



Indian Ocean – South-East Asian Marine Turtle Memorandum of Understanding



Myanmar

GENERAL INFORMATION

Agency or institution primarily responsible for the preparation of this report:

Department of Fisheries, Ministry of Livestock and Fisheries, Government of the Union of Myanmar

Other agencies, institutions, or NGOs that have provided input:

Forest Department, Ministry of Forestry
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Memorandum signed: 23 June 2001

Effective Date: 1 September 2001

This report was last updated: 7 September 2011

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]

The Union of Myanmar is situated between longitude 90deg-108deg East and latitude 10deg- 28deg North. It has coastline of 2832 km, which is divided into three regions: the Rakhine region to the north, facing Myanmar's most prolific shrimp grounds in the Bay of Bengal and bordering with Bangladesh; the Gulf of Mottama region (or "Ayeyarwady"), in the centre; and the Tanintharyi region to the south, facing the 800-island Myeik archipelago of the Andaman Sea and bordering with Thailand.

The continental shelf spreads over some 228,751 km², and the exclusive economic zone (EEZ) has a surface area of almost half a million square kilometres (486000 km²). The territorial sea of Myanmar extends 12 nautical miles from the base line towards the sea and EEZ covers all areas of territorial sea and extend 200 nautical miles from the base line to seawards.

Turtle nesting occurs around the Andaman Sea, Gulf of Mottama (Gulf of Mattaban), Thameehla Island, and Bay of Bengal. In 1963, the Department of Fisheries (DoF) began a project to propagate and conserve sea turtles on Thameehla Island (Diamond Island) in Ngaputaw Township, Ayeyarwady Division. Then in 1986-87, the project was fully revived and a hatchery was established with skillful technicians (Aung and Maung, 1999; Lwin and Myo, 2003).

Conservation and research activity increased when Myanmar became a member of Southeast Asian Fisheries Development Center (SEAFDEC) in 1999. As a member, Myanmar was able to participate in training and workshops related to conservation and enhancement of turtle conducted by SEAFDEC. At present, Myanmar is cooperating and collaborating with many institutions namely ASEAN-SEAFDEC, and Memorandum of Understanding on Conservation and Management of Marine Turtles and their Habitats in Indian Ocean and Southeast Asia (IOSEA-MoU).

Three species of sea turtles are commonly seen in Myanmar and nest regularly: olive ridley (Leik Hlaung), green turtle (Pyin Tha Leik), and hawksbill (Leik Kyet Tu Yway). Two other species (the loggerhead (Leik Khway) and leatherback (Leik Zaung Lyar) turtles) are reported seldom by fishermen from some parts of the Taninthayi and are totally absent in the Mon, Rakhine and Ayeyarwady Delta Coastal areas.

Olive ridley turtles are found in the Mon and Ayeyarwady divisions, Lampi Island in Tanintharyi Division and Thameehla Island. Hawksbill turtles are found in the Taninthayi and Rakhine Coastal areas, and green turtles in the Mon, Taninthayi, Rakhine, Ayeyarwady and Coco Island. Other Islands in Bogalay Township in Ayeyarwaddy Division are important for marine turtles.

Summary of nesting sites and feeding habitats for sea turtles in Myanmar:

Tanintharyi Division 97deg to 98deg 45 ' E 10deg 30 ' to 15deg N
 Mon State 97deg to 97deg 45 ' E 15deg to 16deg 30 ' N
 Rakhine State 92deg 15 ' to 94deg 45 ' E 17deg 15 ' to 21deg N
 Ayeyarwaddy Division 94deg to 96deg E 15deg 30 ' to 16deg N
 Yangon Division (Coco Island) 93deg 30' to 94deg 06 ' E 14deg to 15deg N

The reasons for the decreasing sea turtle population in Myanmar can be summarised as follows:

- (a) Human habitation on beaches used by turtles;
- (b) Poaching of turtles eggs without reserve for the sustainability of turtles;
- (c) Incidental catch in the sea by fishing gears;
- (d) Direct catch on some islands for traditional beliefs;
- (e) Destruction of routes to hatching areas and nesting places;
- (f) Destruction of nesting beaches by urban construction works and negative impacts introduced by human beings;
- (g) Insufficient legislative measures and weak law enforcement.

Based on:

Anon (2003). Sea Turtles Threats, Conservation and Management in Myanmar. ASEAN / SEAFDEC Regional Technical Consultation on Management and Conservation of Sea Turtle in Southeast Asia, Kuala Lumpur, Malaysia, 16-18 September 2003.

Pe, M. (2003). National Report Of Myanmar on the Sustainable Management of The Bay of Bengal Large Marine Ecosystem (BOBLME). GCP/RAS/179/WBG.

Thorbjarnarson, J. B., Platt, S.G. and Khaing, S.T. (2000). "Sea Turtles in Myanmar: Past and Present." Marine Turtle Newsletter 88: 10-11.

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]

Because the preservation of sea turtles and their prosperity in Myanmar waters depends on the interest and the participation of the people, education programmes have been initiated targeting the fishery communities and the local people along the coastline.

To enhance effective conservation activities, the Ministry of Livestock and Fisheries prohibits the catching, killing and any other forms of harmful behavior towards sea turtles, not only on noted turtle islands but also along the Myanmar coastline. In addition to this, a notification has been issued on (20-2-1986) prohibiting the digging, transporting, carrying, storing and marketing of turtles, eggs and their habitats.

Large-scale turtle mortality occurs as the result of incidental catch in fishing gear. Disease, migration fatigue, and marine pollution are other causes of deaths. To counteract these factors, quantitative information or observed captures of sea turtles and the rate of mortality in these individual offshore fishing operations is absolutely essential.

In the interim, strict enforcement of the Myanmar Marine Fisheries Law (1990), which prohibits any kind of mechanized fishing within five miles of the shore along the coast, is needed. A blanket ban on near shore-mechanized fishing should significantly reduce turtle mortality.

A second step towards minimizing mortality would be the mandatory use of Turtle Excluder Devices (TEDs) in trawl nets. However, the use of TEDs alone will not mitigate all turtle mortality resulting from fisheries. Additional factors, which must be considered, are that in areas of high fishing intensity, turtles that are captured and released several times may die. Turtles are also caught and drowned in gill nets. Therefore strict enforcement of the existing law, prohibiting near shore-mechanized fishing seems to be the best short-term solution to reduce turtle mortality.

Fishermen have been instructed to release sea turtles unharmed, if turtles are caught accidentally in their fishing gear. The Department of Fisheries has also prohibited the use of fishing gear having harmful effects on sea turtles and the digging of sand on turtle banks. It is important that fishery workers develop and learn to use a type of fishing gear that will be effective in catching fish but harmless for turtles.

In addition, DOF directs two types of turtle egg protection and hatching: (1) Hatching in their original natural nests. (2) Hatching man-made nest by transferring the eggs after they lay (Transplanting) at several locations.

Based on:

Anon (2003). Sea Turtles Threats, Conservation and Management in Myanmar. ASEAN / SEAFDEC Regional Technical Consultation on Management and Conservation of Sea Turtle in Southeast Asia, Kuala Lumpur, Malaysia, 16-18 September 2003.

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]

In some nesting beaches, Department of Fisheries allows the fishermen who participate in Marine Turtle Conservation to fish nearby nesting beaches.

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:
- Other2:
- Other3:
- None of the above or Not Applicable

Myanmar has very strict law enforcement for turtle conservation.

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)

No action has been taken in this context (not applicable).

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

Otter bottom trawl nets are the main fishing gear used to catch demersal finfish and penaeid prawns (FAO 2006). The following is the number of trawl fishing vessels registered for operating in Myanmar waters.

991 trawl fishing vessels were registered (2007-2008 fiscal year).

205 foreign trawl fishing vessels were operating (1 April to 22 July 2008).

786 local trawl fishing vessels were operating (1 September 2007 to 22 July 2008).

b) Set gill nets: YES NO

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

FADs are not used in Myanmar.

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

The following information is the number of purse seine fishing vessels registered for operating in Myanmar waters.

163 purse seine fishing vessels were registered (2007-2008 fiscal year).

12 foreign purse seine fishing vessels were operating (1 April to 22 July 2008).

151 local purse seine fishing vessels were operating (1 September 2007 to 22 July 2008).

e) Longline (shallow or deepset): YES NO

One local longline fishing vessels was operating from 1 September 2007 to 22 July 2008 in Myanmar waters.

f) Driftnet: YES NO

159 local driftnet fishing vessels were operating from 1 September 2007 to 22 July 2008 in Myanmar waters.

g) Other1:

155 local traps were operating from 1 September 2007 to 22 July 2008 in Myanmar waters.

h) Other2:

From 1 September 2007 to 22 July 2008, 571 sets of local stow nets were used in Myanmar waters.

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: DoF, Myanmar (based on information from local people)

b) Set gill nets

Fishing effort:

RELATIVELY HIGH MODERATE RELATIVELY LOW NONE UNKNOWN

Perceived Impact:

RELATIVELY HIGH MODERATE RELATIVELY LOW NONE UNKNOWN

Source: DoF, Myanmar (based on information from local people)

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: Gear type is not used in Myanmar.

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: DoF, Myanmar (based on information from local people)

e) Longline (shallow or deepset)

Fishing effort:

RELATIVELY HIGH MODERATE RELATIVELY LOW NONE UNKNOWN

Perceived Impact:

RELATIVELY HIGH MODERATE RELATIVELY LOW NONE UNKNOWN

Source: DoF, Myanmar (based on information from local people)

f) Driftnet

Fishing effort:

RELATIVELY HIGH MODERATE RELATIVELY LOW NONE UNKNOWN

Perceived Impact:

RELATIVELY HIGH MODERATE RELATIVELY LOW NONE UNKNOWN

Source: DoF, Myanmar (based on information from local people)

g) Other1 (from 1.4.1): Trap

Fishing effort:

RELATIVELY HIGH MODERATE RELATIVELY LOW NONE UNKNOWN

Perceived Impact:

RELATIVELY HIGH MODERATE RELATIVELY LOW NONE UNKNOWN

Source: DoF, Myanmar (based on information from some fishermen)

h) Other2 (from 1.4.1): Stow net

Fishing effort:

RELATIVELY HIGH MODERATE RELATIVELY LOW NONE UNKNOWN

Perceived Impact:

RELATIVELY HIGH MODERATE RELATIVELY LOW NONE UNKNOWN

Source: DoF, Myanmar (based on information from some fishermen)

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]

Sometimes illegal trawl fishing occurs in Myanmar waters; however, information is lacking about its impact on marine turtles. Most fishermen do not follow the laws, regulations, and notifications in remote areas; such activity is very difficult to control.

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

DoF has issued directives (awareness tools) requiring release of marine turtles caught incidentally in fishing vessels. DoF conducts education and awareness activities for fishermen on "appropriate handling of marine turtles caught incidentally in fishing vessels", particularly on foraging grounds.

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

Application is only in research stage. Some training has been given to township fishery officers and fishermen. Current regulations require the release of turtles caught accidentally and require use of Turtle Excluder Device (TEDs) in all fishing areas (FAO 2006).

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

YES NO NOT APPLICABLE

DoF has issued directives requiring release marine turtles caught incidentally in fishing nets. Monitoring compliance is difficult.

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

YES NO NOT APPLICABLE

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

YES NO NOT APPLICABLE

Not applicable (FADs are not being used in Myanmar.)

f) **Net retention and recycling schemes**

YES NO NOT APPLICABLE

Used fishing net businesses are common in Myanmar (used nets are employed for fencing and decoration).

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

YES **NO** **NOT APPLICABLE**

1. Fishing season, fishing areas, and fishing gear are controlled by DoF notification and law. Fishing vessels operate in national water only and the DoF has already promulgated protection laws in their respect. A fishing license is required and it stipulates how, when and where a fishing activity can be carried out.

2. Closed area (to conserve juvenile aquatic animals to avoid conflict between artisanal fishermen and trawlers). Trawlers are not allowed to fish in these closed areas:

Rakhine State: 5 miles from the shoreline

Ayeyarwaddy Division: 10 miles from the shoreline

Tanintharyi coast: 10 miles from the shoreline

3. Shark fishing in Myanmar has already been banned.

4. Mesh size of trawl nets for shrimp and fish must be larger than 2 inches and 2.5 inches respectively. For small and large driftnets, the mesh size must be larger than 3.5 inches and 8 inches, respectively.

5. Fishing by using explosives, chemicals, drugs, electricity, and pumps has already been banned.

Based on:

Pe, M. (2003). National Report Of Myanmar on the Sustainable Management of The Bay of Bengal Large Marine Ecosystem (BOBLME). GCP/RAS/179/WBG.

h) **Effort management control**

YES **NO** **NOT APPLICABLE**

Fishing season, areas, and gear are controlled by DoF notification.

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**

Onboard observers are deployed only occasionally, because of insufficient staff and lack of inspection boats.

Ad hoc inspections and security undertakings at sea are made in collaboration with the Myanmar navy.

Vessel monitoring systems

YES **NO** **NOT APPLICABLE**

Not yet, however some information is collected from fishermen and local people interested in sea turtle conservation.

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

YES NO NOT APPLICABLE

Inspections are conducted by inspection teams in ports and at landing sites since 1995. Port check point inspection teams are formed from relevant agencies (e.g., DoF, Customs, Police). These also ensure the use of port facilities for the disposal of ship-borne waste.

Training programmes / workshops to educate fishers

YES NO NOT APPLICABLE

Training and workshops are being conducted regularly by DoF to educate fishermen and coastal communities.

Informative videos, brochures, printed guidelines etc.

YES NO NOT APPLICABLE

Pamphlet, VCD, Identification chart, Wall poster were produced and distributed (in Myanmar language).

Other (list and explain): TV Programs, talks on conservation and management

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

The mitigation measures are not very effective due to the poor socio-economic status of the fishery community.

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]

Data are collected from DoF offices in Township/ District / State and Division in coastal areas. DoF and SEAFDEC/Training Division are cooperating and collaborating to conduct training courses on TEDs for fishermen and researchers in Myanmar waters.

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

Our country has exchanged information with SEAFDEC but has not provided technical assistance, as yet, to other Signatory States to promote these activities.

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 driftnets are not used in Myanmar national 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

Myanmar has already enacted legislation to prohibit direct harvest and domestic trade in marine turtles, their eggs, parts and products.

Sea turtle conservation programme started in Myanmar in 1905 under the Burma Fisheries Act (III - 1905). Protection for turtle hatching areas and turtles was included; also, trespassing on those areas without official consent was prohibited.

Since then, the government has enacted several laws to protect marine turtles. More recently, in 1990, Myanmar promulgated the Marine Fisheries Law (DoF), under which no person shall search for and collect any marine products without a license (Section 40). In Chapter 1, Section (2), Subsection (r) it is mentioned that "Marine Products mean fishes obtained from the sea, aquatic organisms, excrete, scales, bones, skins, plants, etc." The expression also includes marine turtles and eggs, Crocodiles and eggs, Crab, Ambergris, Oyster, Shell, Clam shell, Mussel, Coral, Sea sponges, Seaweed, Moss, and Algae. In 1993, the Department of Fisheries declared Notification No. 2/93 for "Sea Turtle Conservation".

The new protection of Wildlife, Wild Plants and Conservation of Natural Areas Law (replacing the old Myanmar Wildlife Protection Act of 1936) was enacted in 1994 (Forest Department).

See: Pe, M. (2003). National Report Of Myanmar on the Sustainable Management of The Bay of Bengal Large Marine Ecosystem (BOBLME). GCP/RAS/179/WBG

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

Egg consumption

YES NO

HIGH MODERATE LOW UNKNOWN

Shell products

YES NO

HIGH MODERATE LOW UNKNOWN

Fat consumption

YES NO

HIGH MODERATE LOW UNKNOWN

Traditional medicine

YES NO

HIGH MODERATE LOW UNKNOWN

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:**

At present, the population of marine turtles is decreasing year after year. The causes of population decrease are: taking the meat and eggs as delicacy, incidental catch by fishing gear, and poaching by subsistence fishermen at the time of laying eggs.

Kadon Galay Island and Kaing Thaung Island in Ayeyarwady are the most popular nesting beaches. Human settlement began around 1972 and both islands are at present fully occupied. About 80 turtle nests are found annually on Gayet Gyi Island, but only 47 nests were reported in Gayet Gyi Island in 2003.

200-250 families inhabit the smaller island located east of Kadon Galay Island for over 50 years. According to the local villagers, the number of sea turtle beaches is rapidly declining. Though over a hundred nests could be harvested per night during the nesting season in Kadon Galay in 1985, only 46 nests could be harvested in 2003.

Similarly, only 1-2 turtles nested in a year on Kaing Thaung Island, and no nesting occurred at Htaung Gyi Tan beach. Nowadays, the largest concentration of nesting occurs only on Thameehla Island beach where the island is strictly protected under the management of DoF.

In some remote areas in Mon State and Taninthayi Division, a lower number of eggs was collected; some were consumed by the collectors' families and the surpluses were sold in the villages.

In some islands in Taninthayi Division, the indigenous villagers traditionally believe in offering live turtles to the spirits and they eat them later during the festivals. (Mi Mi Maw, 2004).

1.5.4 Have any domestic management programmes been established to limit the levels of intentional harvest? [SAP] YES NO UNKNOWN

Fishermen and local communities are being educated on the significance of marine turtles in the marine ecosystem.

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]

Not 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

Enforcement of laws and regulations is needed to reduce losses of eggs and hatchlings by feral animals, such as beach sand crabs, ground rats, sea finder and domestic animals such as dogs.

Education/awareness programmes

YES NO N/A

EXCELLENT GOOD LOW UNKNOWN

Egg relocation/hatcheries

YES NO N/A

EXCELLENT GOOD LOW UNKNOWN

Although Myanmar has many islands and sandy sea turtle banks, the Department of Fisheries is conducting sea turtle hatching and a hatchling release program only in Ayeyarwady delta areas at present, due to lack of staff and budget.

DoF is conducting turtle hatching based on conditions of rookeries in nesting areas:

(a) Hatching in their original natural nests (In-situ)

(b) Hatching in man-made nests after transferring the eggs from natural nests (transplanting)

Systematic sea turtle hatching practice is being implemented at some islands in Ayeyarwaddy Division. Hatching in their original natural nests consists of marking the exact spot where female turtles laid their eggs and letting the eggs hatch in natural conditions. Hatching this way has the risk of having too much rain and the rising tide which can lead to rotting of eggs, and leaving the eggs to the mercy of scavengers.

Transferring the eggs to man-made hatcheries consists of collecting the newly laid eggs by digging them up from their natural holes and transferring them to a safe place from natural weather conditions. Incubation period in a hatchery hole takes round about 50 days.

Thameehla Island (Diamond Island) of Ngaputaw Township, Ayeyarwady Division is used year-round for nesting by sea turtles. The hatching area of Thameehla Island is one mile in length and half a mile in breadth. DoF, Ministry of Livestock and Fisheries, has undertaken sea turtle nursery and research program on that island since June 1986, hosting the nesting green turtle and olive ridley turtle. Data on hatchling releases are available.

Beginning in 1989 under the supervision of Department of Fisheries, volunteers carried out turtle hatching activities; these activities were continued by the Department of Fisheries technicians as of 2005.

Two small islands, Gayet Gyi and Kadongalay Islands, situated at the mouths of Ayeyarwaddy and Bogalay Rivers, respectively, host the nesting by olive ridley turtles from September to March every year. The nesting area of Gayet Gyi Island is 3 miles in length and half a mile in breadth and Kadon Galay Island is 5 miles in length and three-quarters mile in breadth.

DoF is also undertaking a hatchling release program and research activities on Gayet Gyi Island and Kadon Galay Island in 1997-1998. Data on hatchlings released from that island are available.

In late 2001, DoF established nine new nesting area projects for sea turtles: at Nga Mann Thaung beach, Ma Sein Yon beach, Nget U Thaung beach, Ashaet Phya beach, Min Ga Lar Thaung Tan beach and Htaung Gyi Tan beach in Bogalay Township and Maydar Ai beach, Wargone beach and Khone Gyi beach in Ngaputaw Township and Amattgyi beach in Lutputta Township. Data on hatchlings released from that island are also available. From September 1986 to January 2006, 494,788 Green turtle and 482,437 Olive ridley turtle hatchlings were released.

Predator control

YES NO N/A

EXCELLENT GOOD LOW UNKNOWN

Sand crabs, crows, other carnivorous birds and wild birds are a constant threat as they are found to eat the turtle eggs and hatchlings. The sand crabs eat turtle eggs lying superficially and the wild dogs eat most of the eggs. Hatchlings are eaten by the birds as they travel towards the sea after hatching. The predators are scared away to protect the eggs

and baby turtles.

Vehicle / access restrictions

YES NO N/A

EXCELLENT GOOD LOW UNKNOWN

Removal of debris / clean-up

YES NO N/A

EXCELLENT GOOD LOW UNKNOWN

Efforts to remove debris that impedes turtle nesting and hatchling production has been made only in the Conservation Area in Ayeyarwady Division.

Re-vegetation of frontal dunes

YES NO N/A

EXCELLENT GOOD LOW UNKNOWN

Technology is needed, as well as funding to re-vegetate frontal dunes at nesting beaches.

Building location/design regulations

YES NO N/A

EXCELLENT GOOD LOW UNKNOWN

All nesting areas are protected by DOF. Extension of urban development on the nesting areas is not permitted.

Light pollution reduction

YES NO N/A

EXCELLENT GOOD LOW UNKNOWN

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

In conservation areas only. The programmes were started in 1986 and continue at several sites.

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) [\[BPR, SAP\]](#)

There are no incentive programmes yet, but awareness/education programmes, and laws and regulations are in place.

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

Assessments have yet to be made owing to lack of funding and lack of capability.

Beaches and islands are the focal points for recreation and tourism and a major source of income for many countries and Myanmar is not an exception. Tourism is one of the fastest growing industries in Myanmar, especially since 1996 when the Myanmar Government launched 'Visit Myanmar Year' in 1996.

At present, the tourism industry in Myanmar is still in an infant stage compared to her neighboring countries. Environmental impacts arising from tourism in the coastal are not significant. However, due to rapid development of tourism in recent years, appropriate countermeasures are needed to consider avoiding tourism impact on marine ecosystems and living resources.

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

In Myanmar, environmental degradation is still minimal and DoF staff has monitored water quality near turtle habitats only in Ayeyarwady Division.

There are eight major ports in Myanmar coastal areas, namely Sittwe, Than Dwe, Kyauk Phyu, Yangon, Mawlamyaing, Dawei, Myeik and Kawthoung. Ports and shipping operations are inherently hazardous to the marine environment. Fortunately, there has been no significant pollution incident recorded at these ports.

Major marine sources of pollution include ship-borne pollution and land based pollution. Land-based pollutants originate from municipal, agricultural and industrial activities. Hence, major land-based sources of pollution are domestic sewage, solid wastes, agricultural wastes, and industrial effluents and wastes.

Under normal operations, most cargo and oil/gas ports are not major sources of pollution. Fishing ports exist in every coastal area and they are usually near to major urban areas, thus making it difficult to separate the contribution from the two sources.

There are probably over 23,000 fishing boats of various sizes registered and being operated in Myanmar coastal waters. All of the discharged oil is believed to be discharged into the sea. In addition, leaks and spills of fuel (diesel) oil during filling and transfer occur but amount cannot be estimated. Marine accidents, although still low in frequency, could release significant amounts of oil into the sea. However, no data are currently being collected to accurately assess the impact of oil pollution on the marine and coastal environment and its living resources.

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

YES NO NOT APPLICABLE

Poisonous fishing and dynamite fishing are already banned in Myanmar Marine Fishing Law (1990).

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)

Not yet: technology is needed, as well as funding.

See:

Pe, M. (2003). National Report Of Myanmar on the Sustainable Management of The Bay of Bengal Large Marine Ecosystem (BOBLME). GCP/RAS/179/WBG

Soe Tun, San Tha Htun, Mu Mu Aye, Ni Ni Win, Lei Lei Win & Masao Ohno (2001). Notes on seagrass along Myanmar Coastal Region.

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)

Forest Department and some NGOs are rehabilitating degraded mangroves in Rakhine State, Ayeyarwaddy Division, and Mon State, Tanintharyi Division. In the aftermath of Cyclone Nargis most of the mangrove forests were damaged or destroyed.

See:

Pe, M. (2003). National Report Of Myanmar on the Sustainable Management of The Bay of Bengal Large Marine Ecosystem (BOBLME). GCP/RAS/179/WBG

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)

See:

Pe, M. (2003). National Report Of Myanmar on the Sustainable Management of The Bay of Bengal Large Marine Ecosystem (BOBLME). GCP/RAS/179/WBG

Soe Tun, San Tha Htun, Mu Mu Aye, Ni Ni Win, Lei Lei Win & Masao Ohno (2001). Notes on seagrass along Myanmar Coastal Region.

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]

Aung, C. H. (2003). Emergence success of national nests for olive ridley on sandy beach, Kadongalay Island in Myanmar. Proceedings on the 4th SEASTAR2000 Workshop (2003): 51-54.

Ewing-Chow, M. (2007). First Do No Harm: Myanmar Trade Sanctions and Human Rights. Northwestern University School of Law Northwestern Journal of International Human Rights 5(2): 153-180.

Lwin, M. M. and Khin Myo Myo (2003). Country paper of Sea Turtles Threats, Conservation and Management in Myanmar. ASEAN - SEAFDEC Regional Technical Consultation on Management and Conservation of Sea Turtles in Southeast Asia, Kuala Lumpur, Malaysia, 16-18 September 2003.

Lwin, M. M. (2004). Sea turtle (*Chelonia mydas*) Nesting and Conservation activity in Thameehla Island, Myanmar International Symposium on SEASTAR-2000 and Bio-Logging Science, 11-15 December 2004, Bangkok, Thailand.

Lwin, M. M. (2005). Inconel and PIT Microchips Tagging on Green Turtle in Thameehla Island, Myanmar International Symposium on SEASTAR-2000 and Bio-Logging Science, 13-14 December 2005, Bangkok, Thailand.

Lwin, M. M. and Thein Than, (2007). Current Status of Sea Turtle Conservation and Management in Myanmar. FAO-SEAFDEC Workshop on Assessing the Relation of Sea Turtle Mortality due to Fisheries in Southeast Asia, 19-23 March 2007, Bangkok, Thailand.

Lwin, M. M. (2007). Tagging activities of olive ridley turtle at Gadongalay and Gayetgyi Islands, Bogalay Township in Ayeyarwady division, Myanmar. Proceedings of the 4th International Symposium on SEASTAR2000 and Asian Bio-logging Science (The 8th SEASTAR2000 workshop) (2007): 3-6.

Lwin, M. M., (2008). Captured green turtles released from Thameehla Island, 13 Nov 2008, IOSEA e-News for December 2008.

Lwin, M. M. (2008). Overview of Interacting of Fisheries with Marine Turtles and Conservation. On-site Training for Introduction of C-hook for Bottom Longline in Myanmar, In Collaboration with SEAFDEC and DOF, Myanmar, 14-16 November 2008, Yangon, Myanmar.

Lwin, M. M. (2009). Tagging Study on Green Turtle (*Chelonia mydas*) at Thameehla Island, Myanmar. Proceedings of the 5th International Symposium on SEASTAR2000 and Asian Bio-logging Science (The 9th SEASTAR2000 workshop)

(2009): 15-19.

Lwin, M. M. (2009). Green turtle (*Chelonia mydas*) nesting and conservation activity in Thameehla Island, Myanmar. *Indian Ocean Turtle Newsletter* 10: 14-18.

Maxwell, F.D (1911). Report on the turtle banks of the Irrawaddy Division.

Mi Mi Maw (2004). Preliminary Survey on Sea Turtles and Tortoises in Southern Myanmar.

Ohn Maung and Cho Hla Aung (1999). Country paper of Sea Turtle Conservation in Myanmar, the SEAFDEC - ASEAN Regional Workshop on Sea Turtle Conservation and Management.

Sann Aung and Christof Hahn (2001). Final Report of Marine Turtle Conservation Pilot Project in Northern Rakhine State.

Thorbjarnarson, J. B., Platt, S.G. and Khaing, S.T. (2000). Sea Turtles in Myanmar: Past and Present. *Marine Turtle Newsletter* 88: 10-11.

Win Maung (1999). Preliminary study on the species composition and population dynamics of marine turtle in some parts of Taninthayi and Ayeyarwady Division with respect to Wildlife Conservation.

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

In order to conserve sea turtles and to rehabilitate their habitats, the Department of Fisheries has already produced following guidelines in its Thirty-Year Fishery Development Program (initiated in 2002):

- (a) The potential sea turtle nesting beaches are to be identified.
- (b) According to the existing fisheries law, appropriate action will be taken against anyone involved in the collection of turtle eggs and/or killing the turtle for any purpose.
- (c) Turtle nesting beaches and islands are to be conserved and protected.
- (d) Protected areas will be established in certain areas to eliminate loss of sea turtle habitats.
- (e) Sea turtle hatcheries will be constructed in appropriate areas and juvenile turtles will be released into the sea for resource enhancement.
- (f) Cooperating and collaborating with international and regional organizations to implement management activities will be encouraged.

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

YES NO UNSURE

Study of Marine Turtles population genetics and tagging are being done in co-operation with SEAFDEC-MFRDMD (on-going stage).

- In Coco Island and Tharmeehla Island, 30 tissue samples of green turtles each were obtained and dispatched to SEAFDEC/ MFRDMD for DNA analysis. In collaboration with DoF and SEAFDEC/MFRDMD the 'On-Site Training for Tissue Sampling and Tagging of Sea Turtle Course' was conducted from (29.10.2005) to (3.11.2005) at Ayeyawady Division, Ngaputaw Township, and Thameehla Island. Nine trainees from DoF and 2 Experts from MFRDMD were involved. In this training course 9 participants from the Department of Fisheries took part.

- Hawksbill Turtles Tissue Samples Collecting Activity is ongoing stage in Myanmar.

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

In spite of having many islands and turtle beaches, tagging activities are being carried out at only four turtle beaches at present. They are: Thameehla Island and Khone Gyi beach in Ngaputaw Township, and Gayet Gyi Island and Kadongalay Island in Bogalay Township.

Myanmar participated in the Second Meeting on Regional Tagging Programme and Population Statistics on Sea Turtle held in Kuala Terengganu in Malaysia from 20 to 22 November 2000. In that workshop a resolution was passed to provide Myanmar and Cambodia with applicators and Inconel Tags (Numbers MM-0001 to MM-3000) by Marine Fisheries Resources Development and Management Department (MFRDMD) under SEAFDEC.

In order to successfully carry out the activity of tagging and tracking of sea turtles, applicators and Inconel Tags were received by DoF Myanmar in November 2001. Accordingly, the applicators and Inconel Tags were sent to Bogalay and Ngaputaw Townships Sea Turtle Conservation Centers in Ayeyarwady Division where nesting turtles were tagged starting 23 December 2001.

At present, Myanmar tagging activities are still at an early stage. Under this program, 339 green turtles, 273 olive ridley turtles, 12 hawksbill turtles, and 18 loggerhead turtles (some of these are suspected to be olive ridley turtles) have been tagged. Serial numbers of tags used on the green, olive ridley and hawksbill turtles and data on tag recoveries in Gayet Gyi Island and Kadon Galay Island of Bogalay Township, Amatt Gyi Beach and War Taw Gone Beach of Lutputta Township, Thameehla Island of Ngaputaw Township, Ayeyarwady Division were recorded.

The DoF has also received PIT Microchips and scanners from SEAFDEC through MFRDMD in April 2003. PIT tagging activities were started in March 2004 on 25 green turtles at Thameehla Island (Diamond Island). Data on recovered PIT-tagged sea turtles in Thameehla Island of Ngaputaw Township, Ayeyarwady Division was also recorded.

In summary, 25 PITs, and 3,000 Inconel Tags were provided by SEAFDEC-MFRDMD. Studies are on-going, and DoF Myanmar has distributed a Notification about "Tag Wanted" to local people and fishermen through State/ Division/ District/Township DoF Officers.

See: references listed in section 3.1.1

Satellite tracking YES NO

In line with the Japanese Trust Fund IV, a PTT was installed on an Olive Ridley Turtle in Kadon Galay Island on 1st January 2007. At the same time the research officer from MFRDMD conducted training on Turtle Conservation and Installation of PTTs (from 24-12-2006 to 28-12-2006). But the transmitter stopped giving signal on 14 January 2007. The last position was 15 degree 24minute 47 second N; 94 degree 36 minute 00 second E, according to SEAFDEC-MFRDMD researcher.

See: references listed in section 3.1.1

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

DoF has distributed questionnaires about the interaction between marine turtles and fishing activities to State/Division/District/Township fishery officers for collecting data and information from fishermen and coastal communities.

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

YES NO UNSURE

Not yet.

3.1.7 Is the use of traditional ecological knowledge in research studies being promoted? [BPR, PRI] YES NO UNSURE

Lack of technician in this area.

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]

Myanmar has participated in ASEAN regional action plans:

- Study on Migratory Route(Inconel Tag/PITs/ PTTs)
- Population Genetic (Tissue sampling)
- Monitory on sea grass & corals
- Socio-economic

Myanmar has been cooperating with SEASTAR2000.

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

Study of marine turtle population genetic and tagging has been done in collaboration with SEAFDEC-MFRDMD since 2005. The first study was conducted on Coco Island and Tharmeehla Island by sending 30 tissue samples each to SEAFDEC-MFRDMD for DNA analysis. Later on the on-site training for tissue sampling and tagging of sea turtle course was conducted from 29 October 2005 to 3 November 2005 at Ayeyawady Division, Ngaputaw Township, and Thameehla Island. Nine trainees from DoF and two experts from MFRDMD were involved. DoF staff continues to survey the nesting ground and foraging ground of Hawksbill turtles for tissue sampling for population genetics study.

See: references listed in section 3.1.1

b) Conservation status YES NO NOT APPLICABLE

On-going activities include: hatchling releasing, training, workshop, information gathering, awareness programme, and surveying programme.

c) Migrations YES NO NOT APPLICABLE

In collaboration with SEAFDEC-MFRDMD, Myanmar was provided applicators and Inconel Tags (Numbers MM-0001 to MM-3000). In November 2001, the applicators and Inconel Tags were sent to Bogalay and Ngaputaw Townships Sea Turtle Conservation Centers in Ayeyarwady Division where nesting turtles were tagged starting 23 December 2001.

At present, Myanmar tagging activities are still at an early stage. Under this program, 339 green turtles, 273 olive ridley turtles, 12 hawksbill turtles, and 18 loggerhead turtles (these may be olive ridley-suspected) have been tagged so far.

The DoF has also received PIT Microchips and scanners from SEAFDEC through MFRDMD in April 2003. PIT tagging activities were started in March 2004 on 25 green turtles at Thameehla Island (Diamond Island). Data on recovered PIT-tagged sea turtles in Thameehla Island of Ngaputaw Township, Ayeyarwady Division was also recorded.

On 3 January 2007, in line with the Japanese Trust Fund IV, PTTs were already installed on Olive Ridley turtles in Kadon galay Island by DoF staff. However, the transmitter stopped giving signal on 14 January 2007. The last position was 15 degree 24minute 47 second N; 94 degree 36 minute 00 second E, according to SEAFDEC-MFRDMD researcher.

d) Other biological and ecological aspects YES NO NOT APPLICABLE

None

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]

Data on nesting, hatching, tagging are being analyzed by DoF staff. Populations of marine turtles have been decreasing year after year over the last two decades.

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

Staff from turtle stations have to report monthly about the turtle nesting, hatching, incubation etc.

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]

Research on hatching and tagging, and TED results, are being applied to improve management practices and mitigation of threats.

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

DoF (Headquarters) has distributed the format for data collection to the staff from Conservation areas.

Additionally, SEAFDEC-MFRDMD has distributed a standardised methodology and levels of data collection (database) to ASEAN countries .

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]

Myanmar researchers are giving paper presentations in workshops on Marine Turtle conservation.

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

Compilation of data is not yet up to a satisfactory state.

Country report was presented on the Regional Meeting on the Progress of Research on Stock Enhancement of Sea Turtle, 28 to 29 November, 2006 , Kuala Terengganu, Malaysia (ASEAN-SEAFDEC).

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]

The public needs to be educated and informed about the need for conservation and protection of sea turtles. For this purpose the Ministry of Livestock and Fisheries distributes pamphlets, inserting educational programmes in newspapers, magazines, Journals and television. Other awareness tools include: Videos, CD, identification charts and Posters.

Since sea turtles tagged in Myanmar can reach remote lying islands and beaches, which are out of the range of DoF, the Department of Fisheries has endeavored to gather information, and distribute pamphlets and a "Tag wanted notification 1/2004" to fisherman living in the coastal regions to immediately inform the nearest DoF office with complete record of the turtles with tags. The DoF has also requested the media and TV to assist in these ventures.

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:DoF Staff**
- None of the above

In Myanmar, a turtle conservation and management course was conducted for the first time from 21-31 December 2001 at Gayet Gyi Conservation Station with the participation of 17 trainees. In that course basic principles and practical application of tags were demonstrated.

Also sea turtle conservation and management was introduced in the Inspector Course No. 6/2003 conducted by DoF, Myanmar at the Institute of Fishing Technology (IFT) in Yangon.

In Ayeyarwady Division, District and Township Officers and Staffs of DoF held a workshop on sea turtles to draw public awareness on 7 October 2004.

Similarly during the fish replenishing ceremony on 7 October 2004 DoF also held talks about Sea Turtle Conservation for the Armed Forces, members of Union Solidarity and Development Association, and students in Patheingyi township, Ayeyarwady Division.

On 30 December 2004, DoF held talks about Sea Turtle Conservation and Management for 37 teachers and students from Patheingyi University in Ayeyarwady Divisional Fishery Office.

On 8 December 2004, DoF gave a lecture relevant to Sea Turtle Conservation and Management to 17 of Second Year Zoology Students and Teachers from Yangon University.

A Sea Turtle Conservation and Research Course was conducted from 21 February 2005 to 2 March 2005 at Gayet Gyi Conservation Station, Ayeyarwady with the participation of 27 trainees from DoF, Forest Department and University.

Environment and Endangered Aquatic Animal Conservation and Management Training Course was conducted from 15 to 28 February 2008 Kadongalay Conservation Station, Ayeyarwady with the participation of 24 trainees from DoF, Forest Department and University.

For the commemoration of Year of The Turtle 2006 in Myanmar, the IOSEA (MoU) Secretariat provided funding which the Department of Fisheries utilized for implementing the following activities:

a. National Workshop on Marine Turtle Conservation and Management, In Commemoration of the Year of the Turtle was held on 6, November, 2006 and attended by 103 participants.

b. Training on Marine Turtle Conservation and Management: Two training sessions were conducted at Sittwe, Rakhine State and Myeik, Thanintharyi Division on 18 to 25 January 2007 and 20 to 26 February 2007, respectively.

c. Marine Turtle Conservation Signboards were distributed to State and Division of Coastal Areas.

d. Wall poster about Marine Turtle Conservation and Protection were distributed to State and Division.

e. Pamphlet for Marine Turtle Conservation and Protection.

f. Distributed Marine Turtle Conservation and Protection VCD.

g. Radio talks about Marine Turtle Conservation and Protection.

h. Survey activities were carried out on islands where it was learnt that turtles once nested. The places surveyed were:

- Coco Island, Yangon Division.
- Thinn pan kyun (Oyster Island), Rakhing State.
- Lampi Island, Tanintharyi Division.
- Done Kyun Island, Tanintharyi Division.
- Makyunkalet Island, Tanintharyi Division.
- Kadan Island, Tanintaryi

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

YES NO

An information centre was established at Kadonkani, Bogalaay Township, Ayeyarwaddy Division in 2005. The importance of sea turtles and conservation techniques are being communicated to coastal communities. However, Cyclone Nargis totally destroyed the Information Centre at Kadonkani, Bogalaay Township, Ayeyarwaddy Division.

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.

None.

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]

Some local people/fishermen/communities are voluntarily participating in implementation of Marine Turtle Conservation on some islands and beaches.

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]

Universities

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

In Myanmar, authorities are inspecting for trade in flora and fauna. Trade is not allowed, if those species are listed as CITES endangered species.

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

YES NO NOT APPLICABLE

DoF Myanmar participated in CITES CoP13 Meeting in Bangkok in 2005. The status of other international conventions, agreements and conduct related to marine environment is summarized in :

Pe, M. (2003). National Report Of Myanmar on the Sustainable Management of The Bay of Bengal Large Marine Ecosystem (BOBLME). GCP/RAS/179/WBG

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

Not yet, but customs officers and DoF officers from some border areas and every airport in Myanmar are responsible for protection against illegal trade.

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]

None.

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]

Measures are in place to prevent, deter and eliminate domestic illegal trade in marine turtle products by law, regulation and notification, but these are difficult to control in remote areas at sea.

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

-In 2002, DoF, Ministry of Livestocks and Fisheries, adopted a 30-year plan for Sea Turtle Conservation and Management Programme.

-The future plan for conservation and protection includes the following elements:

- (a) To Find Funding for Marine Turtle Conservation
- (b) To Evaluate the Status of Marine Turtle
- (c) Regional and International Cooperation and Collaboration
- (d) Community Participation in Conservation Activities
- (e) Capacity Building
- (f) Integrated Management of Sustainable Marine Turtle
- (g) Research and Monitoring

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]

- Regional and International Cooperation
- Educational and awareness program
- Capacity Building
- Research and monitoring
- Community Participation
- Eliminate domestic illegal trade
- Eliminate illegal poaching of turtle product by law and regulation enforcement

- Information collection and dissemination
- Socio-economic study on local fishermen
- Set up incentive program

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

Training / capacity building is the most important to achieve progress and to prevent illegal trade, to encourage hatchery best-practices, research activity, and compliance of fishermen with the existing laws and regulations.

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]

The 2003 ASEAN - SEAFDEC Regional Technical Consultation on Sea Turtle Conservation and Management held by SEAFDEC in Malaysia is subject to regular review.

By systematically promoting the use of appropriate fishing gear in Southeast Asia, the ASEAN member countries may take the leading role in conservation for the long-term benefit to the sea turtle. Thus, it may be of great benefit if the experts in ASEAN countries conduct training courses in ASEAN member countries so that the trainees can impart multiplier courses for the fishery workers, ensuring the participation. This would be an important step towards providing effective protection for sea turtles.

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]

None, but DoF has announced to fishing vessels and fishermen to report back to the DoF if they catch marine turtles incidentally.

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]

The following capacity/resource needs have to be addressed in Myanmar:

Inadequacy of skilled workers and staff (insufficient technical experience and expertise)

Difficulty to control and educate egg poachers in remote areas.

Communication and transportation problem in reaching rookeries in remote areas.

Requirement for modern equipment and materials, particularly: radio, telephone, boats, engines, generators, freshwater tube wells.

Need for research methodology and literature.

Weakness in feedback system and information.

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]

In Myanmar, a turtle conservation and management course was conducted for the first time from 21-31 December 2001 at Gayet Gyi Conservation Station with the participation of 17 trainees. In that course basic principles and practical application of tags were demonstrated.

Also sea turtle conservation and management was introduced in the Inspector Course No. 6/2003 conducted by DoF, Myanmar at the Institute of Fishing Technology (IFT) in Yangon.

In Ayeyarwady Division, District and Township Officers and Staffs of DoF held a workshop on sea turtles to improve public awareness on 7 October 2004.

Similarly, during the fish replenishing ceremony on 7 October 2004, DoF also held talks about Sea Turtle Conservation for the Armed Forces, members of Union Solidarity and Development Association, and students in Patheingyi township, Ayeyarwady Division.

On 30 December 2004, DoF held talks about Sea Turtle Conservation and Management for 37 teachers and students from Patheingyi University in Ayeyarwady Divisional Fishery Office.

On 8 December 2004, DoF gave a lecture relevant to Sea Turtle Conservation and Management to 17 second Year Zoology Students and Teachers from Yangon University.

A Sea Turtle Conservation and Research Course was conducted from 21 February 2005 to 2 March 2005 at Gayet Gyi Conservation Station, Ayeyarwady with the participation of 27 trainees from DoF, Forest Department and University.

On 25.5.2005, DoF gave talks about Marine Turtle Conservation and Management to 50 local people and DoF staff at Than Dwe District Fisheries office in Rakhine State.

On 25.5.2005, DoF gave talks about Marine Turtle Conservation and Management to 35 Trawl fishermen at Thabyu Chaing fish landing site, Than Dwe Township in Rakhine State.

On 26.5.2005, DoF gave talks about Marine Turtle Conservation and the importance of Marine Turtles to 10 local people and fishermen at Zeephyugon village, Gwa Township in Rakhine State.

On 30.5.2005, DoF gave talks about Marine Turtle Conservation and the importance of Marine Turtles to 50 local people, fishermen and local authorities at, Yahine Kudo village, Gwa Township in Rakhine State.

On 31.5.2005, DoF gave talks about Marine Turtle Conservation and the importance of Marine Turtles to 80 local people, fishermen and local authorities at Magyi Ngu village, Gwa Township in Rakhine State.

On 3.6.2005, DoF gave talks about Marine Turtle Conservation and the importance of Marine Turtles to 30 local people, police force, fishermen and local authorities at Kin Pon village, Gwa Township in Rakhine State.

On 15.9.2005, DoF gave talks about Marine Turtle Conservation and the importance of Marine Turtles to 131 local people, fishermen and local authorities at Kun Pauk village, Lutputta Township in Ayeyarwaddy Division.

On 14.10.2005, DoF gave talks about Marine Turtle Conservation and the importance of Marine Turtles to 38 local people, fishermen and local authorities at Mingalar Thaug Tan village, Lutputta Township in Ayeyarwaddy Division.

On 30.10.2005, DoF gave talks about Marine Turtle Conservation and the importance of Marine Turtles to 70 local people, fishermen and local authorities at Thaug Lay village, Lutputta Township in Ayeyarwaddy Division.

On 19.11.2005, staff from DoF headquarters gave educational talks about marine turtle conservation and management to 25 DoF staff from DoF offices Dawei District in Taninthayi Division.

On 20.11.2005, staff from DoF headquarters gave educational talks about marine turtle conservation and importance of Marine Turtles to 115 members of local communities, fishermen and local authorities at Tha Bot Seik Village, Lounglon Township in Taninthayi Division.

In collaboration between DoF and SEAFDEC/MFRDMD, the on-site training course on Tissue Sampling and Tagging of Sea Turtle was conducted from 29.10.2005 to 3.11.2005 at Ayeyawady Division, Ngaputaw Township, and Thameehla Island. 9 trainees from DoF and 2 experts from MFRDMD were involved.

The workshop on Marine Turtle Conservation and Management was held on 6.11.2006; 103 participants were attended the workshop. (YoT)

The MFRDMD conducted training course on Turtle Conservation and Installation of PTTs at Kadongalay Conservation Station, Bogalay Township, Ayeyarwady Division from 25.12.2006 to 27.12.2006; 17 participants were attended.

DoF was conducting a training course on Marine Turtle Conservation and Management at Sittwe in Rakhine from 18 to 25 January 2007 and Myeik in Thanintharyi Division from 20 to 26 February 2007. (YoT)

Environment and Endangered Aquatic Animal Conservation and Management Training Course was conducted from 15 to 28 February 2008 Kadongalay Conservation Station, Ayeyarwady with the participation of 24 trainees from DoF, Forest Department and Universities.

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. [\[BPR\]](#)

Universities under Ministry of Education; Forest Department; Local Authorities

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. [\[SAP, TSH\]](#)

Myanmar laws ban trade in sea turtle products, such as turtle meat, eggs and carapaces. However collecting, eating and marketing of eggs still occurs illegally in remote areas.

Some villagers and fishermen report that when they catch turtles in their fishing nets they try to release them back into the sea. However, if the turtle dies, they will eat the meat and sell the carapace to the market.

The most valuable carapace is that of the Hawksbill Turtle, because its shell is used in making ornaments such as combs, hair pins and brooches. It is known that in some border areas, sea turtle products are still being traded illegally.

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

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

More cooperation and collaboration is needed with Government Agencies and other organizations that are involved in wildlife conservation.

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]

None

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]

Since Myanmar is still in developing country status it is not in position to support in cost contribution to the core operation of the IOSEA MoU. But Myanmar will try to conduct marine turtle conservation activities according to our own capability.

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]

Government budget is the main source of funding for implementation of domestic marine turtle conservation activities related to the IOSEA Marine Turtle MoU.

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

Only SEAFDEC provides equipment, accessories, and technical support for marine turtle conservation. However, for marine turtle conservation activities, Myanmar has not solicited funds yet.

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

None

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

DoF is the lead agency responsible for coordinating national marine turtle conservation and management policy.

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

Forestry Department is also concerned with the conservation and management of marine turtle and habitats since it is the focal point for CITES authority.

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

Not yet. But very near future, DoF has plan to conduct a review of agency roles and responsibilities.

Comments/suggestions to improve the present reporting format:

Regarding to 1.4.2, IOSEA (MoU) Advisory Committee should consider standardizing the methodology used in determining the level/status because the fishing effort and impact on marine turtles are different from country to country.

Additional information not covered above: