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

CMS/IOSEA/MOS8/Inf.7.1.b

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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

**COMOROS – NATIONAL REPORT 2019**

*(Prepared by the Comoros)*

# 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?

> Parc National de Mohéli, IOSEA NPF, Direction Générale de l'Environnement et des Forêts (DGEF), Ministère de l'Environnement, Union des Comores.

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

> Association pour le Développement Socio Economique d'Itsamia (ADSEI), Parc National de Mohéli, Réseau National des Aires Protégées (RNAP), Direction Nationale des Ressources Halieutiques, Maison de l'Ecotourisme de Mohéli (MEM), AIDE, KELONIA (Réunion Island).

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

> 1er septembre 2001

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

> 15 Juillet 2019

Designated Focal Point (and full contact details):

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# 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 Comoros Archipelago comprises four Islands, namely Grand Comore, Moheli, Anjouan and Mayotte. The Federal Islamic Republic of Comoros consists of Grand Comore, Anjouan and Moheli; Mayotte is an overseas territory ("community") of France, whose status is scheduled to change to "overseas department" in 2011. The dominant marine turtle species occurring in the Comoros are green turtles ( *Chelonia mydas* ) and hawksbill turtles ( *Eretmochelys imbricata* ). Green turtles are the most abundant species in the region (Fretey and Fourmy 1996; Ben Mohadji et al. 1996; Project Biodiversity 2000). There have been a few observations of leatherback ( *Dermochelys coriacea* ) and loggerhead ( *Caretta caretta* ) turtles in the region, none of which is known to nest in the archipelago (Mortimer 1993; Ben Mohadji et al. 1996).

Both green and hawksbill turtles have been noted to nest in the Comoros (Frazier 1985; Mortimer 1993), but only green turtles have been reported to nest here in recent years (Woodworth 1992; Project Biodiversity 2000). Nesting occurs mainly on Moheli and nearby islands (Ben Mohadji 1996; Project Biodiversity 2000). Of the 30 beaches constituting the Moheli Marine Park (MMP), the most important are: Five beaches in Itsamia - Moheli (for nesting and feeding); and seven beaches on the small islands of Nioumachoi (for nesting and feeding). Of lesser importance: Five beaches in the north of Moheli; four beaches in Grande Comore (nesting), which are not frequented by turtles anymore; and three beaches in Anjouan (for

Comoros

GENERAL INFORMATION

OBJECTIVE I. REDUCE DIRECT AND INDIRECT CAUSES OF MARINE TURTLE MORTALITY

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nesting and feeding), also not frequented any more.

A small number of hawksbills do, however, appear to nest on Mayotte (Fretey and Fourmy 1996). Of the islands comprising the Comoros Archipelago, Moheli and Mayotte provide the most important feeding grounds (Frazier 1985; Ben Mohadji 1996). Habitat destruction and coastal bathymetry (narrow, steep coastal shelf - Mortimer 1993) results in limited feeding sites on Grand Comore and Anjouan.

The green turtle population of the Comoros showed a decline between 1972/1973 and 1994 (Woodworth 1992; Ben Mohadji et al. 1996). Previous estimates for green turtles in the Comoros Archipelago were 1100 to 1800 nesting females (Frazier 1985). More recent estimates for the Comoros indicate a possible increasing trend in nesting population numbers (NMFS/FWS 2007a): 7000 to 8100 (on Moheli Island, Ben Mohadji and Paris 1999), 6000 (Project Biodiversity 2000), and 5000 reproducing females (NMFS/FWS 2007a, for the year 2000). Bourjea et al. (2007) concluded that the nesting green turtle population of Mayotte is stable and healthy, averaging 1545 females per annum. Hawksbills numbers (currently estimated at 10 - 50 nesting females), however, are declining (NMFS/FWS 2007b).

Habitat destruction due to the mining of sand and live corals for building purposes, and dynamite fishing and coral bleaching, is of great concern in the Comoros (Project Biodiversity 2000; Ballorain 2002). It causes the direct destruction of nesting and forage grounds, and in addition leads to erosion, particularly during the wet season. Grand Comore and Anjouan in particular are affected by these practices. The transition of forest watersheds to agricultural land exacerbates coastal erosion, which also affects seagrass beds around the islands (Project Biodiversity 2000).

Poaching of nesting green turtles increased from an estimated 13 to 44% (or about 800 turtles per annum) of the nesting population on Moheli, between 1972 and 1994 (Frazier 1985; Mortimer 1993; Project Biodiversity 2000). Turtle meat is either consumed on the island, or sold on Anjouan Island (Mortimer 1993). Hunting pressure on nesting turtles is even greater on Grande Comore and Anjouan. Although eggs are not frequently harvested from nests, nesting females are often deliberately slaughtered before they were able to nest - reportedly to enhance the taste of the meat - resulting in essentially the same outcome (Mortimer 1993). The introduction of motorboats ("japawa") has made isolated (nesting) beaches more accessible, and has also made transport of turtles between islands much easier (Ben Mohadji et al. 1996). Poor law enforcement, including in Moheli Marine Park (due to a lack of funding and capacity), is worsening the current situation (C3 Comoros 2007; Hauser et al. 2008).

Other threats to marine turtles in the region include the use of poison for fishing, the use of various fishing nets (banned by law but employed by subsistence fishermen), waste disposal on beaches, and pollution caused by passing maritime traffic (Ben Mohadji et al., 1996).

## 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]**

> - Conservation and management by local communities (MMP): involvement of eco-guards (from local

communities) for sensitizing local communities, schools, fishermen etc.

- Monitoring of nesting beaches (Itsamia) with the help of Kelonia (marine turtle observatory, La Reunion)
- Policy and involvement of the population against poaching (by means of law enforcement)
- Information, education, and awareness campaigns (eg. articles in newspapers (Al Watwan etc.), radio and TV programmes.
- National day of marine turtles, held every year (28 May) since 1997. It involves different activities aimed at communities and the youth in particular. Year after year, the national day of marine turtles is increasingly frequented.
- Village associations: A number of village associations
- volunteer civic organisations dealing with, for example, cultural, health and environmental issues
- have become involved with the protection of marine turtles (Mortimer 1993). These include the villages of Itsamia, Hoani, Bimbini and Djoiezi.
- Local NGO like ADSEI and the ceremony of the day of the marine turtle (28 May), more sensibilisation of comoros community and schoolchildren.
- Installation of a police station in Itsamia for the sweating of beaches against the poaching of turtles (meat & eggs).

### 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.

- > - Investigation of the sale and consumption of turtles (1998) and study about the price.
- Anthropologic thesis (Kelonia) about traditional use of marine turtles in Itsamia Village (2006) with film support.
- Investigation into the socioeconomics of subsistence fishing in Moheli (Tilot 1994).
- Comics (Mwana Nyamba: "Turtle Child") about environmental issues (2000-2003).
- Successful example of ecotourism by a local association (ADSEI - Association pour le Developpement Socio Economique d'Itsamia / Association for the Socio-economic Development of Itsamia).
- Activities of the Mohéli Ecotourism House (Maison de l'Ecotourisme de Mohéli / MEM)

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

**[TSH]**

- High prices earned from turtle products relative to other commodities
- Lack of affordable alternatives to turtle products
- Ease of access to the turtle resource (e.g. by virtue of proximity or ease of land/water access)
- Low cost of land near nesting beaches
- Low penalties against illegal harvesting
- Others (Please describe)

> NON APPLICATION DES TEXTES EN VIGEUR.

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

- No

### 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:

- No (Please provide details)

> Non utilisé aux Comores.

b) Set gill nets:

- No (Please provide details)

> Usage rare

c) Anchored Fish Aggregating Devices (FADs):

Yes (Please provide details)

> Appui aux communautés des pêcheurs.

d) Purse seine (with or without FADs):

No (Please provide details)

> N/A

e) Longline (shallow or deepset):

No (Please provide details)

> Usage rare

f) Driftnet:

Yes (Please provide details)

> Pratique hors du Parc National de Mohéli.

g) Others (Please provide details)

> La pêche en ligne est la plus pratiquée aux Comores, pêche à la traine, une pêche artisanale.

h) None of the above (Please provide details)

> N/A

**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 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

> DNRH, PNM, RNAP, DGEF.

b) Set gill nets

*Please select only one per line*

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

> PNM, DGEF.

c) Anchored Fish Aggregating Devices (FADs)

*Please select only one per line*

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
Fishing effort:	<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

> PNM, RNAP, DGEF.

d) Purse seine (with or without FADs)

Please select only one per line

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH
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

> PNM, RNAP, DGEF.

e) Longline (shallow or deepset)

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

> DGEF, PNM.

f) Driftnet

Please select only one per line

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

- Source of information / clarification

> PNM, DNRH.

g) Others (from 1.4.1 g) )

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

> PNM, DGEF.

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]**

> Des bateaux battant pavillon étrangères pêchent illégalement dans les eaux de Comores, et échappent au contrôle.

**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)

UNDER INVESTIGATION or NOT APPLICABLE (Details/future plans)

> N/A

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

UNDER INVESTIGATION or NOT APPLICABLE (Details/future plans)

> N/A

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

UNDER INVESTIGATION or NOT APPLICABLE (Details/future plans)

> N/A

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

NO (Details/future plans)

> N/A

f) **Net retention and recycling schemes**

NO (Details/future plans)

> N/A

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

YES (Details/future plans)

> Usage aux aires marines protégées.

h) **Effort management control**

YES (Details/future plans)

> De fois des observateurs comoriens sont embarqués dans les bateaux de patrouille.

#### **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)

> Notamment dans le région océan indien.

b) **Vessel monitoring systems**

YES (Details/future plans)

> Dans l'océan indien occidental.

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

YES (Details/future plans)

> Les services INRAPE et la DNRH à travers les inspecteurs.

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

YES (Details/future plans)

> Dans plusieurs domaines avec l'appui des partenaires, PNM, RNAP, DGEF, DNRH, Syndicat des pêcheurs.

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

NO (Details/future plans)

> N/A



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

NO (Please provide details)

> NA/

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]**

> For the moment, data collection, research and development are not done with a view to sea turtle conservation. On the other hand, Comorian fisheries do not have a real impact with respect to incidental captures. But there is some data collection with local NGO ADSEI, for monitoring and counting traces, followed nests.

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]**

YES (If yes, please give details of the exchanges/technical assistance)

> Information is exchanged with the European Union. Technical assistance was provided in 2007 aimed at improving technologies and data collection in Comoros.

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]**

> There is a law that forbids the use of this kind of fishery. The Comorian fleet does not have large scale driftnets, but control of foreign fleets is not effective. No information available on commercial fisheries is available. Ratification of international conventions (CITES).

## **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

> LOI CADRE ENVIRONNEMENTALE, DECRET DE CREATION DU PARC NATIONAL DE MOHELI, LOI ORTANT LA CREATION DES AIRES PROTEGEES AUX COMORES

### **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

> In Comoros, there has not been general consumption of turtle meat because of religious and traditional aspects. An anthropologic thesis has been prepared on cultural and economic issues of marine turtle uses (Kelonina, Reunion). However, the situation is changing, with people of different religious customs migrating between the islands, who introduce the idea of turtle meat consumption to areas where previously it was not eaten (Mortimer 1993). The price of turtle meat is lower than that of other meats, which also results in increased turtle meat consumption (Mortimer 1993; Projects Biodiversity 2000).

a2) Meat consumption: relative prevalence/importance

HIGH

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

YES

> Eggs appear to be of lesser importance than turtle meat (Mortimer 1993; Ben Mohadji 1996).

b2) Egg consumption: relative prevalence/importance

MODERATE

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

NO

c2) Shell products: relative prevalence/importance

UNKNOWN

**d1) Fat consumption**

NO

d2) Fat consumption: relative prevalence/importance

UNKNOWN

**e1) Traditional medicine**

YES

e2) Traditional medicine: relative prevalence/importance

MODERATE

**f1) Eco-tourism programmes**

YES

> the establishment of the house of ecotourism Moheli( MEM).

f2) Eco-tourism programmes: relative prevalence/importance

HIGH

**g1) Cultural / traditional significance**

YES

> In Comoros Islands, Islam prohibits the consumption of turtle meat.

g2) Cultural/traditional significance: relative prevalence/importance

LOW

h) Other (list and rank):

> N/A

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

**[IND, TSH]**

	RELATIVELY HIGH	UNKNOWN	NON E	RELATIVELY LOW	MODERATE
Level of harvest:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Impact of harvest:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Source of information / explanation:

> PNM. ADSEI

Poaching of nesting green turtles increased from an estimated 13 to 44% (or about 800 turtles per annum) of the nesting population on Moheli, between 1972 and 1994 (Frazier 1985; Mortimer 1993; Project Biodiversity 2000). Hunting pressure on nesting turtles is even greater on Grande Comore and Anjouan. Although eggs are not frequently harvested from nests, except when fishermen failed to catch turtles, nesting females are often deliberately slaughtered before they were able to nest - reportedly to enhance the taste of the meat - resulting in essentially the same outcome (Mortimer 1993; Ben Mohadji 1996).

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.

YES

> The MNP has eco-guards who inform and survey the sensitive zones (nesting beaches) with the support of local associations (eg. ADSEI's fight against poaching). Awareness programmes and enforcement of laws have to be well-applied for efficient management.

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]**

> There are some regional (Indian Ocean Commission) projects on fisheries to improve the conservation of coastal and marine resources.

The MNP has good cooperation with Kelonia (the Marine Turtle Observatory on Reunion Island) and cooperation with ADSEI local NGO is ongoing.

## **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**

YES

> Since 2011, Joint patrol between security forces and members of the ADSEI Itsamia.

a2) Monitoring/protection programmes: relative effectiveness

EXCELLENT

> MNP & RNAP (but limited coverage - concentrated on the ten village to the Moheli Marine Park).

#### **b1) Education/awareness programmes**

YES

> 28 May for each year, the day of the marine turtle.

b2) Education/awareness programmes: Relative effectiveness

GOOD

> Involvement of the local communities (through local village associations) for the protection of the turtles.

#### **c1) Egg relocation/hatcheries**

YES

> Involvement of the local communities (through local village associations) for the protection of the turtles.

c2) Egg relocation/hatcheries: Relative effectiveness

UNKNOWN

#### **d1) Predator control**

YES

> Since 2011, Joint patrol between security forces and members of the ADSEI Itsamia.

d2) Predator control: Relative effectiveness

LOW

#### **e1) Vehicle / access restrictions**

N/A

e2) Vehicle/access restriction: relative effectiveness

UNKNOWN

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

YES

> Journée des plages propres.

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

LOW

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

YES

> opération de reboisement sur les collines sur le front de mer. The ideas are there to re-vegetate frontal dunes at nesting beaches, but there are no means to implement them. Reforestation mass on the dunes.

g2) Re-vegetation of frontal dunes: relative effectiveness

LOW

**h1) Building location/design regulations**

N/A

h2) Building location/design regulations: relative effectiveness

UNKNOWN

**i1) Light pollution reduction**

NO

i2) Light pollution reduction: Relative effectiveness

LOW

j.) Other (list and rate them)

> Involvement of the local communities (through local village associations) for the protection of the turtles.

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.

YES

> In the Moheli Marine Park (MMP), an evaluation has been made of some species, including turtles; and a marine action plan exists. There is also a sea turtle database maintained by IFREMER / Kelonia. But this requires capacity building and means for more actions.

## **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]**

> Encouraging the local community through education and to monitor the beaches.

Establishment of an Action Plan for the protection of turtles. a project to raise awareness on the importance of marine turtles in the Comoros is underway with ADSEI and mission of the French cooperation.

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

> Occasionnally.

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]**

YES

> Water quality is not monitored. However, there is a project on maritime protection, and communities from all the islands are educated to prevent this type of pollution. A laboratory analysis of water quality is established at the National Directorate for the Environment.

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

> Law enforcement: an "environmental brigade" is being established and will be in place in 2007. Decree creating the PNM, and the law to create the national network for the protected area.

### **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.

YES (Details/future plans)

> There is monitoring of the coral reef and good recruitment was observed in 2003. No other information is available on specific recovery efforts.

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)

> Not possible, due to human, technical, and financial problems. Program of planting mangroves with local NGO OPAS Bimbini Anjouan Comoros.

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)

> In the MMP, some studies had been done on taxonomy, cartography, and remote sensing by *Kelonia* from 2003 to 2005. C3 Comoros also mapped the seagrass meadows of Moheli, Grande Comore and Anjouan from 2006 to 2008, and is currently monitoring these habitats (Blake 2008; Le Courtois and Blake 2008). No other information is available on specific seagrass recovery efforts. In 2014, The new staff of the National Park of Moheli a coastal environment program, activities are planned in this direction.

# 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]**

- > -Ballorain, K. 2002. Etude d'un site de ponte de *Chelonia mydas* a Moheli. Suivi effectue a Itsamia du 26 fevrier au 12 mai 2002. Rapport dans le cadre d'un stage de DEUG au CEDTM. 1-31 p.
  - Ben Mohadji, F., Paris, B. 1999. Les tortues marines en Republique Federale Islamique des Comores: Bilan de la situation actuelle. PNUD/FEM.
  - Blake, D. 2008. Seagrass mapping and monitoring in the Comoros Islands. *Seagrass Watch* 33: 4.
  - Bourjea, J., Frappier, J., Quillard, M., Ciccioine, S., Roos, D., Hughes, G.R., Griezel, H. 2007. Mayotte Island: Another important green turtle nesting site in the southwest Indian Ocean. *Endangered Species Research* 3: 273-282.
  - C3 Comoros. 2007. Turtle information centre and awareness-raising campaign Moheli, Comoros. 1-36 p.
  - Formia, A., Godley, B.J., Dontaine, J.-F., Bruford, M.W. 2006. Mitochondrial DNA diversity and phylogeography of endangered green turtle (*Chelonia mydas*) populations in Africa. *Conservation Genetics* 7: 353-369.
  - Frazier, J.G. 1977. Marine turtles in the Western Indian Ocean: British Indian Ocean Territories, Comoros. *Oryx* 13: 162-175.
  - Frazier, J.G. 1985. Marine turtles in the Comoros Archipelago. *Koninklijke Nederlandse Akademie van Wetenschappen* 84: 1-177.
  - Fretey, J., Fourmy, J. 1996. The status of sea turtle conservation in French territories of the Indian Ocean: Mayotte. 133-143 p. In: Humphrey, S.L., Salm, R.V. (Eds.), *Status of sea turtle conservation in the Western Indian Ocean*. 133-143 p. IUCN / UNEP, Nairobi, Kenya. 133-143 p.
  - Grulich, A. 2001. Etude des populations de tortues vertes sur l'ile de Moheli (Comoros). Resultats preliminaires du suivi effectue a Itsamia de mars 2000 a mars 2001 (CEDTM / IFREMER). 1-23 p.
  - Hassani, H. 2007. Iconi en pole position dans la protection de la tortue. *La Gazette Jeud* 1-2.
  - Le Courtois, S. and Blake, D. 2008. Mapping seagrass meadows on the remote Bimbini Peninsula of Anjouan Island. *Seagrass Watch* 18.
  - Leroux, G. 2007. Tortues Marines: L'Espoir en Marche. *Univers Maore* 8: 32-43.
  - Mohadji, F.B., Zarcach, H.E., Mbindo, C. 1996. The status of sea turtle conservation in the Comoros. 125-132 p. In: Humphrey, S.L., Salm, R.V. (Eds.), *Status of sea turtle conservation in the Western Indian Ocean*. 125-132 p. IUCN / UNEP, Nairobi, Kenya. 125-132 p.
  - Mortimer, J.A. 1993. Marine turtles in the Comoros Federal Islamic Republic: Their status and recommendations for their management. 1-31 p.
  - NMFS/FWS 2007a. Green sea turtle (*Chelonia mydas*) 5-year review: Summary and evaluation.
  - NMFS/FWS 2007b. Hawksbill sea turtle (*Eretmochelys imbricata*) 5-year review: Summary and evaluation. 1-93 p.
  - Project Biodiversity 2000. Conservation action plan for marine turtles in the Federal Islamic Republic of the Comoros. *Projet Conservation de la Biodiversite et Developpement Durable (PNUD/FEM)*. 1-20 p.
  - Roos, D., Pelletier, D., Ciccione, S., Taquet, M., Hughes, G.R. 2005. Aerial and snorkelling census techniques for estimating green turtle abundance on foraging areas: a pilot study in Mayotte Island (Indian Ocean). *Aquatic Living Resources* 18: 193-198.
  - Taquet, C., Taquet, M., Dempster, T., Soria, M., Ciccioine, S., Roos, D., Dagorn, L. 2006. Foraging of green sea turtle *Chelonia mydas* on seagrass beds at Mayotte Island (Indian Ocean), determined by acoustic transmitters. *Marine Ecology Progress Series* 306: 295-302.
  - Tilot, V. 1994. Republique Federale Islamique des Comores: Etude de l'environnement marin et cottier et des aspects socioeconomiques de la peche autour de l'ile de Moheli. UICN Programme Marin et Cotier. *Projet PNUD / UNESCO / UICN COI/91/006. Appui a la Programmation Nationale en - Matiere D' Environnement*. 1-76 p.
  - Woodworth, G. 1992. Sea turtles in the Comoros Islands. *Marine Turtle Newsletter* 59: 4-5.
- Additionally:
- Action Plan for marine turtle conservation (Moheli Marine Park), as well as Marine Park reports;
  - Reports from Kelonia (Reunion): 2002/2005: Anthropologic thesis on cultural use of marine turtles in Moheli and Madagascar; 2003-2005: Seagrass monitoring (remote sensing, biomass, taxonomy, distribution); Ongoing 2006/7:

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

> Conducted by a turtle research centre in Reunion (CEDTM - Study and Discovery Center for Marine Turtles) in

collaboration with MNP and ADSEI (Association for the Socioeconomic Development of Itsamia) in Itsamia. (1998/2006).

Data base from 2006 at now with Kelonia.

### 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

> A thesis on the genetic identity of the Marine Turtles of the SWIO has been started (Ifremer / Kelonia, Reunion). The results are ongoing for 2007. Updated information is needed.

Formia et al. (2006) investigated the genetic relationship between nesting green turtle populations from the Atlantic and Indian Oceans (including the Comoros).

### 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)

> Between 2000 and 2003, some 5,100 turtles were tagged. An additional 1000 will soon be tagged. A new tagging programme was started in 2007 as part of the collaboration between MNP and Kelonia.

#### b) Satellite tracking

YES (Details/future plans)

> operation poses Argos beacon is completed in 2010 with the University of Turin, Kélonia, ADSEI

### 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]**

YES

> Tracks of nesting females have been monitored since 1998 in Itsamia (Moheli) and nest survival results with population trends are ongoing for 2007. an aerial count of the nesting population in the Mohéli National Park Moheli by paramotor takes place in February 2014

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

YES

> Once, when people from Bimbini Anjouan were poisoned after consuming turtle meat. In 2013, a case of poisoning after consuming the meat of the turtle NDRONDRONI MOHELI, and at Anjouan island recently.

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

YES

> Comoros occasionally disseminates traditional knowledge on marine turtles, especially on the National Marine Turtle Day. The Marine Turtle House in Itsamia (local NGO, ADSEI) is already in place for marine turtle exposition.

## 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.

> These have been identified in a national action plan for turtle conservation.

WIOLAB Project under the Nairobi Convention.

Kelonia & IFREMER.

### 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)

> In collaboration with Kelonia and Ifremer (Reunion Island).

## b) Conservation status

YES (Details/future plans)

> There are several documents on the conservation status of turtles in Comoros. C3 Comoros, a British NGO, established a monitoring programme and the MNP will update, promote and improve the marine turtle action plan.

## c) Migrations

YES (Details/future plans)

> Tagging programmes have been conducted by the Mohéli National Park (MNP) and Kelonia.

## d) Other biological and ecological aspects

YES (Details/future plans)

> Seagrass monitoring has been started by Kelonia and data will be updated by C3 Comoros - NGO. A number of studies investigating aspects of green turtle reproduction and population dynamics have been conducted by Kelonia, Reunion.

## 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]**

> Green turtles (population trends will be published in 2007).

The green turtle population showed a decline from 1972/1973 to 1994 (Woodworth 1992; Ben Mohadji et al. 1996). Previous estimates for green turtles in the Comoros Archipelago were 1100 to 1800 nesting females (Frazier 1985), although this could have been an overestimate (Mortimer 1993). More recent nesting population estimates are about 7000 to 8100 (on Moheli Island, Ben Mohadji and Paris 1999), 6000 (Project Biodiversity 2000), and 5000 reproducing females (NMFS/FWS 2007a, for the year 2000).

However, the more recent estimates are unverified and the observed increasing trend should be viewed with caution (NMFS/FWS 2007a).

Bourjea et al. (2007) concluded that the nesting green turtle population of Mayotte is stable and healthy, averaging at 1545 nesting females per annum. Moheli in particular, and Mayotte are very important nesting sites in the WIO; Moheli is one of the largest / most important rookeries globally (NMFS/FWS 2007a). The persistence of these populations and their habitats are hence of great importance.

Hawksbill turtles are present in the MMP, but they have never been monitored.

Hawksbill turtles appear never to have been abundant in the Comoros Archipelago (NMFS/FWS 2007b).

Nonetheless, population numbers in the Federal Islamic Republic of the Comoros and Mayotte are decreasing (NMFS/WFS 2007b). Hawksbills used to nest in the Federal Islamic Republic of the Comoros prior to 1972/1973 (Frazier 1985), but not any longer (Woodworth 1992; Mortimer 1993; Project Biodiversity 2000).

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]**

YES

> Research and monitoring activities are ongoing. NGOs and the MMP have also promoted the monitoring activities in order to search for new long-term funding. The next step will be to improve advertising of these activities.

Degradation of the habitat has to be taken into account. Seagrass monitoring has shown major degradation of seagrass and coral reefs by erosion and groundwater discharge. Poached areas have to be surveyed efficiently. Strict protected areas have to be created, and important feeding and nesting sites have to be identified.

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]**

> The measures have not yet been put in place. Under the supervision of project WIOLaB the Nairobi Convention, exchange of experiences between the community and the ANAKAO MADAGASCAR Itsamia Moheli.

## 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]**

YES [If yes, please give details of the agreed protocol(s)]

> There is a memorandum of understanding with the CEDTM (Kelonia) in Reunion. Moreover, the collaboration between Kelonia and the MMP allows for standard tagging programmes, monitoring programmes and standard genetic studies. Under the supervision of project WIOLaB the Nairobi Convention, exchange of experiences between the community and the ANAKAO MADAGASCAR Itsamia Moheli. In collaboration between Kélonia AND ADSEI, 3M film is formed between the pupils of the primary school Mafate REUNION and those Itsamia Moheli.



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

OCCASIONALLY

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]**

> - Posters, manuals, television, radio, exhibitions.

- Exchange of data between ADSEI and Kelonia allowed Itsamia to receive a computer to facilitate data storage, funding research and ecotourism transactions.

- Participation in international conferences or symposium, notably by representatives from local NGOs.

- Sitting capacity building and exchanges of experience.

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]**

YES

> By using a centralised database; however, it is presently not well organized and much data still need to be analysed. A GIS has not been put in place yet. Most often informal way between Kelonia and ADSEI.

# **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:

- > - School manuals
- Posters, comics (Mwana Nyamba)
- Occasionally some television and radio broadcasts are made
- Some posters according symposium (WIOMSA, ISTS) or conference
- Updating all of these materials is very important.
- Celebration of the turtle day 28 may.

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]**

- Policy makers
- Local/Fishing communities
- Tourists
- Media
- Teachers
- Students
- Military, Navy, Police
- Other (describe):

> Local NGO.

Additional information

> Organise meetings; Work with school and students; Work with local communities; Broadcast through radio and television; Promote National Day of Marine Turtle 28 MAY.

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

Please give details and indicate future plans

YES

> We have built a "Turtle House" for information purposes in Itsamia (Moheli). The material (computer, marine turtle exposition, movies) have been sent by Kelonia. There is also a stack at the MNP office in Nioumachoua (Moheli). - Turtle House, in Itsamia village should be equipped with communication tools and information to facilitate capacity building.

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]**

> Building of bungalows and organising nesting beach tours are alternative livelihood opportunities used in Itsamia and the rest of the MNP (Moheli).

The income is used for the protection of the turtles (monitoring of beaches) and for local development.

-Home ecotourism Moheli (Maison de l'Ecotourisme de Mohéli MEM) this role to promote the destination Moheli with tourist, cultural and craft.

# 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.

NO

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]**

> N/A

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]**

> Sensibilisation to the public

Capacity building

## 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

> Déclaration de Wanani

Plan national de conservation des tortues marines.

The existing action plan for marine turtle conservation could be considered a possible model. -National workshop on the protection of turtles and their habitats in coastal 1998.

-Declaration Wanani.

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) Research and monitoring

2) Integrated management

3) Community participation

4) Building and reinforcement of capacity

5) Public awareness and information

6) Regional and international cooperation

7) Long-term funding

8) Awareness among policy makers and economic operators

9) Scientific partnership with other specialized institutions on marine turtles

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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>
Oil spills, pollution, marine debris	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>
Tagging / satellite tracking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

Use the text box to list and rank any other local management issues for which international cooperation is needed to achieve progress.

- > -Surveys of territorial waters
- Long-term funding
- Other research
- Regional and international cooperation

### 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]**

- > Exchanges, such as the existing exchange programme with Reunion (Kelonja/Ifremer).
- Synergies with other regional/global convention secretariats should be promoted through bilateral or multilateral cooperation.

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

- NO

5.3.3 What steps has your country taken to encourage Regional Fishery Bodies (RFBs) to adopt marine turtle conservation measures within Exclusive Economic Zones (EEZs) and on the high seas? Please describe the interventions made in this regard, referring to specific RFBs. **[SAP]**

- > - Comoros participate in the network of the Committee on the Indian Ocean (IOC) to fight against illegal fishing.

### 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]**

- > - Development of an eco-guard corps for monitoring and surveys.
- Research on socio-economics, cultural habits and conservation of marine turtles.
- Support Mohéli Marine Park for daily monitoring of the nesting population.
- Specialized training ecoguards genetics of marine turtle
- Equipping ecoguards the materials and tools of night work (surveillance and maritime patrol)

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]**

- > - Workshop on turtle biology
- Production of a school manual
- Training programmes, workshops etc. are coordinated nationally and regionally by the National Direction of Environment.
- National evaluation of the national plan for the protection of sea turtles workshop.

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]**

- > - Exchanges of experts, scientists and trainees.
- The MMP is building a collaboration with the University of Comoros; and has a long-term collaboration with the CEDTM (Kelonja).
- The monitoring of different marine habitats is organized with different associations or NGOs. - WIOMSA, Climate Change Programme with the marine protected areas

## **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 is not completely effective.
- No special legislation for the protection of turtles and their habitat

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

- > - lack of material and financial resources for the implementation of the program.

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.

NO

- > - Not appropriate jurisdiction for the protection of sea turtles.

## **OTHER REMARKS**

Please provide any comments/suggestions to improve the present reporting format.

> - Report writing requires means to go on the field, and update data. -Currently, only sites Itsamia Moheli shows daily attendance and observations of sea turtles, thanks to the action and dynamism ADSEI association.

-On this, it is imperative, in the case of Comoros, do everything for the site Itsamia (open-air laboratory) can benefit from the material and scientific IOSEA support for turtle conservation and their habitat in the Comoros.

Feel free to include additional information not covered above:

> N/A

