Viet Nam

GENERAL INFORMATION

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

Department of Capture Fisheries and Resources Protection
Directorates of Fisheries (D-FISH)
No 10 Nguyen Cong Hoan
Ba Dinh
Hanoi
Vietnam

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

Sub-Department of Capture Fisheries and Resources Protection (Provincial Authority);
Research Institute for Marine Fisheries (RIMF);
Con Dao National Park;
Nui Chua Natural Park;
Bai Tu Long National Park;
Hon Cau Marine Protected Area;
Sub-Department of Forest Protection (Provincial Authority);
WWF MekongInfor Viet Nam Country Program;
IUCN_Viet Nam;
TRAFFIC Southeast Asia-VN;
Viet Nam Fisheries Association.

Designated Focal Point:

Official confirmation:

BACH Van Hanh, Mr.
Officer,
Department of Science, Technology and International Cooperation
Directorate of Fisheries (D-FISH)
No 10 Nguyen Cong Hoan
Ba Dinh
Hanoi
Vietnam
Email: hanhbv.tcts@mard.gov.vn/ bvhanh@gmail.com
Tel: +84.437 246 412/ 984 556 559. Fax: +84.437 245 374

Memorandum signed: 24 July 2001

Effective Date: 1 October 2001

This report was last updated: 19 July 2014

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

1.1 Introduction to marine turtle populations and habitats, challenges and conservation efforts. [INF]

Vietnam is a marine country with a coastline of about 3260 km long and a numerous of inshore and offshore islands. In addition, there are many beautiful coral reefs, seagrass beds and sandy beaches located along its coast from North to South, provided ideally habitats for marine turtles.

There are five species of marine turtles found in Viet Nam, including Loggerhead (Caretta caretta), Olive Ridley (Lepidochelys olivacea), Leatherback (Dermochelys coriacea), Green (Chelonia mydas) and Hawksbill turtles (Eretmochelys imbricata). These five species of marine turtles are all on the Vietnamese Red Book (2007), IUCN Red List of Threatened Animals (2011.1) and are listed on Appendix I of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora).

++ Green turtle: Green turtle is the most common nesting species in Vietnam. It is reported that the annual number of this species was estimated of approximately 1,000 individual per year in 1960s but dropped down to about 270 individuals in 2002. In the period of 2005-2010, the estimated number of female green turtle nesting on Vietnam rookies was stable at about 300 individuals per year.

++ Hawksbill turtle: This species is relatively common in Viet Nam in the past. However, under the pressure of harvesting both breeding females at nesting sites and forging adults at feeding grounds are reduced in number over years. It is estimated that there are only one or two females now are still nesting at offshore and untouched beaches within Bai Tu Long bay, while nesting population in Con Dao is completely depleted.

++ Leatherback turtle: The number of leatherback nesting on the beaches is reduced dramatically, from about 500 individuals/year in 1960s but drop down to about 10 females/year in 2002. Recently, only one beach in Trieu Lang commune (Quang Tri province) has the signs of nesting leatherback in 2005 and 2007 but no clutches data were recorded.

++ Olive Ridley turtle: Olive Ridley turtle were one of the most common species of marine turtle in Vietnam few decades ago. Nevertheless, after a long period of overexploitation, until 2003 the number of breeding population was fallen to less than 40 individuals per season. The main reason for this phenomenon is the development of tourism industry in the coastal areas.

In order to reserve situation and protect the remained marine turtle populations and their habitats in Vietnam, Vietnam had issued the "Marine turtle conservation action plan for Vietnam until 2010" in 2004. The main objectives of this Action Plan are:

1. to reduce direct and indirect causes of marine turtle mortality;
2. to manage marine turtle nesting areas;
3. to protect, conserve and rehabilitate marine turtle habitats;
4. to research and monitoring;
5. to increase public awareness and education; and
6. to enhance national, regional and international cooperation.

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

1. Local community involvement

From 2006 to 2010, three nesting locations have been controlled the beaches during the nesting season. These activities were organised by IUCN Vietnam (funded by US Fishes and Wildlife Services) and conducted by the local volunteers. IUCN Vietnam also conducted local community awareness training programs regarding the value of conservation of marine turtles (Cuong 2009, 2010, Cuong and The 2011). Efforts are being made to improve awareness, as well as the techniques to monitor and protect nesting females on local beaches. Nesting beaches monitoring program in Quang Ninh, Quang Tri and Binh Dinh province has had great involvement of the local community and governmental agencies through frequent educational and awareness meetings. After series of training course, all nesting beaches in the three provinces have been patrolled weekly by local people. As a result, in the recently seasons, none of the nests were collected in these areas.

2. Education and environmental awareness

The project named "Supporting the implementation of marine turtle protection action plan in Vietnam" was conducted by IUCN Vietnam with the supports of US Fish and Wildlife Services (USA). The main goal was to develop awareness among local communities on ecological aspects and to develop a structure within the community to preserve and make a sustainable use of the natural resources, and therefore keeping their interests and actively participating in the management of these resources. Another objective was to turn the guards into a communication channel between the local communities and the conservation authorities. One of the activities of the Project is to capacitate the local communities and wildlife guards as well as society in regards to the conservation and management of marine turtles. Between December 2005 and August 2010, about 20 courses were given in Quang Ninh, Quang Tri, Quang Ngai, Binh Dinh and Phu Yen provinces. These courses included information regarding species identification, biological and ecological aspects of each species, main threats, management and conservation measures, as well as common methods for tagging and nest monitoring (Cuong 2009, 2010, Cuong and The 2011).
Beside, some other conferences and training courses in the field of trading marine turtle productions and by catch fishing have been organised by TRAFFIC (in Ha Noi) and WWF (in Nha Trang, Binh Dinh and Phu Yen provinces), attracted the participation of offshore fishing boat managers and fishermen (WWF 2008).

3. Marine protection areas

Marine Protected Areas (MPAs) is now an accepted way of protecting coastal ecosystems and providing good foraging and mating habitats for marine animals, especially sea turtles, and may be keeping them safe from the threats of fishing. On 26 May 2010, the Prime Minister issued the Decision No. 742/QD-TTg approving the Vietnam marine protected areas network to 2020, in which 16 marine protected areas will be established in the period 2010-2015 and the planning and expansion will be implemented in the period 2016-2020. At present, sixes marine protected areas have been established, namely: Bach Long Vi (Hai Phong province), Nha Trang Bay (Khanh Hoa province), Cu Lao Cham (Quang Nam province), Phu Quoc (Kien Giang province), Con Co (Quang Tri Province) and Hon Cau (Binh Thuan province). In addition, some national parks also implement marine conservation such as Nui Chua National Park (Ninh Thuan province), Con Dao (Ba Ria - Vung Tau province), Bai Tu Long (Quang Ninh province), Cat Ba (Hai Phong city). All of these MPAs or proposed MPAs are playing important role in sea turtles conservation in Vietnam, both foraging and breeding populations. The key MPAs for sea turtle breeding populations are Con Dao National Park, Bai Tu Long National Park, Nui Chua National Park, Hon Cau and Nha Trang MPA; and for foraging populations are: Bach Long Vy (Hai Phong), Phu Quy (Binh Thuan), Phu Quoc (Kien Giang) and Nam Yet (Khanh Hoa).

* Con Dao National Park:

Con Dao National Park is a natural reserve area on Con Dao Islands, in Ba Ria-Vung Tau Province in coastal southeastern Vietnam. The park includes a part of the island and the surrounding sea. The national park is characterized by a diverse ecosystem. Many species of corals and especially the marine turtle are found here. This is the biggest rookery for Green turtle nesting population in Vietnam. Every year, about 300 individuals of Green turtles nest in 14 beaches. All nesting beaches here are strictly protected and regularly patrolled by the rangers from National Park in nesting season.

*Nui Chua National Park:

Nui Chua National Park is a national park in the province of Ninh Thuan Province, on the border with Khanh Hoa Province, Southern Central Vietnam. Nui Chua National Park is a very special and unique area and is one of the priority areas for nature conservation in Vietnam. It is one of the few remaining sites in Southeast Asia where the coastal and marine habitats are still in relatively good condition. It contains unique semi-arid vegetation, coral reefs and sea turtle nesting beaches. About 10 females nest on 3 beaches in Nui Chua annually and all of them is protected by national part staffs.

*Bai Tu Long National Park:

Bai Tu Long National Park is a protected area zone in Quang Ninh province, Northeastern Vietnam. It was established in 2001, succeeding from the former Ba Mun National Conservation Zone. It is one of seven Vietnamese amphibian national parks which have both terrestrial zone and aquatic zone. At the moment, the number of nesting marine turtle here is very few, but most of the nesting beaches are still protected by national park authorities.

*Nha Trang Marine Protect Area:

Nha Trang Bay Marine Protected Area (MPA) in Khanh Hoa province is the first comprehensively developed and managed MPA in Vietnam. This MPA has internationally important coral reefs with the highest coral biodiversity recorded in Vietnam. Despite the pressure from economic development, Nha Trang Bay retains some of the very few intact coral reefs in Vietnam. Although the number of Green turtle nesting in some offshore islands of Nha Trang Bay is few, they are very important and highly protected.

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]

- Collaboraton with NGO, international, regional institution run the training/workshop for fisheries staff and other concern in regarding to the Interactions between Sea Turtles and Fisheries within an Ecosystem Approach to get better Fisheries Management;
- Identification of the relative importance of fishery related mortality of sea turtles as compared to other natural and man-induced sources of mortality;
- Survey of the conservation status of the sea turtle stocks;
- Collection of the provincial situation of sea turtle by-catch in coastal and offshore fisheries;
- Fisheries management actions and tools to reduce sea turtle mortality;
- Gather of sea turtle population data, including distribution, main sources of man-made and natural mortality;
- Estimating the relative importance of fishery-related mortality through annual provincial report;
- Identifying data gaps and providing guidance on existing programes to improve the information and knowledge;
- Creation of chances shifting to aquaculture and alternative operation;
- Promoting ecotourism at selected sites;
- Making the artificial reef at some priority areas;
- Modification and installation of selective fishing gears without impacting to sea turtles;
- Setting up Monitoring, Surveillance and Control (MSC) Centres in relation to indicators of the marine environment at national level.

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

- ☐ High prices earned from turtle products relative to other commodities
- ☐ Lack of affordable alternatives to turtle products
- ☐ Ease of access to the turtle resource (eg. by virtue of proximity or ease of land/water access)
- ☐ Low cost of land near nesting beaches
- ☐ Low penalties against illegal harvesting
- ☐ Other1: Incentives to continue fishing that may be harmful to turtles
- ☐ Other2: Incentives to conduct illegal trade in sea turtle products
- ☐ Other3:
- ■ None of the above or Not Applicable

++ Shrimp aquaculture on sandy beaches:

The most important and obvious threat to the nesting habitats of marine turtles in this area is the shrimp farming on beaches. This aquaculture method has been introduced in the central provinces since years of 1990s and seemed to be very effective in few first years. As a result, it has been recommended by government organisations and expanded from small and experimental scale to industrial scale. Shrimp ponds could be found in almost all beaches, from extensive farming in family scale to well projected, intensive farming in industrial scale. The most abundance is in Quang Tri, Quang Ngai and Binh Dinh respectively. The impacts of this aquaculture technique to environment and biodiversity have been proved by many researches, such as changing the underground water system (fresh underground water should be taken locally to reduce the salinity of shrimp ponds), waste water (which contains many chemical elements, anti-biotic, organic substances etc.) discharge directly to the sea etc. Besides, these ponds are located on hightide area, where is also the nesting place of marine turtles. The development of shrimp ponds, therefore, affects the breeding populations of marine

turtle in the central provinces of Vietnam.

++ Marine pollution and marine debris:

The number of fishing boats in Vietnam has increased significantly in the last two decades. Associated with this increase, there has been an increased marine pollution such as oil/fuel residue, rubbish (including plastics, discarded net and other materials). Among them, marine rubbish is the strongest negatively affected marine turtle populations through ingestion, entanglement, injury, obstruction or by degrading the foraging or nesting habitats. Marine pollution does not only impact sea turtles but also threatens the health of other ecosystems such as coral reef and seagrass bed. Beside, coral reefs have long suffered from explosive and cyanide fishing and seagrass habitat have experienced decades of clearing, harvesting, sedimentation etc. However, the data and information of those issues is limited and insufficient.

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

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

Low interest rate loan for shifting to aquaculture and Alternative Income Generation

SEAFDEC gift and souvenir for promoting

Funding and human resources as well as sea turtle projects have being donated by the Viet Nam government (MoFI)

NGO, DANIDA, etc have provided funding and technical support

Regional collaborative exchange programs, such as study-tours, training, symposium and twinning workshops in regards to sea turtles

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

a) Shrimp trawls: ■ YES ☐ NO

Shrimp trawlers are small in size and most of fishing boats use main engine of less than 90HP. This fishing fleet normally operate in shallow water, from 20 to 60m depth, at distances from 15-60 nautical miles offshore.

The fishing seasons: (1) The Northeast monsoon season from October to March of next year; and (2) the Southwest monsoon season from April to September. The total catch from the Northeast monsoon season is higher compared to the Southwest monsoon season.

*Fish trawl:

High towing speed is required to operate this gear type effectively, so medium to large size vessels typically use this gear. Single trawlers are often not able to maintain a constantly high towing speed, causing low catches, so many fishers have changed to a pair trawling pattern. Fish trawls commonly have a head rope length of 30 to 36m, an overall length of 40 to 70m, and a stretched mesh at codend from 18 to 30mm.

b) Set gill nets: ■ YES ☐ NO

Set gill nets have been operating all year (In shore and off shore) with short fishing trip (daily to weekly period). The catch is dominated by pelagic and bottom fish. According to a survey in Khanh Hoa Province in 2006, there were 675 gill nets operating in that area. The horse power ranges from less than 20hp to 400 hp.

Boats of small size and engine power less than 90HP normally operate in shallow water, from 20 to 60 meter depth, at

distances from 15-60 nautical miles offshore.

Gillnets can not simply change gear, more complicated. Options to reduce incidental capture and mortality include:
a. raise more awareness and support for reducing sea turtle mortality;
b. gain support from gillnet fishermen for releasing sea turtles and/or rescue techniques;
c. identify management options (report in 2009) that looks at feasibility of seasonal, temporal or other measures such as "smart fishing" methods.

Fishing seasons follow two monsoons:
- The Northeast (from October till January) and
- The Southwest (February till September).

Based upon the given information, the total fisheries catches capture during the Northeast Monsoon is higher than the Southwest, but the incidentally-caught sea turtles are less during the Northeast Monsoon season.

For the tuna fisheries, the main fishing season is from December to June; big boats may operate all around the year. Normally, from December to Tet (in February), two fishing trips are done around Truong Sa (100 deg -130N deg) and from Holiday "Tet" to June, another 5-6 trips are conducted (from Tet to April: beyond 140 deg N, April to June or later: 70 deg - 100 deg N).

c) Anchored Fish Aggregating Devices (FADs):

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

Purse seine have been operating half year with short fishing trip (daily to weekly period). The catch is dominated by pelagic and bottom fish. According to a survey in Khanh Hoa Province in 2006, there were 1,395 purse seines operating in that area. The horse power ranges from less than 20 HP to 400 HP.

Boats of small size and engine power less than 90HP normally operate in shallow water, from 20 to 60 meter depth, at distances from 15-60 nautical miles offshore.

Fishing seasons follow two monsoons:
- The Northeast (from October till January) and
- The Southwest (February till September).

Based upon the given information, the total fisheries catches capture during the Northeast Monsoon is higher than the Southwest, but the incidentally-caught sea turtles are less during the Northeast Monsoon season.

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

For the tuna fisheries, the main fishing season is from December to June; big boats may operate all around the year. Normally, from December to Tet (in February), two fishing trips are done around Truong Sa (100 deg -130N deg) and from Holiday "Tet" to June, another 5-6 trips are conducted (from Tet to April: beyond 140 deg N, April to June or later: 70 deg - 100 deg N).

f) Driftnet: ■ YES ☐ NO

Coastal driftnets. In the last few years, the number of boats over 90HP has increased very quickly in all three provinces, especially drift net and long-line boats for targeting oceanic tuna. The fishing grounds for this boats are offshore areas, deeper than 60m and more than 70 nautical miles offshore, around the Paracel and Spratly archipelagos, offshore waters of the central provinces (from Da Nang to Binh Thuan) and southern waters of Southeast China Sea.

Fishing seasons follow two monsoons:

- The Northeast (from October till January) and
- The Southwest (February till September).

Based upon the given information, the total fisheries catches capture during the Northeast Monsoon is higher than the Southwest, but the incidentally-caught sea turtles are less during the Northeast Monsoon season.

g) Other1:

h) Other2:

☐ **None of the above**

1.4.2 Please indicate the relative level of fishing effort and perceived impact of each of the above fisheries on marine turtles (e.g. in terms of by-catch). [TSH]

a) Shrimp trawls

Fishing effort:

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

Perceived Impact:

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

Source: Information is based on the phase one report of the project entitled "Improving the Knowledge Base and Identifying Management Options for the Reduction of Sea Turtle Interactions in Vietnamese Fisheries" which conducted by the Government of Vietnam and WWF Vietnam.

It is reported from Phu Yen Province that both single and pair trawls caught sea turtles, even though there is no official data about this issue.

According to the survey in three provinces: Khanh Hoa Province, Phu Yen Province, and Binh Dinh Porvince, the average number of incidental catch of sea turtles by trawls (25 boats) per year was 12.5 turtles. Weight varied from 2 to 65 kg. Green, hawksbill, leatherback, and unknown were species trapped by trawls.

b) Set gill nets

Fishing effort:

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

Perceived Impact:

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

Source: Information is based on the phase one report of the project entitled "Improving the Knowledge Base and Identifying Management Options for the Reduction of Sea Turtle Interactions in Vietnamese Fisheries" which conducted by the Government of Vietnam and WWF Vietnam.

85% of turtles caught in gillnets were alive, when surfaced, and only 15% were dead. On average, each year, 5 to 10 turtles were entangled by individual gill net boats (operated 10 months/year).

According to the survey in three provinces: Khanh Hoa Province, Phu Yen Province, and Binh Dinh Porvince, the average

number of incidental catch of sea turtles by gillnets (16 boats) per year was 9.6 turtles. Weight varied from 3 to 40 kg. Green and hawksbill were species entangled by gillnets.

The information provides a good foundation for developing a management options paper; however, more community interviews and province-level data collection needs to be collected.

c) Anchored Fish Aggregating Devices (FADs)

Fishing effort:

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

Perceived Impact:

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

Source:

d) Purse seine (with or without FADs)

Fishing effort:

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

Perceived Impact:

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

Source: Information is based on the phase one report of the project entitled "Improving the Knowledge Base and Identifying Management Options for the Reduction of Sea Turtle Interactions in Vietnamese Fisheries" which conducted by the Government of Vietnam and WWF Vietnam.

According to the survey in three provinces: Khanh Hoa Province, Phu Yen Province, and Binh Dinh Porvince, 16 purse seine boats were survey. However, there was no reliable data on incidental catch.

e) Longline (shallow or deepset)

Fishing effort:

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

Perceived Impact:

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

Source: Information is based on the phase one report of the project entitled "Improving the Knowledge Base and Identifying Management Options for the Reduction of Sea Turtle Interactions in Vietnamese Fisheries" which conducted by the Government of Vietnam and WWF Vietnam.

The proportion of turtles caught by long-lines is likely higher than by gill net. On average, each year, 10-15 turtles were caught by lines (line operated 4 months/years).

The information obtained provides a good understanding of hotspot fisheries and/or provinces, as a foundation for a future Observer Program.

f) Driftnet

Fishing effort:

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

Perceived Impact:

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

Source:

g) Other1 (from 1.4.1):

Fishing effort:

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

Perceived Impact:

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

Source:

h) Other2 (from 1.4.1):

Fishing effort:

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

Perceived Impact:

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

Source:

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

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

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

The use of simple de-hooking and line-cutting devices on long-line boats could significantly reduce sea turtle by-catch inside the hotspot region. However, further training, expansion of awareness materials and distribution of hardware is required.

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

There is currently considering requirement for the use of TEDs in Vietnamese trawled fisheries.

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

☐ YES ☐ NO ☐ NOT APPLICABLE

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

- Intend converting J-hook into circle hook
- Control the mesh-size net and net length
- Enhance the force of fisheries law and other national regulation

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

☐ YES ☐ NO ☐ NOT APPLICABLE

f) **Net retention and recycling schemes**

☐ YES ☐ NO ☐ NOT APPLICABLE

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

Spatial and temporal control of fishing are stepping but still low and weak enforcement. However, seasonal closures of fishing activities are applied especially at MPA and NP boundaries.

h) **Effort management control**

☐ YES ☐ NO ■ **NOT APPLICABLE**

* Protection of Critical habitats
-----Nesting sites (Marine Protected Area/network of MPAs)
-----Inter-nesting areas (MPA, regulations of coastal fisheries, sea transportations closed to the nesting beaches)
-----Foraging sites (MPA, fisheries regulations)
* Ban of commercial trades through effective enforcement systems (protected species Act) as well as reduction of turtle consumptions (behavioral change)
* Mitigate by-catch at Sea (coastal and off-shores) - fisheries regulations
-----Field research and observer program
-----On-board release handlings
-----Gear adjustment/modification
-----Temporal closure - -
-----Cross country/regional/internal collaborations (relevant fisheries management measures)

☐ Other (list and explain):

☐ None of the above

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

Onboard observer programmes

☐ YES ■ **NO** ☐ NOT APPLICABLE

There is strong potential for developing near future Observer Program and future experimental trials of gear replacement (i.e. circle hooks) in the priority provinces, in terms of national, provincial and community support and willingness to become involved.

Phase two of "Improving the Knowledge Base and Identifying Management Options for the Reduction of Sea Turtle Interactions in Vietnamese Fisheries" project will focus of the implementation of a first-of-its-kind Observer Program in the long-line fleet, in order to ground-truth data, determine baseline on catch rates for target fish and for by-catch, as well as socio-economic parameters (2008-2009).

Plan
1. Design Observer Program with fishing community and govt. authorities
2. Consider first deploying ?€?pilot?€ program of smaller size and scope
3. Implement comprehensive training before full Observer Program
4. Implement the full Observer Program in high fishing season of 2008-2009

Vessel monitoring systems

■ **YES** ☐ NO ☐ NOT APPLICABLE

Recently we have VMS for offshore fishing vessels but not for marine turtles observation in particular.

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

There are three port facilities for the disposal of ship-borne waste at Quang Ninh, Hai Phong and Ho Chi Minh City. However, waste has been re-used by some private companies nearby to make new kinds of steel for re-producing house skeletons and other useful materials.

Training programmes / workshops to educate fishers

■ **YES** ☐ NO ☐ NOT APPLICABLE

Successful outcomes from the workshops were the close collaboration of fishing representatives from local authorities and fishermen to work with relevant partnerships in looking at feasible ways to reduce sea turtle by-catch, under a comprehensive framework that includes solid baseline, data collection and next Observer Program.

Informative videos, brochures, printed guidelines etc.

■ **YES** ☐ NO ☐ NOT APPLICABLE

- Wildlife conservation program at national TV, including sea turtles as well
- Circulation and propagation the booklet, leaflet, posters, brochures
- Public education at some selection of coastal provinces
- Locally community participation on sea turtle in preservation campaign
- Enforced illegal activities by marine inspectors, police and navy forces

Other (list and explain):

■ **YES** ☐ NO ☐ NOT APPLICABLE

Step limitation of fisheries operations at shallow waterbodies
Development of marine fishery exploitation programs in offshore waters
Program on the rehabilitation of East-Sea environmental degradation
Establishment of National Marine Protected Areas System and Wetland Network
An integrated program to preserve mangroves, seagrasses and coral ecosystems in terms of ICM approaches.
Developement of net retention and recycling schemes although information is unknown or unavailable.

☐ **None of the above**

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

☐ YES ☐ NO ☐ UNSURE

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]

In order to better ensure the protection of sea turtles, the Government of Vietnam and WWF Vietnam have launched a two-stage project entitled "Improving the Knowledge Base and Identifying Management Options for the Reduction of Sea Turtle Interactions in Vietnamese Fisheries", with support from the US-NOAA and WWF International.

The project is generally divided into two phases:
- Phase one is reported on herein and focuses on the identification of geographic "hotspot" and relative impacts of different gear types and source provinces with respect to sea turtle mortality inside Vietnamese waters (2006-2007).
- Phase two will focus of the implementation of a first-of-its-kind Observer Program in the long-line fleet, in order to ground-truth data, determine baseline on catch rates for target fish and for by-catch, as well as socio-economic parameters (2008-2009).

Project Objectives:
1. Improve the overall knowledge base regarding the occurrence of fisheries-turtle interactions in Vietnamese waters:
a. identify geographic hotspots for incidental by-catch
b. identify relative impacts of different fleets and gears
2. Enhance understanding and awareness about interactions between sea turtles and fisheries
3. Based on preliminary survey results and analysis design and implement an Observer Program for long-line fisheries (ongoing).
4. Depending on Observer program results, identify next steps, including experimental design of circle hook trials
5. Support capacity building of key government and fisheries industry members
6. Improve communication and coordination between local communities and government
7. Provide training and extension support for progressive management of by-catch

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

■ **YES** ☐ NO ☐ UNSURE

Information exchange and collaboration with the Ministry of Agriculture and Rural Development (MARD) in sea turtle research, conservation and management
Information exchange and collaboration with SEAFDEC, IUCN, WWF Traffic, NOAA and others.

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]

- Fisheries related mortality of marine turtles in Vietnam has been identified as a significant problem, which requires immediate management intervention, and is specifically identified in the national Marine Turtle Action Plan. Moreover, the overall goal of implementing bycatch reduction measures such as bycatch observer programs is a related objective to reducing marine turtle mortalities at sea and improving sustainability. This project is directly aligned with priority activities of the Government of Vietnam's Sea Turtle Action Plan.
- Reduction of number of trawled fishing boat at coastal and shallow water.
- Due to characterise with the multi-species and small-scale fisheries, Viet Nam is considering and on-going to make the final decision in terms of large- scale driftnets, such as length (distance end to end net) is not over 2,500m with the suitable size.
- There is currently considering requirement for the use of TEDs in Vietnamese trawled fisheries.

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

■ **YES** ☐ NO ☐ UNSURE

The following legal documents issued by the Government of Vietnam have been used relating to fisheries resources protection and development (including sea turtles):

The Vietnam Law of Fisheries had been signed by H.E President of S.R. Viet Nam at the 10th December, 2003 mentioned that:
Chapter II: Protection and development of fisheries resources
Article 7: Habitat protection

1. Organizations and individuals shall be responsible for the protection of aquatic habitat.
2. Organizations and individuals conducting fisheries activities and other activities that directly affect the aquatic habitat, migration, spawning of fish species shall comply with provisions as set out by this Law and other legislation dealing with environmental protection, water resources and other relevant legislation.
3. Organizations and individuals while setting up, altering or destroying the constructions related to aquatic habitat, migration, spawning of fisheries resources shall conduct environment impact assessment as set out by legislation dealing with environmental protection.
4. Organizations and individuals while fishing by setting barriers, set nets in rivers, lakes, lagoons shall have to spend a corridor areas for the movement of fisheries resources as regulated by local People's Committees.

Article 8: Conservation, protection, rehabilitation and development of fisheries resources

1. The State shall issue policies regarding the conservation and protection of fisheries resources, particularly of the endangered, rare and precious ones and ones that have economic value and scientific importance; shall encourage the scientific research for suitable measures to develop fisheries resources; shall invest in production of fish fry for releasing into their natural habitat and shall create artificial residence places in order to rehabilitate and develop fisheries resources.
2. Organizations and individuals shall be responsible for conservation, protection, rehabilitation and development of fisheries resources as set out by this Law and other relevant legislation.
3. Ministry of Fisheries shall periodically proclaim the followings:

a.The list of aquatic species which are named in the Red Book of Vietnam and other species prohibited to be fished; the list of aquatic species which are prohibited to be fished in time-limited manner and the closed time as well.
b. Fishing methods, types of fishery and fishing gear which are prohibited to be used or are restricted to be used;
c. Minimum size and type of aquatic species that are allowed to be fished and fishing seasons

* Ordinance dated 25th April 1989 on protection and development of fisheries resources, which stipulated that: * "Prohibit any actions causing harmful affects on resources, habitats of aquatic living resources" (Chapter I, Article 5).
* "Exploitation and commerce of living aquatic resources of high economic value being rare, threatened or endangered should be banned" (Chapter II, Article 12).
- Enactment No 195 - HDBT (Council of Ministers) dated 2nd June 1990 guiding on execution of the Ordinance dated 25th April 1989.

* Decision No 130-CP dated 20th April 1991 on establishment of the Fisheries Protection Department under Ministry of Fisheries.

* National Law on Environment Protection issued in 1993.

* Provisions No 45/TTg dated 20th August 1994 of Prime Minister promulgating the status on the organization and activities of State Inspectors in the field of protection of fisheries resources.

The Ministry of Fisheries of Vietnam has also issued other relating documents, namely:
* Circular No 04-TS/TT dated 4th August 1990 guiding execution of ordinance on protection and development of fisheries resources.

* Circular No 04-TS/TT dated 21st November 1994 guiding the execution of enactment No 85-CP on administrative punishment in fisheries resources protection.

* Decision 682 TS/QD dated 11th September 1993 enacting the provisions on marine resources exploitation and management in key fishing grounds.

* The ordinance dated 25th April 1989 stipulates that "The Government of Vietnam welcomes and ready to cooperate closely with any regional and international organizations in protecting, conserving fisheries resources, their habitats and other shared aquatic living resources".

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

USES / VALUES	**RELATIVE PREVALENCE / IMPORTANCE**
Meat consumption	
■ **YES** ☐ NO	☐ HIGH ☐ MODERATE ■ **LOW** ☐ UNKNOWN
Illegal trade of turtle meats and shells	
Egg consumption	
■ **YES** ☐ NO	☐ HIGH ☐ MODERATE ☐ LOW ☐ UNKNOWN
Illegal commercial and subsistent egg collections	
Shell products	

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

Illegal trade of turtle meats and shells

Fat consumption

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

Traditional medicine

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

Eco-tourism programmes

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

Cultural / traditional significance

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

Other

Some people think that the fresh blood of sea turtles has a role as a doping source for sportsmen and cancer treatment.

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

Level of harvest:

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

Impact of harvest:

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

Source of information:

Newspaper, newsletter, network of friend inform-friend calls
Training, workshop interview and group discussion
Researched results of involving sectors and institutions
Field survey and logbook collections
Traffic_Indochina, WWF, IUCN reports
Circulated questionnaires and feedback answers
Local Fishery Department submissions and information
Observation at local sites and markets
Annually national reports

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

■ **YES** ☐ NO ☐ UNKNOWN

- WWF-Greater Mekong, Vietnam Country Programme is implementing the project "Improving the knowledge base and identifying management options for the reduction of sea turtle interaction in Vietnamese gillnet, longliner-net fisheries.
- An Observer Program for long-line fisheries in the three provinces (Phu Yen, Binh Dinh, Khanh Hoa_ central part of VN) will be launched, by August or September 2007. The program consist of 5-10 boats for each of those three provinces, over a temporal period for data collection of at least one month/boat. The majority of these boats will be those targeting tuna-sword fishes primarily.
- Sea Turtle rescue project at Con Dao National Park and Nui Chua Natural Reserved Area
- MFRDMD/SEAFDEC and ASEAN on Sea Turtle collaborative program, focused on mtDNA sampling and analysis, inconel tagging, PTT satellite tracking.
- National Action Plan on Sea turtle Research, Management and Conservation beyond 2010:

There seem some good signals in terms of the number of turtle increasing in Vietnamese seawaters, especially after earthquake catastrophe and Tsunami waves in neighbouring countries. The Vietnamese conservationists involving in relation to sea turtle resource, have pointed out a self-query: might they be migrating and looking for coastal habitats in Vietnamese seawaters - Following up those, Research Institute for Marine Fisheries (RIMF) is as one of studying organization focus upon Marine Endangered Species carried out many activities to rescue sea turtle in collaboration with local fishermen and authorities concerning in order to study their biological identification, body-weight measures, ecological characteristics, tagging and release them back to seawater as soon as possible.

Early year of 2005, there had been 7 individuals of sea turtle, which catch by fishing nets released. Those are valuable and rare species should be protected.

Through activities, locally based fisheries management, such as, group discussion, persuasion, education with technical consultation by RIMF experts, most of fishermen who catch turtle realized their important role in Marine ecosystem. Result, all sea turtles had been released back to marine environment, in front of local governors and villager s' eyewitness.

Sea turtle nomenclature, weighted, body size measure, defined its years old and Titan inconel tagged both front flippers before releasing its into marine environment had been done by experts from Department for Marine Conservation Research Sciences of RIMF.

The events for sea turtle releasing movement in previous times shown that the "National Action Plan for the Sea Turtle Management and Conservation beyond 2010 in Vietnam" is really pace of enforcing, effecting and enjoying as step-by-step towarding to local people, especially, as they recognized that important role of endangered species conservation is essential in order to preserve ancient animal that survived after long-historical changes and that is invaluable gene source should maintain to next generations.

The learned lesson from those operation shown that needs the assistance both the finance and technical support from local authorities, especially from Ministry of Fisheries (nowadays, as MARD) to achieve purposes of "National Action Plan for the Sea Turtle Management and Conservation in Viet Nam" and fully implementation on international commitments, which had been signed by Government of Viet Nam.

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

The management agreements being negotiated in terms of fishery exploitation at Tonkin gulf with China and overlapping areas between Viet Nam and Cambodia in relation to sustainable levels of traditional harvest, especially, fishes harvest yield, suitable number of fishing boat from each countries could be caught.

Participation of Marine Turtle Conservation Strategy and Action Plan for the Western Indian Ocean; the ASEAN Marine Turtle MoU; cooperative research under SEAFDEC; CITES and the SEASTAR2000 project in South-East Asia.

1.6.1 First, select one of the options at left to indicate whether or not your country has any of the following measures in place to minimise the mortality of eggs, hatchlings and nesting females. If yes, then estimate the relative effectiveness of these measures. [IND, SAP]

MEASURES	RELATIVE EFFECTIVENESS
Monitoring/protection programmes	
■ **YES** ☐ NO ☐ N/A	☐ EXCELLENT ☐ GOOD ☐ LOW ☐ UNKNOWN

Nesting beach management makes it more convenient for females landing and laying

Penning egg chambers to protect against predators and hunting activities

Creating a safe environment for releasing hatchlings into the sea

Education/awareness programmes

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

Since April 3rd 1996, Con Dao District People's Committee issued an Introduction No.02 / CT.UB.96 regarding the strengthening of the management of natural resource and environmental protection in Con Dao District. The introduction contains awareness raising on forest protection, forest fire prevention, immediate actions against forest destruction, hunting of wildlife, using chemicals to catch fish, destruction of coral reefs, which have bad impacts on the marine, coastal and terrestrial environment, especially the buffer zone around Con Dao.

There is a growing awareness among fishermen and local authorities regarding the status of sea turtle populations, existing laws and regulations, and the need for management mitigation.

There is now closer collaboration of fishing representatives from local authorities and fishermen to work with project partnerships in looking at feasible ways to reduce sea turtle by-catch.

Egg relocation/hatcheries

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

Moving egg clutches to suitable areas

Predator control

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

Vehicle / access restrictions

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

Removal of debris / clean-up

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

Beach cleaning campaign: all resort sites annually since 1996 has been a success

Garbage collection: Some highly concentrated tourism sites such as Quang Ninh, Hai Phong, Hue, Nha Trang, Ba Ria-Vung Tau, Phu Quoc, Monthly has a good assessment.

Re-vegetation of frontal dunes

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

Efforts have been made to re-vegetate frontal dunes at nesting beaches. Examples include:

Mangrove: Quang Ninh, Hai Phong, Ca Mau, HCM City since 1990 has been a success

Delphinium and pine tree:Quang Binh to Ninh Thuan since 1995 with 65% survival rate

Artificial Reef: Hai Phong, Khanh Hoa since 2003 has not yet been assessed

Viet Nam is still lacking operating funds. However, some activities to control and prevent coastal erosion at nesting beaches has been done at Con Dao and Nui Chua since 1994 and 2000, respectively.

Building location/design regulations

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

Light pollution reduction

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

Other (list and rate them)

■ **YES** ☐ NO ☐ N/A

In fact, regulation is still weak and enforcement low

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

- There is the report completed in 2006-2007, namely "Improving the Knowledge Base and Identifying Management Options for the Reduction of Sea Turtle Interactions in Vietnamese Fisheries: Preliminary Assessment of Hotspots and Recommended Next Steps for Onboard Fisheries Observer Program" done by RIMF and WWF- Mekong Infor Viet Nam Program [Phan Hong Dung, Nguyen Thi Dieu Thuy and Keith Symington]

- There is the report completed in 2006, namely "Sea turtles monitoring feeding habitats and tracking by satellite device at Viet Nam seawaters" [Phan Hong Dung, Nguyen Truong Giang et al, 2006]

- There is the guideline completed in 2005, namely "Viet Nam Fisheries by catch training materials" done by IUCN Viet

Nam, RIMF and the School of Tropical Environment Studies & Geography, James Cook University, Australia [Mark Hamann and Chloe Schauble].

- Some other scientific reports concern in Vietnamese language.

- There are some country reports had been presented at regional and international workshops.

- Con Dao NP and Nui Chua NRA annual report.

- Local Fisheries and Forest Resource Protection Department report.

OBJECTIVE II. PROTECT, CONSERVE AND REHABILITATE MARINE TURTLE HABITATS

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

Discussing the importance of sea turtles with local people
Promoting local participation at the selected sites, maintaining nesting habitats
Offering local people the opportunity to attend the training seminars
Giving a small grant to alternative livelihoods, such as aquaculture or ecotourism.

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

National environmental monitoring center whole coastal zones of Viet Nam to assess the marine and coastal development and other human activities. However, it has not yet any center to assess routinely made of the environmental impact on marine turtles and their habitats. Only a few test to have carried out impact assessments specifically addressing marine turtles. More generally, it is less clear steps are taken to protect water quality near turtle habitats, including from marine debris.

However, a few MPA appear to have measures in place to protect critical habitat outside of established protected areas, and not all of these are fully implemented.

Those assessments has been monitored, surveyed and controlled annually at several points of study sites by RIMF staffs and other institutions involving such as MONRE, MARD.

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

- Decree No 191/2004/ND-CP dated in November 18th 2004 on management of fishery activities of foreign fishing vessel in Vietnam's Seawaters.

- Decision No 34/QD-TTg enforced at 22nd February 2005 on environmental protection, natural resource exploitation and biodiversity management in Viet Nam.

- Decision No 10/QD-TTg enforced at 11th January 2006 on the master plan of fisheries development to 2010 and its vision beyond 2020

- Decision No 47/QD_TTg dated 1st March, 2006 approved the general program on basic investigation and management

for natural resources and marine environment to 2010 and beyond 2020.

- The Government of Viet Nam amended Decree No 34/ND-CP dated March 17th 2005 on management and penalty regarding to water source utilities.

- Enacted a regulation to limit discharge of water untreated at outlets
- Promoted using agricultural products safely with limitations on chemical, pesticide and insecticide use
- Reforested and protected mangrove, delphinium and pine tree areas
- Enhanced common knowledge of fishermen and tourists in terms of marine environmental protection
-Collected garbage at sea-shore and cleaned-up beaches.

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

■ YES ☐ NO ☐ NOT APPLICABLE

The Government of Viet Nam amended Decree 163/ND-CP dated 7th September, 2004 to regulate and control food security and safety.

The Government of Viet Nam amended Decree 81/ND-CP dated 9th August, 2006 to resolve actions the breaking, infringing and violating the law within the environmental fault and mistake.

The Government of Viet Nam amended Decree 174/ND-CP dated 29th November, 2007 to pay for the environmental fee of solid harmful-dangerous wastes from industry, agricultural sources (except the home garbage).

All of those above, that focused on:

Banning local people using chemical and cyanide in fishing operations at any time/anywhere by law and provincial regulations
Prohibiting the use of explosives in fisheries
Penalty for those illegal actions as found by big amount of money and cancelling fishery permission or getting into timed prison
Providing small prizes/credits to volunteers and responsible pupils, other students and youth in general.

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

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

Viet Nam are monitoring coral reefs and making an effort at some provicial coastal area to recover degraded coral reefs, include rehabilitation actions, upgrading of legal protection status, development of recovery plans, relocation of sewage, reduction of specific threats, and conduct of education and awareness activities, recover degraded mangrove habitats, and sea grass habitat, monitoring of dredging activities and coastal development.

The scientific evidents got by VN and international arena assessment's results, the causes of the coral's demise are manifold, but they all come: Overfishing, especially the kind that uses dynamite or poison to kill whole schools of fish, destroys the coral directly, while polluted runoff from agriculture simply chokes them.

Development in booming coastal economies and Tourism as the form of diving and snorkeling can also cause damage.

Disease plays a role as well, with whole coral colonies wiped out by sudden sickness. That rise in illness may be linked to warmer sea temperatures, which is caused by climate change. And it's global warming that poses the most serious threat to the survival of coral. Corals have a symbiotic relationship with a kind of algae that provide nutrients and energy through photosynthesis, not to mention the vivid colors we associate with coral reefs. When corals are stressed by rising temperatures, the algae are expelled by the coral, turning the reefs bone white. That's a "bleaching event," and bleached coral are left weakened and defenseless against disease. Increased carbon dioxide concentrations in the atmosphere also

lead to more acidic seas, which impairs the ability of corals to form their skeletal reefs.

In case of VN coral reef fishes, due to a combination of high demand due to much higher prices for live as opposed to dead reef fish; inadequate management, made more difficult by fragmented fishing grounds with limited management capacity; and unsustainable fishing practices are seen as the main causes of these problems. As a consequence of fishing pressure in some VN coastal areas over many years, reef fish stocks in these areas have been overfished to the point where too many fish capable of reproducing (adult or mature fish) have been removed and fish stocks are not being replenished. With fewer adult fish in the populations, immature fish are now making up a greater proportion of total catches.

Adding to the reef's troubles, the El Nino phenomenon in 1998 raised ocean temperatures, prompting a massive bleaching episode and the death of countless corals, and an explosion of coral-eating crown-of-thorns starfish.

It recognizing that coral reef, fish and other marine species can breathe easier with the introduction of a fishing ban around protected reef. Under the ban, all extractive activities, such as fishing, and coral collection and harvesting, will be completely forbidden. This 'no-take' zone will allow the reef and its residents ample time to recover from years of fishing for example:

- At Phu Quoc (Kien Giang-VN) and CamPot (Cambodia) have been running since 2006 under project, namely "prevention of the marine environtmental degradation of South China Sea and Gulf of ThaiLand". It focus on coral reef and seagrass.

- At Con Dao, Phu Quy, Cu Lao Cham, Con Co, Cat Ba, Bach Long Vy, Co To have implemented since 2003, however, those sites has not yet assessed.

- At Hon Mun, Hon Tre, Hon Noc (Khanh Hoa) have implemented since 2001, some sites well assessed by International Marine Alliance (IMA).

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

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

Mangrove replantation: Since 1992, Viet Nam Scientist (Center of Research Environmental and Natural Resources_CRES) in collaboration with ACMANG Japanese Program (Tokyo-Japan Marine Corp.) had replanted more than 2,500 ha mangrove forest in the coastal zone of Viet Nam such as Quang Ninh, Hai Phong, Thanh Hoa, Ha Tinh, Khanh Hoa provinces.

Mangrove reforestation: at Quang Ninh, Hai Phong, Nam Dinh Ca Mau, HCM City--since 1990 - success of surviving rate at 90% up to now. Those activities had been funded by JICA, UNDP, DANIDA, Holland, USA, CIDA, SIDA, UNEP, UNDP, FAO, WWF, IUCN, WB, ADB.

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

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

Sea grasses replantation: Since 2002 at Phu Quoc donated by UNEP

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

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

Cuong, C. T. 2009. Status of marine turtles at Bai Tu Long bay and Co To island (Quang Ninh province). Page 25. The Institute of Marine Environment and Resources, Unplublished report to IUCN Viet Nam.

Cuong, C. T. 2010. Status of marine turtles in Quang Tri province. Page 22. The Institute of Marine Environment and Resources, Unpublished report to IUCN Viet Nam.

Cuong, C. T. 2011. Status of marine turtle populations in Spratly Archipelago.in D. C. Thung, editor. Marine Environment and Resources. Vietnam Academy of Science and Technology, Ha Noi.

Cuong, C. T. and N. D. The. 2011. Report of the survey on marine turtles in the south center province. Page 27. The Institute of Marine Environment and Resources, Unpublished report to IUCN Viet Nam.

Cuong, C. T., 2013. Impacts of climate change on sea turtle populations in Vietnam. Unpublished report, Institute of Marine Environment and Resources, Vietnam Acdemy of Science and Technology.

Dung, P. H., N. T. D. Thuy, and K. Symington. 2007. Preliminary assessment of hotspots and recommended next steps for onboard fisheries observer program. WWF, Ha Noi.

Giang, N. T. 2010. Study some biological charateristics of Green turtle(Chelonia mydas) in Con Dao islands. The University of Agriculture and Forestry in Ho Chi Minh Ho Chi Minh.

Ha, V. V. and N. V. Hai. 2010. Preliminary results of circle and j-style hook comparisons in pelagic longline fishery of Central and Eastern Central provinces (Vietnam) (in Vietnamese). Reseach Institute of Marine Fisheries Productions, Haiphong.

Hamann, M., C. Cuong, N. Hong, P. Thuoc, and B. Thuhien. 2006. Distribution and abundance of marine turtles in the Socialist Republic of Viet Nam. Biodiversity and Conservation 15:3703-3720.

My, P. V. 2008. Results of implementing marine turtle conservation action plan in Da Nang. National Workshop in Marine Turtle Conservation. IUCN Viet Nam, Ha Noi.

Stiles, D. 2009. The Marine Turtle Product Trade in Viet Nam. Marine Turtle Newsletter 124.

TRAFFIC. 2004. The trade in marine turtle products in Viet Nam. TRAFFIC Southeast Asia - Indochina, Ha Noi.

WWF. 2008. Report of WWF activities in marine turtle conservation project in B. T. T. Hien, editor. Final meeting of marine turtle conservation project, Ha Noi.

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

■ **YES** ☐ NO ☐ UNSURE

Viet Nam, in collaboration with MFRDMD/SEAFDEC have contributed mtDNA tissue samples that were collected at 5 coastal location for eventual use in analyses to characterise the genetic identity of sea turtle sub-populations.

The tagging and rescuing management program at Con Dao NP and Nui Chua NRA since 1994 and 2000, respectively.

The incubation at hatchery sites are being continued at Con Dao NP.

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

■ **YES** ☐ NO ☐ UNSURE

This kind of activity has started since 2006. Initiating collection of tissues for mtDNA sampling, analysis and identifying the sub-population of Sea Turtle structure in Viet Nam from 60 sample of green and 60 one of hawksbill turtles.

Viet Nam have being great effort to research, conservation and management on sea turtle that was recognized and implemented under the National Action Plan beyond to 2010. Those have greatly appreciated SEAFDEC/MFRDMD support. In connection to the sample collection for sea turtle population genetic identification and inconel tagging activities are focused. Those issues has being done in the selected sites, time and followed the special contract signed.

The training course on molecular genetics Mitochondrial De-oxiribo Nucleotit Axid (mtDNA) identification for sea turtle between Research Institute for Marine Fisheries (RIMF) - Viet Nam and Marine Fisherie Resources Development and Management Department (MFRDMD) Malaysia held at Haiphong, 23-26 June 2005.

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

Tagging ■ **YES** ☐ NO

The Sea Turtle tagging project in collaboration with MFRDMD/SEAFDEC by using Inconel Tag Style on the front flipper has been conducted since 1997. Tagging of sea turtles started at Con Dao NP in 1998 using 900 Inconel tags provided by SEAFDEC/MFRDMD and also1000 self-made tags. From August 1998 to July 2008, a total of 3,221 turtles had been tagged with the country code such as: (1) CD XXXX; (2) VN XXXXXX; (3) VN(S) XXXX (4) VN(C) XXXX (5) VN(N) XXXX.

Passive Integrated Transponder (PIT) and Microchip tags have never been used in Viet Nam.

Sea turtle tagging process:
- 8/1996?€"09/2008: 2,870 female had been tagged.
- Frequency back to re-lay egg as 3,11??1,87 year (n:64)
- 2004 - 2008: 1,658 FM had been laid with total of 3,266 clusters. That means of 270,29??106,17 female/year (404?€"568)
- 2004 - 2008: Moved 1,303 clusters into hatchery and 155,354 hatchlings were rearing before releasing. - The satellite tracking program by using 10 of Platform Transmitter Terminal (PTT) was tested at Con Dao NP.
The satellite tracking studies for green turtles had been conducted to determine their routes and feeding grounds at the southern part of Vietnam waters.
- Foraging Map of sea turtle had been done in case of VN.
- Sea turtle metadata in relation to distribution, hot spot, nesting site, species composition, annual female landing, hatchling released.

Satellite tracking ■ **YES** ☐ NO

Satellite telemetry project using modern satellite telemetry had been initiated by WWF-Indochina and NOAA at Con Dao National Park in 2001. 10 platform Transmitter Terminals (PTT) were tested at Con Dao NP. The satellite tracking studies for green turtles had been conducted to determine their routes and feeding grounds at the southern part of Vietnam waters.

☐ **Other**

☐ **None of the above**

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

☐ YES ■ **NO** ☐ UNSURE

- Based upon the previous statistic, the hatch rate ranged with average of 70-85% during the period of 1994 till 2011. - There are at least an amount of 120,000 of sea turtle hatchlings had been released back-into seawaters since 1994 from 46 nesting sites in Viet Nam.

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

■ **YES** ☐ NO ☐ UNSURE

There is no any report having carried out studies of marine turtle population dynamics, the frequency and pathology of diseases of sea turtles. However , RIMF has carried out:

-Initiate studying on Fibropapiloma symptoms.
- Regurgitating or vomiting phenomenon has been primarily studied in laboratories by RIMF staffs since 1999.
- Trial prevention and treatment medicines for some skin parasitic and disease infections have been undertaken in aquarium rearing conditions.

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

■ **YES** ☐ NO ☐ UNSURE

Viet Nam is promoting the use of traditional ecological knowledge in sea turtle studies, such as:

- Local participation as Nui Chua (Ninh Thuan), Bai Tu Long NP (Quang Ninh), Hai Lang (Quang Tri), Nhan Hai (Binh Dinh), Hon Tre (Nha Trang Bay MPA (Khanh Hoa), Con Dao NP (Ba Ria Vung Tau) Phu Quoc NP (Kien Giang) that volunteer to collect eggs and rear them, releasing the hatchling back to sea at outside their village.

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]

1) All activities of IOSEA MoU have been prioritised since 1st September 2001.
2) ASEAN-MoU had signed 12th September 1997 focusing on Viet Nam
3) More than 20 sub-projects in the National Action Plan on Sea Turtle research, management and conservation in Viet Nam have been appointed to involve institutions
4) Continuing the tagging and rescuing management program with MFRDMD/SEAFDEC and others.
5) Considering and trialling TEDs implementation with TD/SEAFDEC and others if possible
6) Completed a satellite tracking project with NOAA (USA) and looking for next steps.
7) Continuing the incubation at hatcherys project with WWF_Indochina and others.
8) On-going sea turtle distribution surveys the with IUCN.
9) On-going sea turtle trade activities surveys with Traffic_Indochina.
10) Continuing sea turtle bio-logging and ecological topic with SEASTAR 2000.

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

a) Genetic Identity ■ **YES** ☐ NO ☐ NOT APPLICABLE

This kind of activity has started since 2006. a number of 60 tissues sample of green and 60 one of hawksbill turtles were collected for mtDNA sampling, analysis and identifying the sub-population of Sea Turtle structure in VietNam.

The training course on molecular genetics Mitochondrial De-oxiribo Nucleotit Axid (mtDNA) identification for sea turtle between RIMF and MFRDMD was held at Haiphong, 23-26 June 2005.

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

Marine species conservation: This will focus on sea turtle populations. Research on population, behaviour, migratory patterns, and reliance on mangrove forests, seagrass beds, coral reefs will be combined with species-specific technical training and links with other regional research programs.

The development of the National Action Plan that serves as a guide for all future activities as they relate to the conservation of marine turtles and their habitat is thus appropriate. It will draw upon the expertise, resources and commitment of all stakeholders. Additionally, it will both facilitate and encourage the coordination and cooperation among the various sectors involved in the management of marine turtles.

MARD, as the national agency legally vested with the protection and management of marine turtles in association with other institutions, convened several national workshops to develop the National Action Plan for marine turtles. Those workshops were gathering representatives from stakeholder groups and other interested parties to reach a consensus on the key issues that need addressing, and thereby devising the framework for action.

Building on experience and knowledge gained by other ASEAN/SEAFDEC members and other nations

Researching and evaluating the usefulness of TEDs in the Vietnamese trawl fisheries.

Collecting baseline biological data on foraging area populations as well as to conduct baseline surveys of sea turtle distribution, abundance, status and threats.

Supporting the extremely valuable nesting beach tagging studies and uses of modern satellite telemetry techniques to increase the awareness and understanding of the local Vietnamese community on sea turtle migration.

The enhancement awareness and development of suitable Eco-Tourism Activities.

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

- The tagging and rescuing management program
- Satellite tracking project

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

Many research, conservation and management activities on sea turtles have been done in Vietnam. RIMF, WWF Indochina, IUCN - VN, Con Dao and Nui Chua staffs have conducted programs of research on sea turtle resources to determine solutions for protection, conservation and management activities, which focus on biological, ecological, enhancement and management aspects.

■ **Other**

Considering study on driftnets and ghost-fishing nets.
Initiate study on modified fishing gear style such as changing J-hooks into circle hooks in longline fisheries as soon as the fund are obtained.

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]

The existing data on nesting turtles in Viet Nam is limited to four sea turtle rookery group, focusing around National Parks, the mainland beach as Nui Chua (Ninh Thuan Province), at MPA and the islands in the Tonkin Gulf, the Gulf of Thailand and Paracel and Spratly archipelagos.

Based on previous studies, the average sea turtle nesting population of Viet Nam is estimated to be more than 482-820 females per year (mainly at Con Dao, Nui Chua, islands at the Tonkin Gulf and the Gulf of Thailand islands and at Paracel and Spratly archipelagos).

The list in order of priority the marine turtle populations in Viet Nam need of conservation actions by ordering is following:

1.Loggerhead turtle: It is difficult to determine whether numbers of loggerhead turtles residing in Viet Nam's seawaters have changed or remained stable over time, large declines.

2.Leatherback turtle: The data from latest our surveys indicated that fewer than 8 females currently nest along Viet Nam's beaches each year. It is likely that leatherback turtle populations in Viet Nam have been significantly reduced year by year.

3.Olive ridley turtle: it is estimated, based on recent survey data, that current nesting levels are some beaches in the order of 20-25 females per year.

4.Hawksbill turtle: The data showed that approximately 250-260 females per year have nested in the islands of the Gulf of Tonkin, and nesting populations of unknown size occurred in the Vietnamese and Cambodian islands of the Gulf of Thailand. Additionally, there is some hawksbill turtles used to nest in the Con Dao island group.

5.Green turtle: It estimate that at present time:
•Approximately 30-40 females nested each year on the islands in the Gulf of Tonkin
•Approximately 80-120 females nested each year along the mainland beaches and near shore islands of south-central Viet Nam (Quang Nam to Ninh Thuan).
•Fewer than 125 of females nested each year on the islands in the Gulf of Thailand.
•Based on information from Con Dao National Park it appears that the nesting population around the Con Dao island group has remained at a similar size, approximately, 230-400 females per year.
Additionally, There is currently shortage of information on the size; status of the nesting population of the offshore islands, including Bach Long Vy, Paracel islands (Hoang Sa 1&2), Spratly islands (Truong Sa & Nam Yet) and Tho Chu island (Kien Giang Province).

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

■ **YES** ☐ NO ☐ UNSURE

Annually, statistical implementation of females laying at selected sites
Annually, statistical implementation of females re-laying at selected sites
Annually, statistical implementation the number of nesting females laying at selected sites.

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 results are being used to improve the efficacy of conservation actions through; management, threat mitigation, assessment of hatchery management practices, assessment of habitat loss, lacking funding and knowledge for identification of DNA for sea turtles.

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

■ **YES** ☐ NO ☐ UNSURE

Using the FAO, WWF, IUCN and CITES methods and categories to assess.
-The information is separated at the institutions involved.
-National Action Plan for sea turtle research, conservation and management in Viet Nam as a guideline/protocol was approved by Vice-Minister of MoFI (MARD at present) at 8th March, 2004.

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

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

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

- Presentation of scientific reports at meetings and workshops
- Teaching at training courses, lectures
- Talking at seminars with local people and managers concerned
- Displays on advertising panoramas, notice boards
- Circulation to interested persons: billboards, pamphlet, leaflet, posters, brochures
- Printing the sea turtle booklet for school children, volunteers and other students.
- Broadcasting on the Radio and Television (media coverage) programs weekly, monthly or annually.
- Issuing magazine, newspaper and Internet on-line information.
- Organizing sea turtle exhibition and fair-place demonstration at several locations
- Combining sea turtles with other campaigns for conservation of wildlife species

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

■ **YES** ☐ NO ☐ UNSURE

- Analysed, prepared and edited by RIMF
- Collected by WWF, Traffic, IUCN and others
- Informed by Central and Local Fishery Resource Protection
- Provided by informants/ fishermen
- Circulated by MPA Authorities

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

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

- Presenting scientific reports
- Teaching at training courses, lecture notes
- Talking and discussing at seminars
- Displays on advertising panoramas and notice boards
- Circulating to interested persons: leaflets, posters, brochures
- Printing the sea turtle book for school children, volunteers and other students.
- Combining with other campaigns for conservation of wildlife species
- Broadcasting on radio and television programs both at a provincial and national level, weekly, monthly or annually.

- Producing scientific videos and films in order to raise awareness and educate the public.

Not yet started web-sites but created a newsletter to facilitate networking and information exchange with IOSEA MoU, SEAFDEC, COFI secretariat and others.

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

- ■ **Policy makers**
- ☐ Fishing industry
- ■ **Local/Fishing communities**
- ☐ Indigenous groups
- ☐ Tourists
- ■ **Media**
- ■ **Teachers**
- ■ **Students**
- ☐ Military, Navy, Police
- ☐ Scientists
- ■ **Other:The local people at remote islands and mountains are quite hard to reach with information on sea turtles.**
- ☐ None of the above

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

■ **YES** ☐ NO

The National Steering Committee for sea turtles had been established, including 15 officers from several institutions concerned.
The focal point was nominated and appointed in 2006 from several institution concerned such as RIMF and NADAREP.

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

Providing small amounts of fund/credits to shift to aquaculture, alternative income generations or ecotourism services

Developing handicraft skills such as making carvings, sewing, artisanal goods

Re-educating for new careers as available at local area

Promoting conversion to other agricultural or forest activities

Participating in off-shore fishing programs and marine ranching activities.

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]

- Training and educating locals on the importance of sea turtles.
- Provide useful information in relation to sea turtles to responsible centre/ committee/ coordinator/ inspectors/ navy polices
- Keep cleaning beaches.
- Release sea turtles back to sea if attached to trawling, gillnets, longlines, and driftnets in some cases

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]

Many people respect the law of fisheries and follow-up
Volunteer activities have been conducted
Sea turtle preservation campaign attended
Funding support and donation from several sources. However, it is very small and not enough to do much.

The Ministry of Agriculture and Rural Development (MARD) coordinates and implements initiatives with RIMF as well as related branches, through discussions and actions, and also with the assistance from other Government Ministries and Departments of MARD.

NGO's are an important driving force behind the existing programmes and have provided support for government staff to participate in regional workshops, meetings and training courses.

MARD collaborates with, and assists, signatory and non-signatory states to combat issues relating to the illegal trade of marine turtle products.

MARD hopes that enhancement of mechanisms for cooperation and held promotion of information gathering and exchanges between nations.

Continue to support the development of the IUCN/WWF/TRAFFIC marine turtle education package and encourage its incorporation into schools.

Within Viet Nam, MoFI (and Provincial sub-departments; FRPD), DoSTE, NEA, RIMF, Con Dao National Park, Government Research Institutions (HIO and NIO) and International NGOs (e.g. WWF, IUCN TRAFFIC, IMA, FFI, Frontier, UNESCO). The MARD should establish contacts with regional Governments and research organisations to facilitate regional collaboration

OBJECTIVE V. ENHANCE NATIONAL, REGIONAL AND INTERNATIONAL COOPERATION

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

There is currently no specific mechanism to identify international illegal trade routes, however customs-officers penalize traders.
In order to reduce illegal trade, the governors assigned all professional inspectors to control and treat it as soon as possible.
Will step up banning the sea turtle trade in small kiosks and souvenir shops in the near future.

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]

Discussion at national, regional and international meetings and workshops
Debating with Traffic staff how to reduce those activities as well.
Large penalties for illegal trade.

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]

Viet Nam emphasises educating methods in previous years and step by step, all those activities may be stopped.

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

■ **YES** ☐ NO

Based on the outcomes of our survey and study results on the ecology, biology and key threats, the National Action Plan (NAP) for marine turtle conservation had been prepared and reviewed by the Marine Turtle Steering Committee, representatives of Vietnamese and NGO groups. This NAP was approved by the Vice-Minister of MoFI on March 8th 2004.

The National Marine Turtle Action Plan deals with the priority themes under six main strategies:

(1) Reduction of indirect and direct causes of marine turtle mortality;
(2) Nesting beach hatchery management;
(3) Protection, conservation and rehabilitation of marine turtle habitats;
(4) Research and monitoring;
(5) Public awareness and education; and
(6) National and regional cooperation.

Within those themes there is a list of detailed issues and recommendations. Each of those priority themes are harmonized and related to the IOSEA MoU Conservation and Management Plan.

Action plans that are being considered as possible models include:

Following up the NAP strategies.
Establishing a rescuing station and developing an aquarium to enhance awareness, hatchery rearing as well as training and education.
Increasing the hatch rate and developing releasing techniques.

The action plans are subject to regular review.
RIMF is committed to providing sea turtle information and scientific evidence
The national sea turtle reports revised and edited by RIMF staffs.
Collaboration with other institutions to set up sea turtle NAP.
Forwarding suggestions and recommendations to prepare laws and regulations
Do research and surveys on sea turtles

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

ESTABLISH A SEA TURTLE SANCTUARY AND AQUARIUM (2.1)

SCIENTIFIC RESEARCH (3.1)

Identify suitable beaches for marine turtle nesting in the area
Investigate growth rate in captivity
Feeding ground
Long-term tagging programme
Threats assessment (1.1)

EDUCATION AND TRAINING PROGRAM

Organize training for local people, sanctuary staff and for students (5.4)
Produce awareness material, such as leaflets and posters (4.1)

WORK WITH FISHERMEN

Conduct interviews and estimate mortality rate of sea turtles due to fishing activities (1.4)
Investigate local's thinking of using TEDs in trawling.

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

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

Genetics studies ☐ ESSENTIAL ☐ IMPORTANT ☐ LIMITED ☐ NOT AT ALL

- Sea turtle tagging activities: PIT and microchip tag and scanner analyses
- TEDs trials and testing in some trawling boats
- Correlation between shrimp trawl fishing and sea turtle foraging grounds
- Identification of interaction between sea turtle and fishery operations
- Sea turtle DNA analysis
- Sea turtle foraging areas
- Satellite tracking for sea turtle migration in SE Asian region
- Sea turtle hatch rate
- Sea turtle sexual modification and identification
- Sea turtle hatchery management
- Sea turtle food chain interaction
- Aquarium techniques for sea turtle maintenance
- Exchanging information programs on sea turtle
- Sea turtle GIS mapping technique to avoid by-catch
- Enhancement of human capacities in term of sea turtle conservation
- Develop sea turtle ecotourism and ecovolunteers.
- Sea turtle twinning workshops, training and education

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]

- Considering joining and becoming a CMS member
- Continuing the CCRF made by FAO
- Trial circle hooks in longlining
- Making the national sea turtle guideline/regulation in connection to FAO meeting output from 29 Nov-2 Dec, 2004 at Bangkok, Thailand.

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

5.3.3 What steps has your country taken to encourage Regional Fishery Bodies (RFBs) to adopt marine turtle conservation measures within Exclusive Economic Zones (EEZs) and on the high seas? [SAP]

Annually, Sea Turtle Steering Committee reviews the available information on the current status of sea turtle conservation including both incidental and direct catches, their impacts on the populations and other factors affecting the mortality of sea turtles

Annually, Sea Turtle Steering Committee reviews the new development of selected fishing gear and other techniques to improve sea turtle conservation.

Collection of data from Local Fisheries Department annually to make a national statistical fisheries report

The annual specific workshop/meeting was organized and experts provided technical input to the Technical Consultation and outputs, including overview of sea turtle status, fisheries impacts, possible managerial solutions, economic aspects and recommendations for future work and actions of marine turtle conservation measures within EEZs and the high seas.

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]

Issues that need to be addressed:

Inadequate knowledge of critical marine turtles habitat in Viet Nam: very little information currently exists about the distribution and abundance of marine turtle foraging populations in Vietnamese waters. Moreover, what we do know is based upon interviews with local fisherpersons and provincial government staff. Additionally, most of the data that we have obtained from surveying fishers is based on rates of incidental capture and is limited by the memory of the informants/respondents. This may be bias temperorally, spatially or towards particular species, size classes or maturity.

Inadequate protection of critical marine turtles habitat in Viet Nam: Continue annual baseline surveys to collect information on the distribution of nesting beaches, especially those on offshore islands (priority areas include Da Nang (Son Tra beaches), Bach Long Vi, Phu Quy, Spratly and Paracel Archipelagos, Phu Yen, Khanh Hoa and Kien Giang provinces.

Insufficient data to mitigate the threats to marine turtles and assess and improve their conservation status.

Insufficient exchange of information.

Lack of information about the distribution, abundance, and biology of sub-regional (Viet Nam, Cambodia, Thailand, southern China) marine turtle populations

Lack of information about reduction of indirect and direct causes of marine turtle mortality

Proposed activities:

ESTABLISH A SEA TURTLE SANCTUARY AND AQUARIUM

Build a turtle centre following guidelines.

SCIENTIFIC RESEARCH

Nesting activity
Identify suitable beaches for marine turtle nesting in the area
Locate and describe the identified beaches
Collect historical information about marine turtle nesting
Identify species
Identify threats
Investigate growth rate in captivity
Feeding habits
Feeding ground and identify size of the feeding ground
Estimate species composition
Identify sea turtle species using the area
Long term tagging programme
Threats assessment
Re-identify threats on land and at sea

EDUCATION PROGRAM

Re-start programmes in schools with lessons and discussions
Train local teachers on sea turtle conservation and workshops
Organize activities for children at the sea turtle sanctuary

CONSERVATION AWARENESS

Produce awareness material, such as leaflet and posters
Conduct guided visits
Organize talks
TRAINING

Organize training for local people and for students
Organize workshop for veterinarians
Organize training for sea turtle sanctuary staff

WORK WITH FISHERMEN

Conduct interviews
Estimate mortality rate of sea turtles due to fishing activities
Investigate local perception of using TEDs
Train fishermen in order to include them in the program
Train them on handling techniques

DEVELOP ECOVOLUNTEER PROGRAM

Evaluate if possible establishing the next ecovolunteer program.

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]

- For the period of 2006-2008, WWF in cooperation with the Research Institute of Marine Fisheries have launched a two-stage project "Improving the knowledge base and identifying management options for the reduction of sea turtle interactions in Vietnamese fisheries" (or "By-catch project").

- Workshop on mitigating marine turtle bycatch in Vietnamese fisheries at Phu Yen, 6-7th November 2007.

- By-catch option for community workshop at Nha Trang, 14-16th November 2006.

Traning/ workshop on sea turtle conservation and future direction at Con Dao, 13-19th July 2006.

- Workshop on sea turtle conservation and future direction of resources enhancement and Introduce the appropriated on-board fish handling and preservation technology to Vietnamese fishers at Nha Trang, 18-20th October 2005.

- The Fourth National Workshop formulated the National Action Plan on the sea turtle research, conservation and management in Viet Nam beyond 2010 at 20th June, 2004. Its objective was promoted and allocated prioritised activities to concerning institution at Phase II on-going procedures.

- The third National Workshop finalized the National Action Plan on the sea turtle research, conservation and management in Viet Nam beyond 2010 at 28th May, 2003. It was approved by Vice-Minister of MoFI at 8th March, 2004.

- In April, 2003 WWF_Indochina, IUCN, Ha Long Bay Management Authority and MoFI organized at Quang Ninh Province a training course/meeting with local, provincial fisherman and students from 14 coastal areas introducing the marine turtles with practical show and talks. Totally 40 students and 5 experts and teachers attended the training/meeting and showed their interest in nature conservation.

-In May, 2003 WWF_Indochina, IUCN and MoFI organized at Quang Nam-Da Nang Province a training course/twinning workshop with local, provincial fishermen from 28 coastal areas introducing the marine turtles and MPA concepts. Totally 24 students and 16 experts attended the training/twinning workshop and discussed with their interest in nature resource conservation and management.

- In 2002, MoFI, as the national agency legally marked with the protection and management of marine turtles in association with the IUCN_VN convened the second national workshop on the 28th November as an initial step in the development of a National Action Plan for sea turtles.

- In July 2001, MoFI and IUCN hosted the first national workshop on sea turtle conservation and management in Viet Nam.

- In December 2001, a round table meeting of senior representatives from all relevant government and NGO stakeholders was held to discuss the initiation of a marine turtle project in Viet Nam.

- At 20th March 1998 the Science Department of CDNP introduced Con Dao marine resources and sea turtles conservation to 3 agencies namely the Local History Museum (20 people), Vo Thi Sau Secondary School (20 people) and C10 Military Barracks in the Park.

- At 15th June 1998 the Park organized a workshop on "Natural Resources Conservation and Planning of Con Dao National Park". The workshop introduced the sea turtles conservation program to the park staff and local authority. A total of 50 people attended the workshop.

- At 23rd September 1998 the Science Department organized a program for C10 Military Barracks to study about the natural resources of Con Dao NP, including the introduction about the dugong and sea turtles. A total of 40 people joined the program.

- At 25th September 1998 Con Dao NP organized a meeting with students of Vo Thi Sau Secondary School introducing the coral reefs, seagrass and Con Dao marine mammals with a slide show and talks. Totally 40 students and 15 teachers attended the meeting and showed their interest in nature conservation.

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]

There have been some at Ha Noi University, Nha Trang Institute of Oceanography and Hai Phong Institute of Oceanography as well as other NGO - Institutions

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]

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

■ **YES** ☐ NO ☐ UNSURE

Law of Fisheries was signed by H.E President of S.R. Viet Nam at the 10th December, 2003 and it is entered into force on the 1st July, 2004: "This law is the great legitimacy to exploit, capture, culture, preserve, protect and manage the marine resources, especially, fisheries resources and other marine wildlife".

The development of our National Action Plan that serves as a guide for all future activities as they relate to the research, conservation and management of marine turtles and their habitat. Additionally, it will both facilitate and encourage the coordination and cooperation among the various sectors involved in the management of marine turtles in terms of the expertise, resources and commitment of all stakeholders.

The MARD has taken to pursuit marine turtle conservation programs by establishing a Steering Committee that will oversee tasks as they relate to marine turtle conservation and management in Viet Nam.

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

■ **YES** ☐ NO ☐ UNSURE

Lack of a standardized, scientifically validated and legally enforceable set of guidelines to manage hatcheries: If left unmanaged, hatcheries have the potential to compromise the hatchlings chance of survival in the wild, through alterations to nest density, incubation temperature and the physiology of gas exchange. Moreover, incorrect nest relocation techniques, and hatchery site selection and hatchling release methods can negatively affect the conservation success of the project.

Inadequate monitoring and regulation of hatchery activities: Because of the potential negative affects that a hatchery environment may have upon hatchling sex ratios, hatchling quality (body condition and performance) and hatchling quantity (emergence success), hatcheries are a secondary management option behind leaving nests in-situ. However, when it is deemed necessary to establish a hatchery, i.e.; in places where egg harvest by people or predation by native/introduced fauna or inundation are likely. Inadequate monitoring and regulation of hatchery activities.

Inadequate knowledge of critical marine turtles habitat in Viet Nam: very little information currently exists about the distribution and abundance of marine turtle foraging populations in Vietnamese waters. Moreover, what we do know is based upon interviews with local fisherpersons and provincial government staff. Additionally, most of the data that we have obtained from surveying fishers is based on rates of incidental capture and is limited by the memory of the informants/respondents. This may be bias temperorally, spatially or towards particular species, size classes or maturity.

Inadequate protection of critical marine turtles habitat in Viet Nam: Continue annual baseline surveys to collect information on the distribution of nesting beaches, especially those on offshore islands (priority areas, include Da Nang (Son Tra beaches), Bach Long Vy, Phu Quy, Spratly and Paracel Archipelagos, Phu Yen, Khanh Hoa and Kien Giang provinces.

Insufficient data to mitigate the threats to marine turtles and assess and improve their conservation status.

Insufficient exchange of information.

Lack of information about the distribution, abundance, and biology of sub-regional (Viet Nam, Cambodia, Thailand, southern China) marine turtle populations

Lack of information about reduction of indirect and direct causes of marine turtle mortality.

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

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

IOSEA MOU
Viet Nam became a signatory party to the MoU on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and Southeast Asia on 1st September 2001.

ASEAN MoU
Viet Nam became a signatory party to the ASEAN Sea Turtle Conservation and Protection on 20th September, 1997.

CITES
Viet Nam become a Party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in April, 1994.

Workshops held which provided an opportunity to raise awareness of the MoU:

Attended training/workshops organized by ASEAN/SEAFDEC.
Participated in annual meetings hosted by IOSEA_MoU Secretariat
Observed sea turtle and fisheries operation meetings/workshops organized by CMS and FAO Secretariat.
Discussion at SEASTAR 2000 conferences
Attended sea turtle symposium associations

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

☐ YES ☐ NO ■ **NO VIEW**

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

☐ YES ☐ NO ■ **NO VIEW**

Still considering and thinking.

6.2 Secretariat and Advisory Committee

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

Still considering and thinking as Viet Nam is a developing country.

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]

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

☐ YES ☐ NO

Still considering.

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

Promote locals changing to aquaculture and ecotourism activities.
Still no funding for conservation and management activities in 2008.

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

■ **YES** ☐ NO

Sea Turtle Steering Committee appointed as technical consultation partnerships taking care and responsible in terms of general management and suggest policy/ regulation issues.

Research Institute for Marine Fisheries conducts scientific survey and collects data and information as well as prepares of technical guideline and supports policy-makers.

Others such as WWF, IUCN, Traffic as NGOs related to Technical and management point of views.

MPA and National Park Authorities play the important role in terms of running sea turtle maintenances.

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

☐ YES ☐ NO ☐ UNSURE

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

■ **YES** ☐ NO ☐ UNSURE

Annually, Sea Turtle Steering Committee reviews the available information on the current status of sea turtle conservation including both incidental and direct catches, their impacts on the populations and other factors affecting the mortality of sea turtles

Annually, Sea Turtle Steering Committee reviews the new development of fishing gears and other techniques to improve sea turtle conservation if possible.

Comments/suggestions to improve the present reporting format:

Additional information not covered above: