



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

CMS/IOSEA/MOS8/Inf.7.1.i

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8TH MEETING OF THE SIGNATORY STATES

Da Nang, Viet Nam, 21-25 October 2019

Agenda Item 9.1

MYANMAR – NATIONAL REPORT 2019

(Prepared by Myanmar)

IOSEA MARINE TURTLES MEMORANDUM OF UNDERSTANDING - NATIONAL REPORTING 2019

IOSEA Marine Turtles MoU - National Reports

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

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

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

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

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

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

Abbreviation

Type

Treatment / Purpose

IND

Indicator

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

PRI

Priorities

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

TSH

Trouble-shooting

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

BPR

Best practice

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

SAP

Self-Appraisal

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

INF

Information

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

GENERAL INFORMATION

Signatory State:

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

> Department of Fisheries DOF), Ministry of Agriculture, Livestock and Irrigation, Government of the Republic of Union of Myanmar

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

> Forest Department, Ministry of Environmental Conservation and Forest (MOECAFF);
Forest Resource Environment Development and Conservation Association;
Wildlife Conservation Society(WCS), Myanmar Programme;
Fauna and Flora International (FFI), Myanmar Programme
Marine Science, Universities

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

> (01/09/2001)

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

> (06/06/2019)

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

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

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

> The 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 (Mutaban) region (or "Ayeyawady"), 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 kilometers (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), and BOBLME.

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 turtles (Leik Khway) and leatherback turtles (Leik Zaung Lyar) are reported seldom by fishermen from some parts of the Taninthayi Region and are totally absent in the Mon State, Rakhine State and Ayeyarwady (Region) Delta Coastal areas.

Olive ridley turtles are found in the Mon State and Ayeyarwady Region, Lampi Island in Tanintharyi Region and Thameehla Island and some deposit Islands (such as Gadon Kani, Gayetgyi). Hawksbill turtles are found in the Taninthayi Region and Rakhine Coastal areas, and green turtles in the Mon State, Taninthayi Region, Rakhine State, Ayeyarwady Region and Coco Island (Yangon Region). Other Islands in Bogalay Township in Ayeyarwaddy Region are important for marine turtles.

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

Tanintharyi Region 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 Region 94deg to 96deg E 15deg 30 ' to 16deg N

Yangon Region (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 Best practice approaches to minimizing threats

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

> 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 Agriculture, Livestock and Irrigation 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.

Department of Fisheries (DOF) issued Directive No. 6/ 2018 on 1st June 2018 in order to install and utilize the Turtle Exclusive Devices (TEDs) by offshore fishing trawlers and stationed stow-net.

During inspection, if the fishing do not apply the TEDs when the DOF found, under mentioned penalties will be taken by DOF.

- For first time -----0.5 million Myanmar Kyat (MMK)
- For second time -----1.0 million Myanmar Kyat (MMK)
- For third time ----- withdraw the fishing licence by DOF

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 Programmes to correct adverse economic incentives

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

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

Include references to published reports, where available.

> In some nesting beaches, Department of Fisheries allows the fishermen (as volunteers) for fishing who participate in Marine Turtle

Conservation to fish nearby nesting beaches.

Paper on Overview of Interaction of Fisheries with Marine turtles and Conservation by Maung Maung Lwin (2008),

SEAFDEC-TD Training Workshop in Myanmar.

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

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

> Myanmar has very strict law enforcement for turtle conservation.

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

- Not applicable (No adverse economic incentives exist)

1.4 Reduction of incidental capture and mortality

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

Tick 'YES' to indicate that a fishery is present and interacting marine turtles or 'NO' to indicate that a fishery is not present or is not interacting with marine turtles. **[INF]**

If a fishery is present, use the text box to indicate, for example, the approximate geographic distribution of the fishery, how long it has been operating, how many vessels are involved, etc.

a) Shrimp trawls:

Yes (Please provide details)

> Other 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.

Year

2005-2006 798 nos.

2006-2007 727 nos.

2007-2008 770 nos.

2008-2009 803 nos.

2009-2010 914 nos.

2010-2011 966 nos.

2011-2012 1100 nos.

2012-2013 1125 nos.

2013-2014 1144 nos.

2014-2015 1167 nos.

2015-2016 1240 nos.

2016-2017 1299 nos.

(Source: DOF Fishery Statistic of Myanmar 2017)

b) Set gill nets:

No (Please provide details)

> Set gill nets are just using in freshwater. But not in marine.

c) Anchored Fish Aggregating Devices (FADs):

No (Please provide details)

> FADs are not using in Myanmar.

d) Purse seine (with or without FADs):

Yes (Please provide details)

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

Year

2005-2006 106 nos.

2006-2007 122 nos.

2007-2008 152 nos.

2008-2009 159 nos.

2009-2010 165 nos.

2010-2011 168 nos.

2011-2012 273 nos.

2012-2013 278 nos.

2013-2014 287 nos.

2014-2015 283 nos.

2015-2016 284 nos.

2016-2017 310 nos.

(Source: DOF Fishery Statistic of Myanmar 2017)

e) Longline (shallow or deepset):

Yes (Please provide details)

> Long line

2007-2008 1 nos.)

2008-2009 2 (nos.)

2009-2010 3 (nos.)

2010-2011 7 (nos.)
2011-2012 23 (nos.)
2012-2013 38 (nos.)
2013-2014 31 (nos.)
2014-2015 27 (nos.)
2015-2016 34 (nos.)
2016-2017 28 (nos.)
(Source: DOF Fisheries Statistic of Myanmar 2017)

f) Driftnet:

Yes (Please provide details)

> Year

2005-2006 379 nos.
2006-2007 363 nos.
2007-2008 770 nos.
2008-2009 672 nos.
2009-2010 856 nos.
2010-2011 885 nos.
2011-2012 807 nos.
2012-2013 836 nos.
2013-2014 788 nos.
2014-2015 900 nos.
2015-2016 994 nos.
2016-2017 951 nos. (Source: DOF Fishery Statistic of Myanmar 2017)

g) Others (Please provide details)

> Trap

Year

2005-2006 48 (nos.)
2006-2007 162(nos.)
2007-2008 151(nos.)
2008-2009 101 (nos.)
2009-2010 104 (nos.)
2010-2011 101 (nos.)
2011-2012 93 (nos.)
2012-2013 91 (nos.)
2013-2014 139 (nos.)
2014-2015 136 (nos.)
2015-2016 127 (nos.)
2016-2017 119 (nos.)
(Source: DOF Fishery Statistic of Myanmar 2017)

> Stick-head falling net

Year

2007-2008 19 nos.)
2008-2009 21 (nos.)
2009-2010 35 (nos.)
2010-2011 29 (nos.)
2011-2012 302 (nos.)
2012-2013 356 (nos.)
2013-2014 347 (nos.)
2014-2015 327 (nos.)
2015-2016 351 (nos.)
2016-2017 382 (nos.)
(Source: DOF Fishery Statistic of Myanmar 2017)

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

a) Shrimp trawls

Please select only one per line

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

- Source of information / clarification

> DoF, Myanmar (based on information from local people) and fishers

b) Set gill nets

Please select only one per line

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

- Source of information / clarification

> DoF, Myanmar (based on information from local people) and fishers

c) Anchored Fish Aggregating Devices (FADs)

Please select only one per line

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

- Source of information / clarification

> Gear type is not used in Myanmar

d) Purse seine (with or without FADs)

Please select only one per line

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

- Source of information / clarification

> DoF, Myanmar (based on information from local people) and fishers

e) Longline (shallow or deepset)

Please select only one per line

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

- Source of information / clarification

> information is gap

f) Driftnet

Please select only one per line

	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E	RELATIVELY HIGH

Fishing effort:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Perceived impact:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Source of information / clarification

> DoF, Myanmar (based on information from local people) and fishers.

g) Others (from 1.4.1 g))

Please select only one per line

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

- Source of information / clarification

> DoF, Myanmar (based on information from local people) and fishers(Trap)

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 comply 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 (Details/future plans)

> 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)

NO (Details/future plans)

> 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

NO (Details/future plans)

> 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

NO (Details/future plans)

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

YES (Details/future plans)

> (FADs are not being used in Myanmar.)

f) **Net retention and recycling schemes**

YES (Details/future plans)

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

And some fishermen sell to China.

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

YES (Details/future plans)

> 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: 10 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. No Shark Fishing Zone is already established in Tanintharyi region

4. Mesh size of trawl nets for shrimp and fish must be larger than 2 inches. 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

NO (Details/future plans)

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

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

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

a) Onboard observer programmes

X

YES (Details/future plans)

> 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.

b) Vessel monitoring systems

NOT APPLICABLE (Details/future plans)

> DoF is trying to use VMS for off shore fishing vessels but under discussion stage.

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

YES (Details/future plans)

> Inspections are conducted by DOF 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, etc). These also ensure the use of port facilities for the disposal of ship-borne waste.)But not in offshore.

d) Training programmes / workshops to educate fishers

YES (Details/future plans)

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

e) Informative videos, brochures, printed guidelines etc.

YES (Details/future plans)

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

- Other OR none of the above

Other (list and explain):

> TV Programs, talks on conservation and management

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

YES (Please give details)

> 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 at Township/ District / State and Region level in coastal areas. DoF and SEAFDEC/Training Department conducted training courses on TEDs for fishermen and researchers in Myanmar waters. DoF distributed the questionnaires to the fishers through Township/District/State and Regional DoF officers.

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

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

> 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 Addressing harvest of, and trade in, marine turtles; and protecting of habitat

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

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

YES

> 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? [INF]

Please rate the relative prevalence / importance of each consumptive or non-consumptive use. Use the text boxes below each rating to explain or clarify your responses.

a1) Meat consumption

YES

a2) Meat consumption: relative prevalence/importance

LOW

> In remote areas

b1) Egg consumption

YES

b2) Egg consumption: relative prevalence/importance

UNKNOWN

c1) Shell products

YES

c2) Shell products: relative prevalence/importance

LOW

> Some people are making as ornamental materials

d1) Fat consumption

NO

d2) Fat consumption: relative prevalence/importance

UNKNOWN

e1) Traditional medicine

NO

> No information

e2) Traditional medicine: relative prevalence/importance

UNKNOWN

f1) Eco-tourism programmes

YES

> But very rare

f2) Eco-tourism programmes: relative prevalence/importance

HIGH

g1) Cultural / traditional significance

YES

g2) Cultural/traditional significance: relative prevalence/importance

LOW

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

[IND, TSH]

	RELATIVELY HIGH	UNKNOW N	NON E	RELATIVELY LOW	MODERAT E
Level of harvest:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Impact of harvest:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Source of information / explanation:

> 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 Thauing 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 Thaug 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 (Salone or Mong Kin)villagers traditionally believe in offering live turtles to the spirits and they eat them later during the festivals, (Mi Mi Maw, 2004) villages.

Information from the fishermen, at present race of Salone (Mong Kin) in Salone or Mong Kin Ethnic (Taninthayi Region) Shrine as their traditional

believing, head and meat of Loggerhead are using for shrine during the Salone Traditional Festival once in

April only. (In late 2010 DoF had a trip together with Non-Governmental Organization Biodiversity And Nature Conservation Association (BANCA).

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

Use the text box to give details.

YES

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

Participation of fishermen and local people are better than past decades.

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

> Not yet.

1.6 Minimizing mortality through nesting beach programmes

1.6.1 Measures and effectiveness

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

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

a1) Monitoring/protection programmes

YES

a2) Monitoring/protection programmes: relative effectiveness

GOOD

> Enforcement of laws and regulations is needed to reduce losses of eggs and hatchlings (DOF can protect these things only. And staff insufficient is difficulties.

at the area where situated Marine Turtle Conservation and Management Stations)

b1) Education/awareness programmes

YES

> Education/awareness programmes are conducting occasionally for school and fishers.

b2) Education/awareness programmes: Relative effectiveness

LOW

c1) Egg relocation/hatcheries

YES

> - In-situ

- Natural

- Hatchery

c2) Egg relocation/hatcheries: Relative effectiveness

GOOD

> Although Myanmar has many islands and sandy sea turtle banks, the Department of Fisheries is conducting marine turtle eggs hatching and hatchling release program only in Ayeyawady (Region) delta and Longlone bok Island at present, due to insufficient 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)

(c) Hatching in Styrofoam boxes

Systematic sea turtle hatching practice is being implemented at some islands in Ayeyawady Delta and Longlone Bok Island. 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.

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 Thaug beach, Ma Sein Yon beach, Nget U Thaug beach, Ashaet Phya beach, Min Ga Lar Thaug 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.

In 2005, DOF established one hatching site at Longlone Bok Island (Middle Moscos). DOF practicing the hatching techniques in-situ and man-made nest.

d1) Predator control

YES

d2) Predator control: Relative effectiveness

GOOD

> In conservation station only.

e1) Vehicle / access restrictions

NO

e2) Vehicle/access restriction: relative effectiveness

GOOD

f1) Removal of debris / clean-up

YES

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

LOW

> The people who live in the near some turtle nesting beach, they clean the debris voluntarily.

g1) Re-vegetation of frontal dunes

N/A

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

g2) Re-vegetation of frontal dunes: relative effectiveness

UNKNOWN

h1) Building location/design regulations

N/A

h2) Building location/design regulations: relative effectiveness

LOW

> DOF do not allow extension of urban development but fishermen and grass root level would like to develop because of their socio-economic life.

i1) Light pollution reduction

NO

i2) Light pollution reduction: Relative effectiveness

LOW

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

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

YES

> In 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 Measures to protect and conserve marine turtle habitats

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

> 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]**

Use the text box to elaborate on your response.

NO

> 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 well developing. 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) monitoring near turtle habitats? If yes, describe the nature of this monitoring and any remedial measures that may have been taken. **[SAP]**

YES

> In Myanmar, environmental degradation is still minimal and DoF staff has monitored water quality near turtle habitats only in Ayeyarwady Division. But not scientifically.

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.

One deep sea port is being constructed at Dawei District in Taninthayi Region. The port is only 20 miles far from Longlone Bok Marine Turtle Island.

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]**

Use the text box to elaborate on your response.

YES

> Myanmar Marine Fisheries Law (1990)

Chapter I - Title and Definition:

- Section 2 (g)- Fish mean all Aquatic organisms spending the whole of or a part of their life cycles in the water, their

spawns, larvae, fry and seeds. This expression also includes aquatic plants, their seedlings and seeds;

- Section 2 (r)- Marine Products means fishes obtained from the sea, aquatic organisms, their excreta, scales, bones, skins, plants, non-living things. This expression also includes marine turtle and eggs, crocodile and eggs, crab, ambergris, oyster shell, clam shell, mussel, coral, sea sponge, sea weed, moss, algae etcetera;

Chapter XI - Prohibition:

- Section 38- No person shall keep on board the fishing vessel, explosive substances, poisons, chemicals and such other dangerous substances not permitted for use in fishing.

- Section 39- No person shall dispose of living aquatic creatures or any material into the Myanmar Fisheries Water to cause pollution of water or to harass fishes and other marine organisms.

- No person shall search for and collect any marine products without license.

Chapter XII- Offences and Penalties;

- Section 45-Whoever is found guilty of violating any of the provisions of section 39 and 40, shall be liable to be punished with fine which may extend to kyats 10,000 or with imprisonment which may extend to 1 year or with both.

- Section 47- Whoever is found guilty of violating any of the provisions of section 38 shall be liable to be punished with fine which may extend to kyats 50,000 or with imprisonment which may extend to 3 year or with both.

Law Amending The Myanmar Marine Fisheries Law (1993)

No. 4- Section 44 to 49 of the Myanmar Marine Fisheries Law shall be substituted by the following Sections:

- Section 44- Whoever violate any provision of Section 40 shall, on conviction be punished with imprisonment for a term which may extend to 10 years or with fine which may extend to kyat 300,000 or with both.

- Section 47- Whoever violate any provision of Section 38 shall, on conviction be punished with imprisonment for a term which may extend to 10 years or with fine which may extend to kyat 500,000 or with both.

The State Law and Order Restoration Council promulgated The Protection of Wildlife and Conservation of Natural Areas Law in June, 1994

(The State Law and Order Restoration Council Law No. 6/94)

We were trying to promulgate to the Union fisheries law in line with the policies of the new government. Now we were summitting the final draft to parliament.

2.2 Rehabilitation of degraded marine turtle habitats

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

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

YES (Details/future plans)

> Fauna and Flora International (FFI) conducted the coral reef survey in Tanintharyi Region from 2013 to 2017. MOECAF and Other Agencies rehabilitating the mangroves.

Ref:
Howard, R. 2018. Marine Biodiversity of Myeik Archipelago Survey Results 2013-2017 and Conservation Recommendations

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

YES (Details/future plans)

> 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]**

NO (Details/future plans)

> 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 Studies on marine turtles and their habitats

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

> 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.

Aung, C. H. and Lwin, M. M. (2007). Tagging and Satellite Tracking Activities in Myanmar. Second Regional Technical

Consultation on Research for Stock enhancement of Sea Turtle (Japanese Trust Fund IV Programme), SEAFDEC - MFRDMD, 5-7 June 2007, Kuala Lumpur, Malaysia.

Win, A. H. and Lwin, M. M. (2012). Interaction between Fishing Activities and Marine Turtles in Myanmar. 7th International Symposium on SEASTAR-2000 and Bio-Logging Science, 8-9 March 2011, Bangkok, Thailand.

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.

Ko Myint (2007). Ecology and Nesting of Sea Turtles in Ayeyarwady Delta Region. Phd(Dissertation), Department of

Zoology, University of Yangon, Myanmar, May 2007.

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. (2006). Paper of Regional meeting on the Progress of Research for Stock Enhancement of Sea Turtles, 28-29 November 2006, Kuala Terengganu, Malaysia.

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. (2008). Status of Marine Turtle Conservation and Management in Myanmar. Fifth Meeting of the Signatory State of Indian Ocean and South-East Asia Marine Turtle Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia, 20-23 August 2008, Bali, Indonesia.

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.

Lwin, M. M. (2010). Olive Ridley turtle missing fore flippers found in Myanmar. IOSEA e-News for September 2010.

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.

Onishi, S (2009). Situation of large reptiles in the Ayeyarwady delta after the cyclone hit, Tiger Paper, Vol.

XXXVI :

No.1 January-March 2009, , Regional Quarterly Bulletin on Wildlife and National Park Management, REGIONAL OFFICE FOR ASIA AND THE PACIFIC (RAP), BANGKOK FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS.

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

Thant, S. and Lwin. M. M. (2012) Distribution of Hawksbill Turtles (*Eretmochelys imbricata*) in Longlonebok Island and its Adjacent Area in Myanmar, Proceedings of the 7th International Symposium on SEASTAR2000 and Asian Bio-logging Science (The 11th SEASTAR2000 workshop) (2012): 9-14

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.

Win Maung and Win Ko Ko (2002). Turtles and tortoises of Myanmar. Published by Wildlife Conservation Society (Myanmar Programme).

More information can be found on the websites such as SEAFDEC MFRDMD, IOSEA Marine Turtle (MoU), IOTN and SEASTAR2000, Kyoto University, Japan.

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

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

YES

> 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]**

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

YES

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

- In Coco Island and Thameehla 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 has been completed.

See in Proceeding of Third Regional Consultation On Research For Stock Enhancement of Sea Turtle (Japanese Trust Fund IV Programme, Kuala Lumpur, Malaysia (15-17 October 2008). SEAFDEC Publication, ISBN 978-983-9114-43-0, SEAFDEC-MFRDMD/RM/29. March 2009.

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

a) Tagging

YES (Details/future plans)

> 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 in Ngaputaw Township, and Turtle Islands 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.

In Myanmar, 453 green turtles; 391 olive ridley turtles; 35 hawksbill turtles; 18 loggerhead turtles (may be Olive) have been tagged until reporting period. 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 and Proceeding of Third Regional Consultation On Research For Stock Enhancement of Sea Turtle (Japanese Trust Fund IV Programme, Kuala Lumpur, Malaysia (15-17 October 2008). SEAFDEC Publication, ISBN 978-983-9114-43-0, SEAFDEC- MFRDMD/RM/29. March 2009

b) Satellite tracking

YES (Details/future plans)

> 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 and Proceeding of Third Regional Consultation On Research For Stock Enhancement of Sea Turtle (Japanese Trust Fund IV Programme, Kuala Lumpur, Malaysia (15-17 October 2008). SEAFDEC Publication, ISBN 978-983-9114-43-0, SEAFDEC- MFRDMD/RM/29. March 2009)

2nd Time PTTs was deployed on olive ridley turtle in Kadongalay Island on 17 December 2009 and at the same time the research officer from SEAFDEC-MFRDMD conducted training on Installation of PTTs. After that PTTs deployed turtle was released from Gayetgyi Island.

Inconel Tagging with Tag No. MM-0491 on Left Flipper

For satellite tracking information it was informed by MFRDMD signal of an olive ridley turtle fitted with Platform Terminal Transmitter (PTTs) was lost at ' 95° 14' 56" E 15° 22' 24"N on 26 December 2009.

Considered Possible Factors of Stopped Signal:

- Fishing Gears in Remote Areas (eg. Trawler, Gill Net, Set Stowed , etc.) - Technical Error (eg. Battery, Antenna)

- Happening in Mating Period (eg .Lost Antenna, Destroyed Antenna)

Following action should be done:

- Avoid heavy fishing pressure area and release at possible area

- Public awareness activities

- Communication ways

- Should be announced officially to fishers and the fish coastal regions before releasing -Make sure deployment of PTTs

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

> DoF has distributed questionnaires about information on 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]**

NO

> Not yet

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

NO

> Lack of Technique in this area

3.2 Collaborative research and monitoring

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

Use the text box to elaborate on your response.

> Myanmar has participated in ASEAN regional action plans: - Study on Migratory Route(Inconel Tag/PITs/ PTTs)
- Population Genetic (Tissue sampling)
- Monitoring 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 (Details/future plans)

> 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 Thameehla 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 (Details/future plans)

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

c) Migrations

YES (Details/future plans)

> 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, 453 green turtles, 391 olive ridley turtles, 35 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.

3.3 Data analysis and applied research

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

> 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

> 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 Information exchange

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

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

> Myanmar DOF is exchanging with concernmarine turtles conservation agencies. 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.

Myanmar established Technical Working Group.

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

OCCASIONALLY

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

> 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?

Please give details **[INF]**

YES

> 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 Public education and information programmes

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

Details/future plans:

> The public needs to be educated and informed about the need for conservation and protection of sea turtles. For this purpose the Ministry of Agriculture, Livestock and Irrigation 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]**

- Fishing industry
- Local/Fishing communities
- Indigenous groups
- Media
- Teachers
- Students
- Scientists
- Other (describe):

> DoF Staff and Local Authorities

Additional information

> 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.

Every year, DoF staffs from Sea Turtle Conservation, Gadon Gani and Thamee Hla Island conduct the public awareness program to the local fishermen to gain the knowledge of Sea Turtle Conservation and their habitats during the raining season.

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 Region.
- Thin pann kyun (Oyster Island), Rakhing State.
- Lampi Island, Taninthayi Region.
- Done Kyun Island, Thanintharyi Region.
- Makyunkalet Island, Tanintharyi Region.
- Kadan Island, Tanintharyi Region

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

Please give details and indicate future plans

YES

> Marine Turtle Conservation and Management Unit, Department of Fisheries.

An information centre was established at Kadonkani, Bogalay Township, Ayeyawady Region 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, Ayeyawady Region.

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

> None

4.3 Stakeholder participation

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

[BPR, IND]

> 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, NGOs, INGOs

OBJECTIVE V: ENHANCE NATIONAL, REGIONAL AND INTERNATIONAL COOPERATION

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

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

YES (If yes, please elaborate briefly)

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

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

YES (If yes, please provide details of these training programmes)

> DoF Myanmar participated in CITES CoP13 Meeting in Bangkok in 2005. The status of other international conventions, agreements and conduct related to marine environment id 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]**

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

NO

> 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 Prioritisation, development and implementation of national action plans

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

Please explain.

YES

> -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 Fund 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
- (h) Socio-economic life

5.2.2 From your country's perspective, which **conservation and management activities**, and/or which particular **sites or locations**, ought to be among the highest priorities for action?

(List up to 10 activities from the IOSEA Conservation and Management Plan). **[PRI]**

> - Regional and International Cooperation

- Educational and awareness program
- Capacity Building
- Research and monitoring
- Community Participation
- Eliminate domestic illegal trade
- Survey on socio-economic life
- 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 achieve progress. **[PRI]**

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

Please select only one per line

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

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

> 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 Cooperation and Information exchange

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

> 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 (if yes, give details)

> Technical Working Group is established temporarily. DoF should need to establish Technical Working Group permanently.

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

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

5.4 Capacity-building

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

> 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 Thaung 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 Thaung 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.

Training Course on Incubation of Sea Turtle by Styrofoam Box was conducted from 9-10 April 2009 in Kadongalay Conservation Station with the participation of 12 trainees.

IOSEA (MoU) supported and conducted the Capacity Building Training in 2012 in Yangon and Thameehla Island.

Myanmar Sea Turtle Information Meeting was conducted in American Center, Yangon Region on 7th Oct, 2016.

Myanmar Marine Turtle Working Group Meeting was conducted in Tanintharyi Region on 13th Oct, 2017 with the collaboration of FFI.

Capacity building on Sea Turtle Conservation Training was conducted in Ayeyarwaddy Region on 18th to 21st Oct, 2017 with the collaboration of FFI.

Capacity building on Sea Turtle Conservation Training was conducted in Dawei, Tanintharyi Region on 24th to 27th Oct, 2017 with the collaboration of FFI.

Myanmar Marine Turtle Working Group Meeting was conducted in Diamond Condo, Yangon Region on 13th June 2018 with the collaboration of FFI and DoF.

Training on Sea Turtle Monitoring, Research and Conservation Management was conducted in Thamee Hla Island, Ayeyarwaddy Region on 8th to 11th Nov, 2018 with the collaboration of FFI and DoF.

Training on Sea Turtle Monitoring, Research and Conservation Management was conducted in Tanintharyi Region on 12th Nov to 16th Dec, 2018 with the collaboration of FFI and DoF.

Training on Sea Turtle Monitoring, Research and Conservation Management was conducted in Tanintharyi Region on 14th to 15th Nov, 2018 with the collaboration of FFI and DoF.

Myanmar Marine Turtle Working Group Meeting was conducted in Diamond Condo, Yangon Region on 13th June 2018 with the collaboration of FFI and DoF.

Every year, DoF staffs from Sea Turtle Conservation, Gadon Kani and Thamee Hla Island conduct the public awareness program to the local fishermen to gain the knowledge of Sea Turtle Conservation and their habitats during the raining season. We also have a plan to conduct the knowledge raising awareness program continuously.

Department of Fisheries has a plan to conduct the training at least once per year.

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, WCS, FFI

5.5 Enforcement of conservation legislation

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

> 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]**

Please give details.

NO

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

Please give details.

YES

> 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 CMP

6.1 IOSEA Marine Turtle MoU membership and activities

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

> None.

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

NO

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

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

6.2 Secretariat and Advisory Committee

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

> 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 its own capability.

6.3 Resources to support implementation of the MoU

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

> 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 organizations, industry, private sector, foundations or NGOs for marine turtle conservation activities? **[IND]**

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

> Under discussion to support research equipment to FFI,

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 Coordination among government agencies

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

Please elaborate, as necessary.

YES

> 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]**

Use the text box to elaborate.

YES

> 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]**

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

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

NO (Use the text box to elaborate)

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

OTHER REMARKS

Please provide any 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.

IOSEA(MoU) should provide more capacity building programme to the DoF staff.

Research training and support should provide IOSEA and concerned organizations.

Feel free to include additional information not covered above:

> TOT training should be conducted for DOF staff.

Study tour should be considered for Policy Makers and Snior Officials.

