Does your country compile and make available to other countries data on marine turtle populations of a regional interest?

Please give details **[INF]**

UNSURE

> officially not.

# **OBJECTIVE IV: INCREASE PUBLIC AWARENESS OF THE THREATS TO MARINE TURTLES AND THEIR HABITATS, AND ENHANCE PUBLIC PARTICIPATION IN CONSERVATION ACTIVITIES**

## **4.1 Public education and information programmes**

4.1.1 Describe the educational materials, including mass media information programmes that your country has collected, developed and/or disseminated. **[INF, PRI]**

Details/future plans:

> We do not have a strong environmental awareness program, but there are some isolated initiatives (leaflets, posters, ...) and specific programs in national parks and reserves

4.1.2 Which of the following groups have been the targets of these focused education and awareness programmes described in above in Section 4.1.1? **[PRI, INF]**

Local/Fishing communities

Tourists

Teachers

Students

4.1.3 Have any community learning / information centres been established in your country? **[BPR, SAP]**

Please give details and indicate future plans

NO

> Not yet

4.2 Alternative livelihoods opportunities Describe initiatives already undertaken or planned to identify and facilitate alternative livelihoods (including income-generating activities) for local communities. **[IND, BPR]**

> Do not have

## **4.3 Stakeholder participation**

4.3.1 Describe initiatives already undertaken or planned by your country to involve **local communities**, in particular, in the planning and implementation of marine turtle conservation programmes. Please include details of any incentives that have been used to encourage public participation, and indicate their efficacy. **[BPR, IND]**

> Officially they do not exist

4.3.2 Describe initiatives already undertaken or planned to involve and encourage the cooperation of **Government institutions, NGOs** and the **private sector** in marine turtle conservation programmes. **[IND, BPR]**

> Do not exist



# OBJECTIVE V: ENHANCE NATIONAL, REGIONAL AND INTERNATIONAL COOPERATION

## 5.1 Collaboration with, and assistance to, signatory and non-signatory States

5.1.1 Has your country undertaken a national review of its compliance with Convention on International Trade in Endangered Species (CITES) obligations in relation to marine turtles? **[SAP]**

NO

5.1.2 Does your country have, or participate/cooperate in, CITES training programmes for relevant authorities? **[SAP]**

NO

5.1.3 Does your country have in place mechanisms to identify **international** illegal trade routes (for marine turtle products etc.)? Please use the text box to elaborate on how your country is cooperating with other States to prevent/deter/eliminate illegal trade. **[SAP]**

Please give details of particularly successful interventions and prosecutions; and/or mention any difficulties experienced that impede progress in this area. Please provide references to any published reports (e.g. already prepared for CITES purposes) that give a more ample explanation.

YES

> Yes through bilateral cooperation agreements on external trade control

5.1.4 Which international compliance and trade issues related to marine turtles has your country raised for discussion (e.g. through the IOSEA MoU Secretariat, at meetings of Signatory States etc.)? **[INF]**

> Trade, by-catch, research

5.1.5 Describe measures in place to prevent, deter and eliminate domestic illegal trade in marine turtle products, particularly with a view to enforcing the legislation identified in Section 1.5.1. **[INF]**

> Use of applicable law, Patrol in protected areas, Environmental sensitization

## 5.2 Prioritisation, development and implementation of national action plans

5.2.1 Has your country already developed a national **action plan** or a set of **key management measures** that could eventually serve as a basis for a more specific action plan at a national level? **[IND]**

Please explain.

YES

> It does not have a specific plan of action for the management of sea turtles, but there is a National Coastal Strategy and Action Plan that contemplates marine turtle management issues.

5.2.2 From your country's perspective, which **conservation and management activities**, and/or which particular **sites or locations**, ought to be among the highest priorities for action? (List up to 10 activities from the IOSEA Conservation and Management Plan). **[PRI]**

> 1. Reduce to the greatest extent practicable the incidental capture and mortality of marine turtles in the course of fishing activities

2. Prohibit the direct harvest (capture or killing) of, and domestic trade in, marine turtles, their eggs, parts or products, whilst allowing exceptions for traditional harvest by communities within each jurisdiction provided that: such harvest does not undermine efforts to protect, conserve and recover marine turtle populations and their habitats; and the marine turtle populations in question are able to sustain the harvest

3. Establish necessary measures to protect and conserve marine turtle habitats

4. Rehabilitate degraded marine turtle habitats

5. Conduct studies on marine turtles and their habitats targeted to their conservation and management

6. Establish public education, awareness and information programmes

7. Develop alternative livelihood opportunities for local communities to encourage their active participation in conservation efforts

8. Promote public participation

9. Assist signatory and non-signatory States, upon request, to develop and implement national, sub-regional and regional action plans for the conservation and management of marine turtles and their habitats

10. Strengthen and improve enforcement of conservation legislation

11. Seek resources to support the implementation of the MoU

12. Improve coordination among government and non-government sectors in the conservation of marine turtles and their habitats

5.2.3 Please indicate, from your country's standpoint, the extent to which the following **local** management issues require **international** cooperation in order to achieve progress. **[PRI]**

In other words, how important is **international** cooperation for addressing these issues?

Please select only one per line

	NOT AT ALL	LIMITED	IMPORTANT	ESSENTIAL
Illegal fishing in territorial waters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Incidental capture by foreign fleets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Enforcement/patrolling of territorial waters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Hunting/harvest by neighboring countries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Poaching, illegal trade in turtle products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Development of gear technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Oil spills, pollution, marine debris	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Training / capacity-building	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Alternative livelihood development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Identification of turtle populations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Identification of migration routes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tagging / satellite tracking	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Habitat studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Genetics studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 5.3 Cooperation and Information exchange

5.3.1 Identify existing frameworks/organisations that are, or could be, useful mechanisms for cooperating in marine turtle conservation at the sub-regional level. Please comment on the strengths of these instruments, their capacity to take on a broader coordinating role, and any efforts your country has made to enhance their role in turtle conservation. **[INF, BPR]**

> Ministry of Land, Environment and Rural Development  
 Ministry of the Sea, Inland Waters and Fisheries  
 National Agency for the Control of Environmental Quality  
 National Institute of Fisheries Research  
 Universities  
 Research Institutions  
 NGOs (WWF, IUCN, CTV ...)

5.3.2 Has your country developed, or is it participating in, any networks for cooperative management of shared turtle populations? **[BPR, INF]**

YES (if yes, give details)

> Through legislation and development control in the coastal zone, all activities require an environmental impact assessment

### 5.4 Capacity-building

5.4.1 Describe your country's needs, in terms of human resources, knowledge and facilities, in order to build capacity to strengthen marine turtle conservation measures. **[PRI]**

> Specialized training  
Institutional training  
Training in research equipment

5.4.2 Describe any training provided in marine turtle conservation and management techniques (e.g. workshops held, training manuals produced etc.), and indicate your plans for the coming year. **[PRI, INF]**

> Two workshops were held on the state of conservation of the sea turtle in Mocimboa do Tempo  
No official training courses have yet been organized for conservation, research, monitoring of sea turtles in the country

5.4.3 Specifically in relation to **capacity-building**, describe any partnerships developed or planned with universities, research institutions, training bodies and other relevant organisations. **[BPR]**

> No plan developed or planned

## **5.5 Enforcement of conservation legislation**

5.5.1 National policies and laws concerning the conservation of marine turtles and their habitats will have been described in Section 1.5.1. Please indicate their effectiveness, in terms of their practical application and enforcement. **[SAP, TSH]**

> The implementation of legislation is weak

5.5.2 Has your country conducted a review of policies and laws to address any gaps, inconsistencies or impediments in relation to marine turtle conservation? If not, indicate any obstacles encountered in this regard and when this review is expected to be done. **[SAP]**

Please give details.

NO

5.5.3 From the standpoint of law enforcement, has your country experienced any difficulties achieving cooperation to ensure compatible application of laws across and between jurisdictions? **[TSH]**

Please give details.

YES

> Implementation of TEDs

# OBJECTIVE VI: PROMOTE IMPLEMENTATION OF THE MOU, INCLUDING THE CMP

## 6.1 IOSEA Marine Turtle MoU membership and activities

6.1.1 What has your country already done, or will it do, to encourage other States to sign the IOSEA MoU? **[INF]**

> Mozambique has participated in the meetings of the signatory states of the memorandum.

6.1.2 Is your country **currently** favourable, in principle, to amending the MoU to make it a legally binding instrument? **[INF]**

YES

6.1.3 Would your country be favourable, over a **longer time horizon**, to amending the MoU to make it a legally-binding instrument? **[INF]**

YES (Use the text box to elaborate on your response, if necessary)

## 6.2 Secretariat and Advisory Committee

What efforts has your country made, or can it make, to secure funding to support the core operations of the IOSEA MoU (Secretariat and Advisory Committee, and related activities)? **[IND]**

> Mozambique since signing the memorandum in 2008, has never paid the contribution to support the secretariat's expenses because it does not have the financial availability, but we believe that in the future it will be able to do so.

## 6.3 Resources to support implementation of the MoU

6.3.1 What funding has your country mobilised for **domestic** implementation of marine turtle conservation activities related to the IOSEA Marine Turtle MoU? Where possible, indicate the specific monetary values attached to these activities/programmes, as well as future plans. **[IND]**

> Mozambique has carried out activities related to the implementation of IOSEA Marine Turtle MoU through funds from:

- General State Budget
- Application of projects
- Support from local and international NGOs

6.3.2 Has your country tried to solicit funds from, or seek partnerships with, other Governments, major donor organizations, industry, private sector, foundations or NGOs for marine turtle conservation activities? **[IND]**

YES (If yes, give details of the approaches made (both successful and unsuccessful))

> WWF Eastern Africa

6.3.3 Describe any initiatives made to explore the use of economic instruments for the conservation of marine turtles and their habitats. **[BPR]**

> Nesting monitoring

Tagging

Environmental Awareness Programs

Training of primary teachers in coastal provinces

## 6.4 Coordination among government agencies

6.4.1 Has your country designated a lead agency responsible for coordinating national marine turtle conservation and management policy? If not, when is this information expected to be communicated to the IOSEA MoU Secretariat? **[IND]**

Please elaborate, as necessary.

YES

> Centro de Desenvolvimento Sustentavel para Zonas Costeiras  
Ministerio da Terra, Ambiente e Desenvolvimento Rural

6.4.2 Are the roles and responsibilities of all government agencies related to the conservation and management of marine turtles and their habitats clearly defined? **[IND]**

Use the text box to elaborate.

YES

6.4.3 Has your country ever conducted a review of agency roles and responsibilities? If so, when, and what was the general outcome? If not, is such a review planned and when? **[SAP]**

This question seeks to ascertain whether Signatories have made a serious examination of which agencies have a role to play in marine turtle conservation, either directly or indirectly, and which therefore should be apprised of the IOSEA MoU and its provisions.

If no internal review of interagency roles and responsibilities has been or will be undertaken, please elaborate if only to indicate that the necessary arrangements are already clear and not in need of further review.

NO (Use the text box to elaborate)

> Probably next yeras

