Eritrea

GENERAL INFORMATION

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Ministry of Fisheries

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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. [INF]

Five species of marine turtles reside in Eritrean waters of the Red Sea. These include green, hawksbill, olive ridley, loggerhead and leatherback. Three species - green, hawksbill and olive ridley nest. All are categorized by the IUCN as endangered or critically endangered and are listed on Appendix I of CITES. The main threats to turtles in Eritrea are disturbance of nesting and foraging habitats, incidental net captures (gillnets and trawlers) poaching of meat and eggs, lack of adequate protection and enforcement, limited awareness and land-based development and pollution.

Although there are no records of over-harvesting, egg and meat of sea turtles are consumed locally by communities and fishermen in a subsistence level. Many years ago carapaces of Hawksbill turtle were sold to abroad for ornamental purposes. Turtle oil is valued for medicinal purposes, as it is believed to cure several ailments. Some communities also use carapace for carrying goods in the household. The blood of sea turtles is believed to treat skin diseases such as "Zu'e". Diabetes, flu, TB and asthma are some of the diseases treated with turtle products (ie fats, oil). Eating dried sexual organ of a male turtle after mixing it along with honey and butter is believed to help stimulate sexual instincts of humans.

Although conservation and management efforts are underway in some areas of Eritrea, including the offshore islands of Dahlak, Hawakil and Assab, the conservation status of marine turtles in Eritrea remains largely unknown. Information concerning population dynamics is incomplete, while knowledge of nesting populations and feeding habitats is patchy and of developmental habitats almost non-existent.

1.2.1 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. [BPR]

Management options to reduce incidental take of marine turtles in fisheries, notably trawlers and gillnets, include the use of excluder devices, reducing tow or soak times, and restricting use of threatening fishing gears in important turtle habitats.

Restricting fishing activity in areas where sea turtles concentrate e. g. all foreign trawlers and all the local trawler and long liners should be regulated to fish around authorized zones i.e. 4 miles from islands and 8 miles from the main land for which the chance for sea turtles to be caught is very low. Zoning and allowing fishing according to the seasonality could be the best alternative.

Effort to enhance public awareness through the cooperatives of the fishermen set on every coastal villages and islands including fishing camps. Since sustainability of sea turtle conservation efforts depends mainly up on the participation and education of the local people it is crucial to incorporate local people in the monitoring and management programme. Educational programme could be the best method to apply to halt the dangerous situation.

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]

Current information on turtle uses and myths in Eritrea is based on questionnaire surveys conducted in Massawa Fishing Port, and many coastal villages along the entire coasts of the southern Red Sea in 1995. A questionnaire survey (100 respondents) conducted between April and June 2004 by the ECMIB Turtle Survey Team and direct observations.

A four-day sea turtle field training course was given to 15 observers on board industrial shrimp/fish trawlers.

The ECMIB Project in collaboration with the National Union of Eritrean Youth and Students (NUEYS) has conducted awareness seminar and information contest to army commanders, decision-makers, navy members on the islands and youth and students from different coastal areas of the country.

The Year of the Turtle was commemorated with different kinds of sport and educational activities in two coastal places of Eritrea, Massawa and Assab, from 28-29 October 2006. Turtle posters and brochures in three languages (Tigrinya, Arabic and English) and banners were displayed and distributed in several areas of the cities. The aim was to increase understanding of and create awareness about sea turtle conservation to the coastal and island communities and relevant governmental and non-governmental organizations.

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 (eg. by virtue of proximity or ease of land/water access)**
- ☐ Low cost of land near nesting beaches
- ■ **Low penalties against illegal harvesting**
- ■ Other1: No educational public awareness programme
- ■ Other2: People believe and prize the medicinal and nutritional value of turtle products
- ☐ Other3:
- ☐ None of the above or Not Applicable

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

☐ YES ■ NO ☐ NOT APPLICABLE (no adverse economic incentives exist)

It is not common to get huge economic incentives from turtle products, but sometimes turtles are killed for their fat to generate oil which is sold inside and outside the country (e.g. in Yemen) for an enormous amount of money for medicinal purposes. This is rarely practiced, illegally, on far offshore islands.

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, that could possibly interact with marine turtles. [INF]

a) Shrimp trawls: ■ YES ☐ NO

A total of 3,342 cases of sea turtles incidentally captured were reported during the ten years of recording between 1994 - 2004 on fishing trips of the shrimp and fish trawlers operating in different fishing grounds of the Eritrean Red Sea. Green turtles were more frequently caught than the other species of turtles. 1819 Green (*Chelonia mydas*), 133 Hawksbill (*Eretmochelys imbricata*), 30 Loggerhead (*Caretta caretta*), 39 Leatherbacks (*Dermochelys coracea*) and 3 Olive ridley (*Lepidochelys olivacea*) were incidentally caught. The remaining 1128 turtles were unidentified.

In 1999 - 2001, Al Sarawat trawlers from Saudi fisheries mainly operating near coral reef areas and other shallow waters were incidentally catching more sea turtles compared to Egyptian trawlers, which mainly trawl in deeper waters to fish shrimp, lizardfish and threadfin breams (personal communication).

b) Set gill nets: ■ YES ☐ NO

Almost all fishing gears used by the local fishermen are gill nets and hooks & lines (they do not use trawl nets and long lines); therefore there is no incidental catch except in rare cases such as net entanglement. Some fishermen no longer use fishing nets (shifting to other types of fisheries; for example sea cucumber and snail nail) so the incidental catch of turtles is rare. As it is learnt from fishermen, wide-mesh nets, especially anti- shark nets, and many kinds of gill nets also entangle turtles.

c) Anchored Fish Aggregating Devices (FADs): ☐ YES ■ NO

This type of fishing is illegal and not commonly practiced.

d) Purse seine (with or without FADs): ■ YES ☐ NO

Although there are no records of turtle catch in the very few purse seines operating in Eritrean waters, which usually catch sardines and Indian mackerel for the purpose of baits for other longlines, comments from crews indicate that there is rarely turtle by-catch.

e) Longline (shallow or deepset): ■ YES ☐ NO

Turtles are sometimes snagged by longliners (Beilul Fishing Plant), 1-2 per month.

f) Driftnet: ■ YES ☐ NO

It is a common fishing practice in the southern Eritrean Red Sea along the embayment of village coasts. The region is most known for slaughtering turtles for different kinds of products. It is also common for catching sardines, anchovies and other Pelagics.

g) Other1:

h) Other2:

☐ **None of the above**

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]

a) Shrimp trawls

Fishing effort:

■ **RELATIVELY HIGH** ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Perceived Impact:

■ **RELATIVELY HIGH** ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Source: The Incidental Capture of Sea Turtles in Industrial Shrimp and Fish Trawlers Operating on the waters of the Eritrean Red Sea (1994-2004). Yohannes Teclemariam, Simon Weldeyohannes, Tekle Mengstu and Mahta Goitom: proceedings of the WIO Regional Workshop on Incidental Catch of Non-Targeted Marine Species: Problems and Mitigation Measures' 13-15 November 2006, Mayotte- France.

b) Set gill nets

Fishing effort:

☐ RELATIVELY HIGH ■ **MODERATE** ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Perceived Impact:

☐ RELATIVELY HIGH ■ **MODERATE** ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Source: At most three to four in a year are caught entangled in drifting nets set by fishermen. Interview with fishermen conducted in December 2004.

c) Anchored Fish Aggregating Devices (FADs)

Fishing effort:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ■ **NONE** ☐ UNKNOWN

Perceived Impact:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ■ **NONE** ☐ UNKNOWN

Source:

d) Purse seine (with or without FADs)

Fishing effort:

☐ RELATIVELY HIGH ☐ MODERATE ■ **RELATIVELY LOW** ☐ NONE ☐ UNKNOWN

Perceived Impact:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ■ **UNKNOWN**

Source:

e) Longline (shallow or deepset)

Fishing effort:

☐ RELATIVELY HIGH ☐ MODERATE ■ **RELATIVELY LOW** ☐ NONE ☐ UNKNOWN

Perceived Impact:

☐ RELATIVELY HIGH ☐ MODERATE ■ **RELATIVELY LOW** ☐ NONE ☐ UNKNOWN

Source: It is not recorded as there are no observers on board to go along with the vessels, but there are rare incidents. Only few vessels (5 - 7) are engaged on this type of fishing.

f) Driftnet

Fishing effort:

☐ RELATIVELY HIGH ■ **MODERATE** ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Perceived Impact:

■ **RELATIVELY HIGH** ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Source: According to an interview with fishermen, most cases of turtle slaughter in the southern Red Sea region are due to entanglement of turtles in driftnets. It is common to see carapaces of green and hawksbill turtles along the coastlines of the region.

g) Other1 (from 1.4.1): **Traditional hook and line fishing**

Fishing effort:

☐ RELATIVELY HIGH ☐ MODERATE ■ **RELATIVELY LOW** ☐ NONE ☐ UNKNOWN

Perceived Impact:

☐ RELATIVELY HIGH ☐ MODERATE ■ **RELATIVELY LOW** ☐ NONE ☐ UNKNOWN

Source: Interview with local fishermen and coastal residents (unpublished).

h) Other2 (from 1.4.1):

Fishing effort:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Perceived Impact:

☐ RELATIVELY HIGH ☐ MODERATE ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Source:

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 are no records of illegal fishing techniques which might affect the turtles. However from 2000 to 2006, sea cucumber fishermen have been negatively impacting the sea turtle populations especially the nesting populations on the islands, consuming both meat and eggs. At the moment sea cucumber fishing is closed.

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** ☐ NO ☐ NOT APPLICABLE

In the event of incidental bycatch, turtles and other megafauna must be returned to the sea immediately, whether dead or alive. But due to lack of appropriate handling training of onboard observers and fishermen, turtles have been improperly released to the sea and sometimes the turtles would die later. And some times fishermen would kill a turtle entangled in their fishing nets in order to free their nets undamaged and slaughter it for food.

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

☐ YES ■ **NO** ☐ NOT APPLICABLE

The existing Eritrean fisheries regulations state that fishing vessels operating in Eritrean waters must use TEDs in all trawl nets to reduce the mortality of turtles and other megafauna. the TEDs were practiced in the 1990s but due to the fact that the industrial vessels that operate in Eritrean waters change from time to time, continued enforcement has been difficult.

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

☐ YES ■ **NO** ☐ NOT APPLICABLE

It is not a common fishing practice in Eritrea. It is only for bait fishing.

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

☐ YES ■ **NO** ☐ NOT APPLICABLE

It is not purposely practiced to avoid turtle bycatch but it is a consequence of technological improvement of fishing gears. e.g. G-shaped hook, the depth limitation, and gear specification are meant only for identifying the right size and type of fish species to be fished. But such a G-shaped hook is not widely used in longlines.

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

☐ YES ■ **NO** ☐ NOT APPLICABLE

No fish aggregating deveices are used in Eritrean waters.

f) **Net retention and recycling schemes**

☐ YES ☐ NO ■ **NOT APPLICABLE**

Only rope is recycled, not the plastic mesh or nest.

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

The existing Eritrean fisheries regulations state that fishing vessels operating in Eritrean waters must restrict their fishing activities within the authorized zones and trawl 4 miles distant from islands, 8 miles from the main land and the depth should be more than 30m; for lesser chance of sea turtle bycatch. Industrial fishing is closed during July through September each year.

h) **Effort management control**

☐ YES ☐ NO ■ **NOT APPLICABLE**

The existing Eritrean fisheries regulations state that the closed season is from July to end of Spetember (three months) which does not coincide with the peak of turtle nesting season (January - May).

☐ Other (list and explain):

☐ None of the above

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]

Onboard observer programmes

■ **YES** ☐ NO ☐ NOT APPLICABLE

Turtle bycatch data are collected from reports recorded by the Monitoring, Control and Surveillance Division of the Ministry of Fisheries. The data included the date of incidental catch, species, position of catch, depth, time of trawling and condition of the incidentally caught turtles.

Four-day sea turtle field training course was conducted by the ECMIB project (Ministry of Fisheries). 15 observers onboard of industrial shrimp/fish trawlers participated. The academic training held at Dissie Island from 3 to 6 January 2007 was complemented with practical demonstrations during day and night.

20 copies of Indo-Pacific marine turtles and the other marine mammals identification key photos which could help observers onboard identify the species easily were given along with 40 1.5m measuring tape.

If we have more funds, the training will be continued.

Vessel monitoring systems

☐ YES ■ **NO** ☐ NOT APPLICABLE

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

Vessels are inspected at landing sites or fishing ports for the purpose of evaluating and examining the fish type, crew health and other illegal stuff. Bringing turtle is considered illegal.

Training programmes / workshops to educate fishers

■ **YES** ☐ NO ☐ NOT APPLICABLE

The ECMIB Turtle Project Team has deployed a sea turtle club in the town of Assab in collaboration with the National Union of Eritrean Youth and Students (NUEYS). The town of Assab is one of the active Eritrean coastal areas with a lot of fishermen and a landing site for fish. There is and still exists an illegal market for turtle meat in this area. Educating fishermen's children will help indirectly to raise awareness of the turtle issues for the elder fishermen and directly for the future fishermen.

There is an effort to establish a library in the club and the ECMIB turtle project team will try to contact IOSEA and other organizations to get a fund for buying books or get them as a donation. If there are more funds, the training and workshops will be continued in different coastal parts of Eritrea.

Informative videos, brochures, printed guidelines etc.

■ **YES** ☐ NO ☐ NOT APPLICABLE

Turtle posters and brochures in three languages (Tigrinya, Arabic and English) and banners were displayed and distributed in several areas of the coastal cities of Eritrea during the commemoration of the Year of the Turtle 2006 and different activities were conducted (seminars, general knowledge contest sport activities) in 2007. Turtle video shows were among the successful activities conducted for school children and students.

There are plans to conduct similar activities in different coastal fishing villages.

Other (list and explain):

☐ YES ☐ NO ☐ NOT APPLICABLE

☐ **None of the above**

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

■ **YES** ☐ NO ☐ UNSURE

Although not periodically reviewed, their efficacy is evaluated.

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]

Ten years (1994 - 2004) of incidentally caught turtles data was derived from reports recorded by the MCS Division of the Ministry of Fisheries. The data included the date of catch, species, position of catch, depth, time of trawling and condition of the incidentally caught turtles. The data was simply analysed by Microsoft Excel and charts were used to describe the result.

A field trip was conducted on four Egyptian vessels from 09/12/04 to 12/02/05 to assess the potential threat of sea turtles in fish and shrimp trawlers.

Both were reported to the relevant officials of the Ministry Fisheries personnel.

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 ☐ NO ■ **UNSURE**

Reports of turtle activities were sent to the IOSEA Secretariat and have already been published through the IOSEA website. But no technical assistance has been provided yet.

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]

Large-scale pelagic drift net fishing is not in practice in the Eritrean waters.

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]

■ **YES** ☐ NO ☐ UNSURE

The existing Eritrean fisheries Proclamation 104/1998 (Atrticle 12) prohibit direct harvest and domestic trade of endangered and protected species, which include marine turtles, their eggs, parts and products; and to protect important turtle habitats.

1.5.2 Which, among the following list, are economic uses and cultural values of marine turtles in your country? Please rate the relative prevalence / importance of each consumptive or non-consumptive use. [INF]

USES / VALUES	**RELATIVE PREVALENCE / IMPORTANCE**
Meat consumption	
■ **YES** ☐ NO	■ **HIGH** ☐ MODERATE ☐ LOW ☐ UNKNOWN

Most coastal residents and fishermen, including some navy and soldiers, consume turtle meat as their daily food.

Egg consumption	
■ **YES** ☐ NO	☐ HIGH ■ **MODERATE** ☐ LOW ☐ UNKNOWN

Since most of the nesting beaches are found at the off shore islands, only those easily accessed are near a fishing camp and a coastal village.

Shell products

■ **YES** ☐ NO ☐ HIGH ☐ MODERATE ■ **LOW** ☐ UNKNOWN

Although they are not sold in local markets, they could be seen on the walls of restaurants as souvenirs and curio with different painting on the surface (especially in the coastal cities of Assab and Massawa).

Fat consumption

■ **YES** ☐ NO ☐ HIGH ■ **MODERATE** ☐ LOW ☐ UNKNOWN

There are occasions in which turtles are killed for their fat especially around Berasole and Ras Tarma (southern Eritrea Red Sea).

Traditional medicine

■ **YES** ☐ NO ☐ HIGH ■ **MODERATE** ☐ LOW ☐ UNKNOWN

The blood of sea turtles is believed to treat skin diseases such as "Zu'e". Diabetes, flu, rheumatism, TB and asthma and some of the diseases are treated with turtle product (ie fats, oil). Eating dried sexual organ of a male turtle after mixing it with honey and butter is believed to help stimulate sexual instincts of humans.

Eco-tourism programmes

☐ YES ■ **NO** ☐ HIGH ☐ MODERATE ☐ LOW ☐ UNKNOWN

Cultural / traditional significance

■ **YES** ☐ NO ■ **HIGH** ☐ MODERATE ☐ LOW ☐ UNKNOWN

Other

1.5.3 Please indicate the relative level and impact of traditional harvest on marine turtles and their eggs. [IND, TSH]

Level of harvest:

☐ RELATIVELY HIGH ■ **MODERATE** ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Impact of harvest:

☐ RELATIVELY HIGH ■ **MODERATE** ☐ RELATIVELY LOW ☐ NONE ☐ UNKNOWN

Source of information:

Probably it could be high on the green turtle populations since most of the time green turtle is prized for its meat products; but generally it is moderate.

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

☐ YES ■ **NO** ☐ UNKNOWN

1.5.5 Describe any management agreements negotiated 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]

No agreement yet.

1.6.1 First, select one of the options at left 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]

MEASURES	RELATIVE EFFECTIVENESS
Monitoring / protection programmes	
■ **YES** ☐ NO ☐ N/A	☐ EXCELLENT ☐ GOOD ■ **LOW** ☐ UNKNOWN
No specific fund for monitoring and no protection programme has been set yet.	
Education / awareness programmes	
■ **YES** ☐ NO ☐ N/A	☐ EXCELLENT ■ **GOOD** ☐ LOW ☐ UNKNOWN
Awareness programmes were promoted to workers, decision makers, soldiers including the navy, students, youth, fishermen and so on in the last three years of the ECMIB project life time.	
Egg relocation / hatcheries	
■ **YES** ☐ NO ☐ N/A	☐ EXCELLENT ☐ GOOD ■ **LOW** ☐ UNKNOWN
Only on the islands where research and turtle surveys on egg relocation have been conducted. But no hatchery has been set yet as there is no conservation programme.	
Predator control	
☐ YES ☐ NO ■ **N/A**	☐ EXCELLENT ☐ GOOD ☐ LOW ☐ UNKNOWN
There are no conservation programmes yet.	
Vehicle / access restrictions	
■ **YES** ☐ NO ☐ N/A	☐ EXCELLENT ☐ GOOD ■ **LOW** ☐ UNKNOWN
All of the nesting beaches are inaccessible by car/vehicle (offshore islands).	
Removal of debris / clean-up	
■ **YES** ☐ NO ☐ N/A	☐ EXCELLENT ☐ GOOD ■ **LOW** ☐ UNKNOWN
The Marine Turtle Team of the ECMIB Project (Ministry of Fisheries) conducted a two-day cleaning campaign in July 2007 in two main nesting beach sectors of the Eritrea's premier nesting beach. The exercise collected about 50 kg of plastic trash abandoned in the area or drifted in from the sea. Clean up activities on other nearby nesting beaches were also conducted by students and youth.	
Re-vegetation of frontal dunes	
☐ YES ☐ NO ■ **N/A**	☐ EXCELLENT ☐ GOOD ☐ LOW ☐ UNKNOWN

Building location/design regulations

■ **YES** ☐ NO ☐ N/A ☐ EXCELLENT ■ **GOOD** ☐ LOW ☐ UNKNOWN

Coastal infrastructure development projects are advised to leave a coastal setback area of 100 m. the purpose of this is to guarantee public access and limit interaction with marine turtles.

Light pollution reduction

☐ YES ■ **NO** ☐ N/A ☐ EXCELLENT ☐ GOOD ☐ LOW ☐ UNKNOWN

hotels around nesting beaches are advised to manage their lighting in consideration of light pollution threats to marine turtles. Continuous awareness programmes are given to navy members on Mojeidi Island and other place on light pollution.

Other (list and rate them)

☐ YES ☐ NO ☐ N/A

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

The Ministry of Fisheries is issuing coastal policy that will regulate all activities which will be set on the coastal areas. It will allow coastal developments 100m (set back) far from a geologically fixed point near the coastal line.

OBJECTIVE II. PROTECT, CONSERVE AND REHABILITATE 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 development of a National Action Plan for Marine Turtles in Eritrea (drafted in 2005) will consider all critical habitats. Those critical habitats that will be outside future protected areas can be stated as sanctuaries and regulated as such. Although some areas are proposed as protected areas, they are not officially established yet. Marine turtles also feature prominently in plans to set aside marine protected areas which will safeguard these resources and leave behind a longstanding legacy for future generations.

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

☐ YES ☐ NO ■ **NOT APPLICABLE**

Although some surveys and assessments have been done to some extent, these were not made routinelyEritrean coastal environment is relatively under-developed but coastal development projects are growing in the coast. the Ministry of Fisheries has an input in Environmental Impact assessment of coastal Projects where it raises the issues concerning marine biodiversity including marine turtles.

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

☐ YES ☐ NO ■ **NOT APPLICABLE**

It is only recently that turtle habitats are geographically identified and most of them are offshore.

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

■ YES ☐ NO ☐ NOT APPLICABLE

The existing Eritrean fisheries regulations prohibit use of poisonous chemicals and explosives and some measures are stated in there.

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]

☐ YES ☐ NO ■ **NOT APPLICABLE** (no degraded coral reefs)

Almost all coral reefs are relatively pristine and no major destruction has happened. Therefore there are no programmes to recover/protect reefs.

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 ☐ NO ■ **NOT APPLICABLE** (no mangrove habitats important for turtles)

Although general efforts are done by the Manzanar Project of the Ministry of Fisheries to recover and plant mangrove plants in areas of no vegetation, there are no specific areas of mangroves which are considered as important for turtles.

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 ☐ NO ■ **NOT APPLICABLE** (no degraded sea grass habitats)

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

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]

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]

■ **YES** ☐ NO ☐ UNSURE

National Action Plan for conservation of marine turtles has been drafted.

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

☐ YES ■ **NO** ☐ UNSURE

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]

Tagging ■ **YES** ☐ NO

96 female hawksbills were tagged with titanium tags (with a return address to Eritrean Ministry of Fisheries) during 2006. 47 female hawksbills were tagged from 18 May to 3 June 2006 both in Mojeidi. However, around four hawksbills and one olive ridley were also tagged in different coastal areas of Eritrea. No tag return has been observed yet.

Future plan is to tag turtles especially greens onboard of shrimp trawlers in order to elucidate their migration routes.

Satellite tracking ☐ YES ■ **NO**

Since this way of tracking is very expensive, it will take time to put it into action.

☐ **Other**

☐ **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]

■ **YES** ☐ NO ☐ UNSURE

From the analysed fisheries bycatch data (1994 - 2004), of the total number (3342) of turtles caught: 690 were dead and 2462 were alive. It was found that the percentage of survival rate of the entangle turtles was lowest in 1996 (69%) and highest in 2000 and 2004 (83%). The average percentage of survival rate of the incidentally caught turtles is 78%. See 1.4.2 for reference.

A survey was conducted on four Egyptian vessels from 09/12/04 to 12/02/05 to assess the potential threat of sea turtles in fish and shrimp trawlers. During the trawling operations, overall 21 sea turtles were incidentally caught, one green turtle was found dead and the rest were alive. (Field Report)

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

☐ YES ■ **NO** ☐ UNSURE

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

■ **YES** ☐ NO ☐ UNSURE

At the beginning of the turtle survey, the traditional ecological knowledge was well understood and interviews were conducted with local fishermen and coastal residents. It was taken as a basis for the survey. In the future, turtle conservation programmes will considered on the involvement of indigenous people and there will be more community-based conservation projects.

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]

The Ministry has drafted a National Action Plan for Conservation of Marine turtles. The action plan draws its structure and recommended courses of action from both the conservation and management plan which was developed as part of the Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia, an agreement reached under the auspices of the Convention on Migratory Species, covering the Indian Ocean and its associated bodies of water, including the Red Sea and Gulf of Aden; and the Global Strategy for the Conservation of Marine Turtles, published by the Marine Turtle Specialist Group of the IUCN (World Conservation Union) Species Survival Commission.

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 ■ **NO** ☐ NOT APPLICABLE

b) Conservation status ☐ YES ■ **NO** ☐ NOT APPLICABLE

c) Migrations ■ **YES** ☐ NO ☐ NOT APPLICABLE

tagging

d) Other biological and ecological aspects ☐ YES ■ **NO** ☐ NOT APPLICABLE

☐ **Other**

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 - is the most common and widespread species in Eritrean waters (most consumed by humans)
Olive Ridley - is little known about their status although they are recently (2004) reported to nest
Loggerhead - is relatively rare in Eritrea and there is no indication that they nest
Leatherback - very little information is available on this species because they are so rarely sighted and because indigenous knowledge is limited
Hawksbill - are widely distributed and are most abundant nesting species

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 ■ **NO** ☐ UNSURE

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]

At this stage, most of the threats faced by marine turtles arise from lack of Public awarenmess. Therefore, public awareness should be given as a priority to fishermen, coastal residents and students. Tagging, research and monitoring in the very affected areas of the coast and collaborative research with relevant countries are the most important.

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** ☐ NO ☐ UNSURE

The ECMIB Turtle Project Team has been deploying the standard methodology of the regional conservation programme PERSGA (though not a member) of turtle survey.

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

☐ OFTEN (SYSTEMATICALLY) ■ **OCCASIONALLY** ☐ RARELY ☐ NEVER

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]

Only turtle activity news (technical information) including some findings and unusual level of mortality papers have been published on the IOSEA website and seaturtle.org

Some activities are published on the pages of the Eritrean Red Sea biodiversity websites: http//: www.eritrearedsea.org

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

■ **YES** ☐ NO ☐ UNSURE

Incidental catch data from 1994 to 2004 (WIOMSA Workshop, 2006) and SWOT Report 2007.

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

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

Turtle posters and brochures in three languages (Tigrinya, Arabic and English) and banners were displayed and distributed in several areas of the coastal cities.

Seminars, general knowledge contest programs among school children and sport activities were conducted.

Broadcasting turtle activities in the national TV and Radio news.

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**
■ **Fishing industry**
■ **Local/Fishing communities**
■ **Indigenous groups**
■ **Tourists**
■ **Media**
■ **Teachers**
■ **Students**
■ **Military, Navy, Police**
☐ Scientists
☐ Other:
☐ None of the above

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

■ **YES** ☐ NO

Assab Turtle Club, which is named as 'Bisa Club'. This club is meant for the youth and students including fishermen. It is strongly supported by the National Union of Eritrean Youth and Students (NUEYS). Its staff is working voluntarily as their part time activities with the NUEYS. The ECMIB Project has equipped the club with some educational and recreational materials such as satellite dish and TV for turtle (environmental) documentary film shows.

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

Tourism and community works will be proposed soon in an area of most critically endangered turtle populations such as Berasole.

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]

No major work has been conducted with the local communities except rare cases of T-shirt distribution in some areas of concern. But in the future great effort will be done to incorporate with the community. Meeting frequently of the Derrder (Sultan) of the Afar Community (indigenous) has resulted in lesser turtle killing practices in some areas.

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]

Awareness seminar was conducted for schools, decision-makers, NUEYS, military staff and the navy. But it will emphasised more in future plans of conservation programmes.

OBJECTIVE V. ENHANCE NATIONAL, REGIONAL AND INTERNATIONAL COOPERATION

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]

☐ YES ■ **NO** ☐ NOT APPLICABLE

No specification on turtle issues yet, but it is stated in the National Action Plan drafted in 2005. In addition to this, it is clearly stated in the Eritrean fisheries regulations.

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

Department of Environment (Ministry of Land, Water and Environment), Ministry of Agriculture and Fisheries.

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]

■ **YES** ☐ NO ☐ NOT APPLICABLE

All international illegal trades are prohibited according to CITES (as Eritrea is signatory). There are no cases reported to the Ministry of Fisheries on such incidents. All exit ports of Eritrea and customs officers are informed to allow specimens accompanied by permit.

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]

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]

Domestic illegal trade of turtles is forbidden according to the existing Eritrean fisheries regulations. There are reports that turtle products are sold illegally. However implementation gaps still exist as the result of few measures has been applied. Nevertheless training and education / awareness programmes are ongoing.

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]

■ **YES** ☐ NO

Not practically, only a draft (2005).

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? [PRI]

Conservation and management activities
- Reducing direct and indirect causes of marine turtle mortality (A),
- Protecting, conserving and rehabilitating marine turtle habitats (B),
- Research and monitoring (C),
- Public awareness, information and education (D),
- Community participation in conservation (E),
- Building capacity for conservation, research and management (F),
- Integrated management for marine turtles (G), and
- Funding for marine turtle conservation (H)

Sites or locations
1. Mojeidi (B, C, F, G, H) 6. Dissei (A, C, D, E, F, G, H)
2. Aucan (B, C, F, G, H) 7. Dahret Segala (B, C, F, G, H)
3. Fatuma Island (B, C, F, G, H) 8. Dehil (A, B, C, D, E, F, G, H)
4. Urubia (B, C, F, G, H) 9. Ras Tarma (A, B, C, D, E, F, G, H
5. Salafi (Berasole) (A, B, C, D, E, F, G, H) 10. Gahro (A, B, C, D, E, F, G, H)

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 to achieve progress. [PRI]

Illegal fishing in territorial waters	■ **ESSENTIAL** ☐ IMPORTANT ☐ LIMITED ☐ NOT AT ALL
Incidental capture by foreign fleets	■ **ESSENTIAL** ☐ IMPORTANT ☐ LIMITED ☐ NOT AT ALL
Enforcement/patrolling of territorial waters	☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL
Hunting/harvest by neighboring countries	☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL
Poaching, illegal trade in turtle projects	☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL
Development of gear technology	■ **ESSENTIAL** ☐ IMPORTANT ☐ LIMITED ☐ NOT AT ALL
Oil spills, pollution, marine debris	■ **ESSENTIAL** ☐ IMPORTANT ☐ LIMITED ☐ NOT AT ALL
Training / capacity-building	■ **ESSENTIAL** ☐ IMPORTANT ☐ LIMITED ☐ NOT AT ALL

Alternative livelihood development	■ **ESSENTIAL** ☐ IMPORTANT ☐ LIMITED ☐ NOT AT ALL
Identification of turtle populations	☐ ESSENTIAL ☐ IMPORTANT ■ **LIMITED** ☐ NOT AT ALL
Identification of migration routes	■ **ESSENTIAL** ☐ IMPORTANT ☐ LIMITED ☐ NOT AT ALL
Tagging / satellite tracking	■ **ESSENTIAL** ☐ IMPORTANT ☐ LIMITED ☐ NOT AT ALL
Habitat studies	■ **ESSENTIAL** ☐ IMPORTANT ☐ LIMITED ☐ NOT AT ALL
Genetics studies	☐ ESSENTIAL ■ **IMPORTANT** ☐ LIMITED ☐ NOT AT ALL

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]

PERSGA and Nairobi Convention-IOSEA Marine Turtle Task Force in the Western Indian Ocean.

Cooperative management of shared populations within the region, and, where appropriate, formalise cooperative management arrangements at national and regional levels.

Strengthen existing mechanisms for cooperation and information exchange at the regional and global levels.

Identify and eliminate routes of international illegal trade through monitoring.

Develop, where appropriate, transboundary marine protected areas using ecological rather than political boundaries.

Identify available funding sources at a number of levels, including government and inter-governmental (e.g. Ministerial, Global Environment Facility, UNEP, UNDP, Overseas Aid packages), non-profit organizations (e.g. WWF, IUCN, Ramsar), and private foundations.

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

☐ YES ■ **NO** ☐ NOT APPLICABLE

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? [SAP]

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 in some areas of turtle works (genetic population, necropsy and disease identification, facilities, field equipment etc.) At the moment no marine turtle conservation activities are present. To carry out regular surveys, to conduct certain types of research, to monitor certain parts of the range etc. The main problem in Eritrea is funding.

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]

The ECMIB Project in collaboration with the National Union of Eritrean Youth and Students (NUEYS) has conducted awareness seminar, the participants included:
1. 37 decision-makers of the Southern Eritrean Red Sea Region on the March 6, 2007
2. More than hundred youth and students on 6 March 2007
3. 45 army commanders and staff in the Southern Eritrean Red Sea (SERS) Region
4. More than 250 soldiers who came from different military sectors which are residing around the Port City of Assab

5. In the first week of the month of January 2007, a four-day sea turtle field training course was given to 15 observers on board industrial shrimp/fish trawlers

Future plan:
1. Training to 20 fishermen from different coastal villages of the Southern Eritrean Red Sea Region on identification, nesting biology, conservation and turtle death mitigation techniques
2. Workshop in the Southern Eritrean Red Sea (SERS) Region between the different governmental and nongovernmental organizations on how to save the marine turtles
3. Preparing in different local languages of training and turtle handling manuals to students and fishermen.

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]

Cyprus Wildlife Society has trained two staff in 2005 on turtle nesting biology and conservation.

TCP of Sri Lanka has trained two staff in 2006 on socioeconomic aspects and conservation of turtles.

WIOMSA supported one staff to present a paper at the Mayotte Workshop in 2006.

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]

With filling of institutional gaps, educational and public awareness, its practical application would be easy.

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]

■ **YES** ☐ NO ☐ UNSURE

The Ministry of Fisheries has drafted a coastal policy (2007) in collaboration of all ministries and stakeholders which regulate all coastal development activities in relation to the conservation and protection of all marine resources and species such as marine turtles.

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]

☐ YES ☐ NO ■ **UNSURE**

OBJECTIVE VI. PROMOTE IMPLEMENTATION OF THE MoU INCLUDING THE CONSERVATION AND MANAGEMENT PLAN

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

Presentations, bi-lateral meetings, organisation of sub-regional workshops presented opportunities to raise awareness of the MoU. All bilateral cooperation agreements specially with neighbouring countries include collaboration at conservation of shared marine resources including Marine turtles.

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

☐ YES ☐ NO ■ **NO VIEW**

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** ☐ NO ☐ NO VIEW

6.2 Secretariat and Advisory Committee

6.2.1 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]

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]

Allocated funds for the surveys, socio-ecomnomic studies and public awareness programs through the GEF/UNDP financed ECMIB project. Governmental materials (transport and equipments)

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

■ YES ☐ NO

MCS Grant, British Chelonia Group, SWOT Outreach Grant are the only ones that Eritrea has proposed in 2007 but failed due to different reasons.

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

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]

■ **YES** ☐ NO

the Ministry of Fisheries is the lead agency for the implementation of Conservation measures of Marine turtles

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]

■ **YES** ☐ NO ☐ UNSURE

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],

☐ YES ■ **NO** ☐ UNSURE

Comments / suggestions to improve the present reporting format:

Additional information not covered above: