
# Kenya

## GENERAL INFORMATION

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

Kenya Wildlife Service (KWS) and Kenya Sea Turtle Conservation Committee (KESCOM)

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

The Fisheries Department (FiD)
The Kenya Marine and Fisheries Research Institute (KMFRI)
WWF - Kiunga Marine National Reserve Conservation and Development Project

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

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

Five of the seven extant sea turtle species are reported to occur within Kenyan waters. These include green, hawksbill, olive ridley, loggerhead and leatherback turtles. The green turtle (Chelonia mydas), hawksbill turtle (Eretmochelys imbricata) and olive ridley (Lepidochelys olivacea) are the most common and known to nest in Kenya (Frazier 1975; Wamukoya et al. 1997; Nzuki 2005a). The green turtle is numerically the most important nesting species (Okemwa et al. 2004). The loggerhead (Caretta caretta), and the leatherback (Dermochelys coriacea) are rare, although past records indicate that they used to occur within Kenyan waters (Frazier 1975; Nzuki 2005a).

While green turtles nest throughout the Kenyan coast, hawksbill turtles are reported to nest predominantly in Kiunga, Malindi, Watamu and Funzi; olive ridleys have been reported to nest in the Kiunga, Malindi, Watamu and Mombasa regions (Nzuki et al. 2005a).

Fisheries (both artisanal and commercial fisheries) are thought to pose the most important threat to sea turtles (Okemwa et al. 2004). In the mid-1990s, it was estimated that between 500 and 1000 turtles were caught annually as bycatch in trawlers (Wamukoya et al. 1995), while up to 10,000 turtles are caught annually in artisanal gill nets (Wamukota 2005); 54 to 75% of these turtles are slaughtered or traded by the fishermen (Nzuki 2004). Another major threat includes poaching (10 to 50%) of nesting females (for meat and oil) and their nests (eggs), which is exacerbated by poor law enforcement,

poverty and trade of turtle products on the black market (Nzuki 2004; Okemwa et al. 2004; Nzuki 2005b). Illegal trade in turtle products is rampant in Kenya. Meat (preferably from green turtles) and oil are the most important products traded. Eggs, carapaces and stuffed turtles (particularly hawksbill turtles) are also items of trade. International trade in turtle products has been reported and this may be facilitated primarily by migratory fishermen, which is common in the Western Indian Ocean Region.

Coastal development, often associated with tourism, has resulted in the direct and indirect destruction of turtle habitats (Okemwa et al. 2004; Wamukota and Okemwa 2008). Non compliance to the official setback line regulations (60 m above the high water mark) is a major threat (SOC, Okemwa et al. 2005a). Natural predators include ghost crabs, mongooses, monitor lizards, hyenas, genets, porcupines, hedgehogs and birds of prey (Okemwa et al. 2005a; Weru 2005).

Kenya has so far enacted legislation which particularly protects sea turtles as endangered species. This may cited from the Wildlife Conservation and Management Acts (Cap 376) and the Fisheries Act (Cap 378). A sea turtle Nation Conservation and Management Strategy has been developed and launched and is now being implemented. Additionally, an ICZM policy, Action Plan and a Shoreline Management strategy have been developed and implementation strategies are now being developed.

**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]**

**Legal Mechanisms**
Marine Turtles in Kenya are protected under the Wildlife (Conservation and Management) Act, Cap 376 and the Fisheries Act, Cap 378. Currently the two government departments are working together to improve enforcement through joint patrols and collaboration with the local communities in information gathering and conservation.

Conservation and Management Strategy for Sea Turtles in Kenya, 2011-2015 This strategy seeks to consolidate and realign all turtle conservation initiatives in the country. This strategy identifies all the eighteen community-based Turtle Conservation Groups (TCGs) and establishes Site committees that seek to establish links with all stakeholders including the private and public sectors, NGOs and the civil society. Additionally, the Kenya Wildlife Service is also working with other stakeholders close to the Marine Protected Areas (MPAs) especially in promoting data and information gathering and threat mitigation. The TCGs and other stakeholders provide nesting, mortality, sighting and tagging data to KWS, which is developing and running a national database.

**ICZM Policy Coastal development:**
The National Environment Management Authority has spearheaded the development of an ICZM Policy and Action Plan. With this initiative, a Shoreline Management Strategy has been developed and will be launched in early 2012. Unplanned coastal development (and associated tourism activities) continues to threaten both the nesting and foraging grounds in Kenya. Currently we have started promoting advocacy for guided and well planned coastal development in collaboration with the National Environment Management Authority. Already the Environmental Management and Coordination Act (2000) in Kenya require an Environmental Impact Assessment (EIA) report for any development with a perceived impact on the environment.

**Education and Awareness**
Education and awareness programs are being carried out in many parts of coastal Kenya with a target audience of local people and schools. The programs are conducted by a number of stakeholders including Watamu Turtle Watch, WWF, CORDIO, Baobab Trust, COBEC, KESCOM and the Wildlife Clubs of Kenya. The Kenya Wildlife Service and the Fisheries Department have also programs that constantly engage fishermen and tour operators that highlight the importance of sea turtles conservation.

**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]**

- Socio-economic studies have been conducted within the Kiunga Marine National Reserve by WWF (Church and Palin 2003).

- Munga C. N., Mohamed M. O. S., Obura D. O., Vanreusel A. and Dahdouh-Guebas F. 2010. Resource Users' Perceptions on Continued Existence of the Mombasa Marine Park and Reserve, Kenya. Western Indian Ocean J. Mar. Sci. Vol. 9, No. 2, pp. 71 – 80.

- A study on national survey on trade in sea turtle products and consumption patterns as well as socio-economic survey has been completed (Nzuki 2004; Nzuki 2005b).

- Currently, a guideline for Ecosystem Goods and Services valuation is being developed under the WIO Marine Highway Project funded by the GEF.

- Currently KWS in collaboration with other stakeholders (WWF, GVI) is administering the CMS bycatch questionnaire

- Under Review Mohamed, M. O. S., G., Kairo, J.G., Dahdouh-Guebas, F., Koedam, N. How Sustainable is The Utilization of Mangrove Products in Peri-urban Mombasa, Kenya.

- Victor Mwakha (2011). 'Estimating the value of Goods and Services in a Marine Protected Area: The Case of Watamu Marine National Park and Reserve, Kenya' ECOMAMA Program, Vrije Universiteit Brussel

- Socio-economic activities include income-generating crafts projects, net-release programmes, and ecotourism ventures, as well as cash incentive schemes for nest reporting and protection and the release of turtles caught incidentally in fishermen's nets (see section 1.3.3.).

**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: Poverty
- ☐ Other2:
- ☐ Other3:
- ☐ None of the above or Not Applicable

It is reported that 1 litre of turtle oil can earn a fisherman up to USD 50 (Okemwa et al. 2004). The penalty against illegal harvesting / poaching remains low. In some cases suspects are charged even less than the fine specified in the legislation. Additionally, the court procedure requires undisputed proof that the meat or oil is actually from sea turtle. This requires the use of genetic tools that are currently not available locally. Consequently, some cases have been dismissed based on this.

**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)

A compensation scheme known as the net-release programme is in place for fishermen whose gear has been damaged (for example, in the course of releasing turtles; Zanre 2005). Also, ecotourism programs, mainly run by hotels, pay compensation to fishermen for releasing turtles, nesting reports and in situ protection of nests have been put in place in some sites.

One such example is from Kiunga Marine National Reserve (KMNR), where a cash incentive scheme encourages local villagers to report nests, while receiving 500 Ksh with verification of a nest. The community member then become

responsible for the protection of the nest, and subsequent to hatching of the eggs, receives further compensation (Church and Palin 2003). A nest can generate up to 3000 Ksh, which is worth more than selling a turtle and/or its eggs (Church and Palin 2003). The WWF has also established an income-generating arts and craft programme using recycled flip flops, in the KMNR (Okemwa et al. 2004).

**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 trawling has been undertaken in the Kenyan waters, specifically Formosa Bay and Malindi and Ungwana bays, and to a limited degree in Kilifi and Shimoni, for a long time (Wamukoya 1996; Okemwa et al. 2004; FAO 2007; Wamukota and Okemwa 2008). The Malindi area is an important area serving as turtle foraging ground. At least 3 turtles are caught in trawlers per day, depending on the season (Mueni and Mwangi 2002). Other estimates of turtle bycatch range from 500 to 1000 (Wamukoya et al. 1995) and 100 to 500 sea turtles annually (Wamukoya et al. 1998). Prawn trawlers not only pose a direct threat to turtles, but also indirectly through habitat destruction (Wamukota and Okemwa 2008). In 2007, 8 vessels were licensed to operating in Kenya (Okemwa et al. 2004). Prawn catches have been declining, as a result of overexploitation of this resource (Wamukoya 1996).

Although the trawlers are required by law to have TEDs, trawler operators consider TEDs to be ineffective (Okemwa et al. 2004; FAO 2007). Preliminary studies conducted in Kenya demonstrated the efficacy of TEDs (IUCN East Africa Programme 1998; Mueni and Mwangi 2001), demonstrating that bycatch is reduced, while not affecting the prawn catch. Yet, there are serious shortcomings that need to be addressed to ensure their effectiveness and to ensure compliance by trawler operators (FAO 2007). Observers lack the proper training to install TEDs when they have been damaged (FAO 2007). There have been reports of decreased prawn catches where TEDs have been installed (Okemwa et al. 2004). The TEDs in Kenya are also less durable (made of steel, not aluminium), and there are incidences where turtles were trapped in trawls even when a TED was installed, probably because the escape opening was too small (FAO 2007).

***b) Set gill nets:*** ■ YES ☐ NO

These have been reported in some areas, such as Kinyaole and Mto Kilifi in Ngomeni, Ziwayu in the Tana River Delta, the Kiunga Marine National Reserve (KMNR), Kizingitini, Ndau in the Lamu Archipelago, Msambweni, Kidomoni Channel, the Mpunguti Marine Reserve and especially Vipingo (Church and Palin 2003; Nzuki 2005b; Nzuki and Muasa 2005; Weru 2005). The nets used to target sea turtles have a mesh size of about 10 x 10 to 40 x 40 cm, can be up to 1 km long and are set for up to 12 hour periods (Church and Palin 2003; Nzuki 2005b).

Artisanal gill netting is one of the major threats to foraging turtles in the KMNR (Church and Palin 2003). At least half (54 to 75%) of the captured turtles, which include both incidentally and intentionally captured turtles, are slaughtered or traded by the fishermen (Nzuki 2004). In January 2008, about 28 turtle mortalities were reported in Vipingo, during which time, there were set gill nets.

***c) Anchored Fish Aggregating Devices (FADs):***

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

The use of purse seine nets has been mentioned by Wamukota and Okemwa (2008), impacting both turtles and their habitats; however no more information is available.

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

Noted to take place adjacent to the turtle feeding grounds off the Kiunga region, more specifically Kiunga, Chandani, Mkokoni, Kiwayu and Kongwale, and has been responsible for at least some turtle mortalities in this region (Church and Palin 2003; Weru 2005). As many as 7 commercial vessels have been reported to operate in a single night in the KMNR (Church and Palin 2003).

***f) Driftnet:*** ☐ YES ■ NO

***g) Other1:***

This fishery is one of the leading causes of turtle mortality in the KMNR (Church and Palin 2003; Weru 2005). Beach seining also takes place in Takaungu (Kilifi), Ngomeni (Malindi) and Funzi-Bodo (Wamukota and Okemwa 2008). It is a major cause of coral reef destruction in these areas (Wamukota and Okemwa 2008).

***h) Other2:***

Harpooning and spear fishing: Traditional fishing gear such as these is being used by villagers in Gazi-Msambweni and Funzi-Bodo, and has been used to hunt turtles (Church and Palin 2003; KESCOM 2005). The extent to which turtles are being hunted in this way is uncertain.

Poison, dynamite fishing, fence trapping: Poison was reported to be used in Ngomeni, Funzi-Bodo (KESCOM 2005), in the Msambweni area, particularly by immigrant fishers (Nzuki and Muasa 2005; Wamukota and Okemwa 2008) and Mida Creek (Zanre 2005). Poison is considered an important threat to turtles by local communities in Msambweni (KESCOM 2005; Wamukota and Okemwa 2008). The use of dynamite fishing was noted by Church and Palin (2003) and Wamukota and Okemwa (2008). Fence traps are used by fishermen in the Mida Creek, Watamu (Zanre 2005).

☐ **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: (See section 1.4.1.) At least 3 turtles are caught in trawlers per day, depending on the season (Mueni and Mwangi 2002). Other estimates of turtle bycatch range from 500 to 1000 (Wamukoya et al. 1995) and 100 to 500 sea turtles annually (Wamukoya et al. 1998). Prawn trawlers not only pose a direct threat to turtles, but also indirectly through habitat destruction (Wamukota and Okemwa 2008).

***b) Set gill nets***

**Fishing effort:**

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

**Perceived Impact:**

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

Source: Gill netting is the most important cause of turtle mortalities in Kiunga, specifically in the KMNR (Church and Palin 2003; Weru 2005). Estimated impacts of gill net fishing on turtles: Up to 10000 turtles annually (Wamukota 2005). At least half (54 to 75%) of these captured turtles, which include incidentally captured turtles, are slaughtered or traded by the fishermen (Nzuki 2004).

***c) Anchored Fish Aggregating Devices (FADs)***

**Fishing effort:**

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

**Perceived Impact:**

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

Source:

***d) Purse seine (with or without FADs)***

**Fishing effort:**

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

**Perceived Impact:**

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

Source:

***e) Longline (shallow or deepset)***

**Fishing effort:**

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

**Perceived Impact:**

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

Source: As many as 7 commercial vessels have been reported to operate in a single night in the KMNR (Church and Palin 2003).

This impact is potentially important in Kiunga, where foreign commercial longliners are fishing within the boundaries of the Kiunga Marine National Reserve at night time (Church and Palin 2003).

***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):*** **Beach seine netting**

**Fishing effort:**

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

**Perceived Impact:**

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

Source: This fishery is one of the leading causes of turtle mortality in the KMNR (Church and Palin 2003; Weru 2005).

***h) Other2 (from 1.4.1):*** **Harpoons / spear fishing and poison / dynamite fishing**

**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]**

Unconfirmed reports indicate the presence of poison fishing and blast fishing (Church and Palin 2003; KESCOM 2005; Zanre 2005; Wamukota and Okemwa 2008). Measures undertaken include encouraging fishermen to report any of these incidences and enforcement by KWS and Fisheries Department.

Foreign commercial long liners reportedly fish within the Kiunga Marine National Park (Church and Palin 2003).

**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

This is done in some areas where incentives are in place. The net-release programme involves subsistence / artisanal fishermen releasing turtles form their nets, while receiving a monetary reward in return (Zanre 2005). Data, such as biometric measurements, are also collected from these turtles.

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

Trawlers are required to install TEDs (Okemwa et al. 2004).

(However, compliance is not very good, as trawler operators consider TEDs to be ineffective (Okemwa et al. 2004; FAO 2007). In spite of the usefulness of TEDs, the devices used in Kenya have some serious shortcomings that need to be

addressed (See Section 1.4.1.a; FAO 2007).

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

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

Fishing closer than 5 nautical miles from the coast is prohibited by law, except for research purposes, which requires a special permit (Fisheries Act Cap. 378 of 1991; FAO 2007). In 2003, restrictions were introduced into the fishing sector, which included a closed season from 1 November to 1 March and the restriction of trawling to daylight hours (FAO 2007). In order to ensure compliance, onboard observers have been deployed on vessels by the Department of Fisheries, and the installation of Vessel Monitoring Systems (VMS) became mandatory (FAO 2007).

h) **Effort management control**

☐ YES ☐ NO ☐ NOT APPLICABLE

☐ 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

The Fisheries Department has observers onboard trawlers to monitor their activities in collaboration with the Kenya Marine and Fisheries Department (KMFRI) who are carrying out research to determine ecological and socio-economic aspects of trawling in Kenyan waters/effectiveness of TEDs. However, observers lack sufficient training and the technical expertise to deal with faulty TEDs (FAO 2007).

**Vessel monitoring systems**

■ **YES** ☐ NO ☐ NOT APPLICABLE

Acquisition of efficient monitoring equipment. The Fisheries Department is in the process of purchasing patrol boats for the higher seas, specifically to monitor trawling activities and other foreign commercial vessels. Trawlers have been fitted with Vessel Monitoring Systems (VMS) to ensure compliance with license restrictions on fishing area (FAO 2007).

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

There is a certified company specifically contracted by the Kenya Ports Authority (KPA) to handle ship-borne waste.

**Training programmes / workshops** to educate fishers

■ **YES** ☐ NO ☐ NOT APPLICABLE

This is being done by the Fisheries Department in preparation for co-management (Beach Management Unit) Framework.

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

**Other (list and explain):**

■ **YES** ☐ NO ☐ NOT APPLICABLE

Undersized meshed nets (as gazetted in the Fisheries Act) are prohibited and offenders charged in courts of law.

☐ **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]**

Net-release programme: The net-release programme involves subsistence / artisanal fishermen releasing turtles form their nets, while receiving a monetary reward in turn (Zanre 2005). Data, such as biometric measurements, are also collected from these turtles.

Assessment of TED efficiency: Studies were conducted in Kenya to demonstrate the efficacy of TEDs (IUCN East Africa Programme 1998; Mueni and Mwangi 2001), and demonstrated that bycatch is reduced by 14%, while not affecting the prawn 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

Kenya organized a regional workshop to facilitate the exchange of information on the status of marine turtles and their habitats among signatory states within the Western Indian Ocean region in 2004 and is committed to the 2008 followup workshop.

**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]**

Don't know.

**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

Marine turtles and their associated products are protected under the Wildlife (Conservation and Management) Act Cap 376 and the Fisheries Act Cap 378 which specifically prohibit utilization of any form of turtles, their eggs, meat, oil, shells. Turtles are regarded as wildlife. However, this legislation does not protect turtle nesting and foraging habitats, other than the areas included in reserves / marine parks (Okemwa et al. 2004).

**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 |
| Meat is one of the most important commodities traded (Nzuki 2005b). | |
| **Egg consumption** | |
| ■ **YES** ☐ NO | ☐ HIGH ☐ MODERATE ☐ LOW ☐ UNKNOWN |
| **Shell products** | |

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

**Fat consumption**

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

Oil is one of the most important products traded (Nzuki 2005b).

**Traditional medicine**

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

Oil is thought to have medicinal value (Nzuki 2005b).

**Eco-tourism programmes**

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

**Cultural / traditional significance**

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

**Other**

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

**Level of harvest:**

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

**Impact of harvest:**

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

Source of information:

Illegal trade in turtle products is rampant in Kenya. Trade, and associated poaching are particularly high in Ngomeni (Malindi), the island of Ziwayu (Tana River Delta), and Kiunga, Kizingitini and Ndau (Lamu Archipelago; Nzuki 2005b).

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

■ **YES** ☐ NO ☐ UNKNOWN

N/A

**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]**

**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 |

Monitoring takes place in all the areas covered by TCGs and reported as major nesting grounds above. The activities are carried out on a monthly basis and detailed reports forwarded to KESCOM. Enforcing the above regulations has been difficult due to lack of equipment, human resources and politics.

| | |
|---|---|
| **Education/awareness programmes** | |
| ■ **YES** ☐ NO ☐ N/A | ☐ EXCELLENT ☐ GOOD ☐ LOW ☐ UNKNOWN |
| **Egg relocation/hatcheries** | |
| ■ **YES** ☐ NO ☐ N/A | ☐ EXCELLENT ☐ GOOD ☐ LOW ☐ UNKNOWN |

This is done in a few selected sites (Church and Palin 2003; Weru 2005).

| | |
|---|---|
| **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 |

The issue of debris is also addressed during the annual International Coastal Clean-up event in Kenya. More regular beach clean-ups are organised by KESCOM (Gakuo 2009).

**Re-vegetation of frontal dunes**

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

**Building location/design regulations**

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

**Light pollution reduction**

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

**Other (list and rate them)**

■ **YES** ☐ NO ☐ N/A

-Community involvement
-Incentives
-Legislation
-Repossessing major nesting areas (Tenewi Islands) lost to private development

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

Currently, the Fisheries Policy has been revised and Beach Management Units have been put in place. These take charge of management of all activities on the beach. Additionally, an ICZM Policy has been prepared and shall be endorsed by parliament for adoption. With this policy, an Action Plan has been developed and already launched together with a Shoreline Management Plan. The Shoreline Management Plan was completed in the year 2010, while the ICZM Action plan was launched in July 2011

## 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]**

Community participation
Ecotourism Establishment of Community Conservation Areas such Iweni in Lamu County, Kuruwitu in Kilifi County and Kibuyuni in Kilifi County. This has mainly worked under the Fisheries Act, which has legally established Beach Management Units, that also promote conservation Programmes outside protected areas.

**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

Characterization of nesting beach is ongoing, including an assessment of environmental impact. The National Environment Management Authority (NEMA) requires all tourists and other industrial scale developments to file environmental audit reports under the Environmental Management and Coordination Act, EMCA of 1999. A shoreline management strategy has also been developed and it identifies areas of conservation importance

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

■ **YES** ☐ NO ☐ NOT APPLICABLE

It is done within the Marine Protected Areas (MPAs) and periodic monitoring of waste disposal by tourist establishments into the marine environment.

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

■ YES ☐ NO ☐ NOT APPLICABLE

Patrols and monitoring are being intensified. The use of explosives in Kenya has reduced by 80%.

Collaborating with neighbouring countries (Tanzania) to establish a Transboundary conservation area in addressing the issue of fishing with explosives and migrant fishermen is currently ongoing under the engagement of the UNEP Nairobi Convention Under the Kenya Maritime Authority, a National Contingency plan in response to marine pollution has been developed and in place.

**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)

there is close monitoring on all the Marine Protected Areas (MPAs) and the major fishing grounds. Additionally a Coral reef and Seagrass Conservation Strategy has been developed and plans to launch and implement are currently ongoing.

**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)

There are a number of mangrove replanting initiatives in Kenya being undertaken mainly by local communities (Mohamed et al., 2008), e.g. Gazi, Funzi, Bodo, Robinson Island and Kipini. Currently a National mangrove management plan is being developed.

**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)

The newly developed Coral reef and seagrass beds Conservation Strategy seeks to restore and recover degraded seagrass beds

## 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]**


Church, J.E., Palin, O. 2003. The sea turtle conservation initiative in the Kiunga Marine National Reserve, Lamu, Kenya from February 1997 to June 2003. Report for WWF East Africa Regional Programme Office. 1-107 p.

Contracting Parties to the Nairobi Convention 2001. Country Report: Kenya. 17-22 p. In: IUCN-EARO (Ed.), Conservation of coastal and marine biodiversity in the Eastern Africa Region: Progress in implementation of the Jakarta Mandate. IUCN East Africa Regional Office and IUCN / SSC Marine Turtle Specialist Group.

Eastern African Marine Ecoregion Programme 2004. The Eastern African Marine Ecoregion Conservation Plan 2005-2009. 1-62 p.

FAO 2007. Report of the workshop on managing interactions between sea turtles and shrimp trawl fisheries in the south west Indian Ocean. Interactions between sea turtles and fisheries within an ecosystem approach to fisheries management. Report of the workshop on managing interactions between sea turtles and shrimp trawl fisheries in the south west Indian Ocean. 1-23 p.

Frazier, J. G. 1975. Marine turtles. POST 11: 6-10.

Frazier, J.G. 1993. Dry coastal ecosystems of Kenya and Tanzania. 129-150 p. In: Van der Maarel, E. (Ed.), Dry Coastal Ecosystems: Africa, America, Asia and Oceania. Ecosystems of the World. Elsevier, New York.

Gakuo, A.M. 2009. Advances in sea turtle conservation in Kenya. 1-4 p.

IUCN East Africa Programme 1998. Report of the Western Indian Ocean turtle excluder device (TED) training workshop. 28 pp.

Kaloki, F., Wamukoya, G.M. 1996. Local community participation in sea turtle conservation in Kenya. 27-29 p. In: Humphrey, S.L., Salm, R.V. (Eds.), Status of sea turtle conservation in the Western Indian Ocean. IUCN/UNEP, Nairobi, Kenya.

Kemf, E., Groombridge, B., Abreu, A., Wilson, A. 2000. Marine turtles in the wild: A WWF species status report. 20-32 p. WWF, Gland, Switzerland.

KESCOM 2005. Enhancing the conservation and management of sea turtles in Kenya. 1-81 p.

Mbendo, J. R., Wamukoya, G. M., and Kaloki, F. P. 2000. Sea turtle recovery action plan for Kenya. Eighteenth International Sea Turtle Symposium. Proceedings of the Eighteenth International Sea Turtle Symposium. 42-44 p.

Mueni, E. and Mwangi, J. 2001 A survey on the use of a turtle excluder device (TED) on the Kenyan Coast. Kenya Wildlife Service Technical Series.

Mueni, E. and Mwangi, J. 2002 Trawler survey along the Kenyan coast. KWS Report. 11 p.

Nzuki, S. 2004. KESCOM surveying trade in turtle product. 15-16 p. In: Wilson,A., Humphrey, S.L. (Eds.), Marine turtle update: Recent news from the WWF Africa and Madagascar.

Nzuki, S. 2005a National status of sea turtle conservation and management: Kenya, In: Okemwa, G.M., Muthiga,N.A. and Mueni,E.M. 2005. Proceedings of the Western Indian Ocean Marine Turtle Conservation Workshop. 24 pp.

Nzuki, S. 2005b. KESCOM study exposes rampant turtle trade. 7-9 p. In: Humphrey,S.L., Wilson, A. (Eds.), Marine turtle update: Recent news from the WWF Africa and Madagascar marine turtle programme. WWF.

Nzuki, S., Muasa, J. 2005. Participatory habitat characterization and GIS database development for the conservation and management of sea turtles in south coast Kenya. Report Number WIOMSA/MARG-I/2005-04. 1-24 p.

Okemwa, G.M., Nzuki, S., Mueni, E.M. 2004. The status and conservation of sea turtles in Kenya. Marine Turtle Newsletter 105: 1-6.

Okemwa, G. M., Muthiga, N. A., and Mueni, E. M. 2005. Proceedings of the Western Indian Ocean Region Marine Turtle Conservation Workshop. September 16 - 17, 2004, Mombasa, Kenya. Western Indian Ocean Region Marine Turtle Conservation Workshop. 1-27 p.

Okemwa, G.M., Ndirangu, S., Muthama, C., Ong'anda, H., Mueni, E.M. 2005. A preliminary inventory and characterization of selected sea turtle nesting beaches at the Kenya coast. 1-16 p.

Pilcher, N. J. 2006. Proceedings of the twenty-third annual symposium on sea turtle biology and conservation. Twenty-third annual symposium on sea turtle biology and conservation. Proceedings of the Twenty-Third Annual Symposium on Sea Turtle Biology and Conservation. 1-261 p.

Wamukota, A. 2005. Using a rights based approach to conserve natural resources: The case of sea turtles. 1-4 p. In: Wakwabubi, E., Matendo, L. (Eds.), Institutionalising rights in development through citizen participation: Case studies from Kenya, Uganda and Zimbabwe. Participatory - Methodologies Forum of Kenya (PAMFORK), Nairobi.

Wamukota, A. 2007. Leatherback stranding on Kuruwitu Beach. 1p.

Wamukota, A., Okemwa,G.M. 2008. Perceptions about trends and threats to sea turtles in Kenya. 1-18 p.

Wamukoya, G.M. 1996. Kenya to minimise turtle mortality in shrimp fishery. Marine Turtle Newsletter 73: 17-18.

Wamukoya, G.M. and Mbendo, J.R. 1995 Incidental capture of sea turtles in shrimp trawl fisheries in Kenya. KWS Technical Report Series. 6 pp.

Wamukoya, G.M., Kaloki, F., Mbindo, C. 1996. The status of sea turtle conservation in Kenya. 57-72 p. In: Humphrey, S.L., Salm, R.V. (Eds.), Status of sea turtle conservation in the Western Indian Ocean. IUCN / UNEP, Nairobi, Kenya.

Wamukoya, G.M., Kaloki, F.P. and Mbendo, J.R. 1997 Sea turtle recovery action plan for Kenya (STRAP). KESCOM Technical Report Series. 69 pp.

Wamukoya, G.M., Mbendo, J.R. and Eriya, J. 1998 Bycatch in shrimp trawls in Kenya with specific reference to sea turtles. 14 - 15 p. In: IUCN East Africa Programme, Report of the Western Indian Ocean turtle excluder device (TED) training workshop.

Watson, D.M. 2006. Growth rates of sea turtles in Watamu, Kenya. Earth and Environment 2: 29-53.

Weru, S. 2005. WWF Kiunga marine turtle conservation programme. 11-12 p. In: Humphrey, S.L., Wilson, A. (Eds.), Marine turtle update: Recent news from the WWF Africa and Madagascar marine turtle programme.

Zanre, R. 2005. Report on Watamu Turtle Watch's sea turtle bycatch release programme, Watamu, Kenya: April 1998 - May 2004. 1-87 p.

**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

Through the establishment of TCGs and other community based conservation groups who report on turtle activities occuring within their areas-through patrols and monitoring (Gakuo 2009).

The national database is continually updated.

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

☐ YES ■ **NO** ☐ UNSURE

However, DNA data has been collected and is being analysed in Reunion. Additional samples are due to be analysed in Australia.

**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

This include flipper tagging of nesting females and releases by fishermen by all the TCGs in Kenya. So far over 1,700 turtles have been tagged. Tag returns from South Africa, Somalia, Seychelles, Comoros and Tanzania have been recorded (Nzuki 2005a). There have also been local returns and recaptures.

**Satellite tracking** ■ **YES** ☐ NO

In the pipeline

☐ **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

However, turtles that are released from fishermen's nets as part of the net-release programme are tagged with titanium tags (Zanre 2005). Stranding data of such turtles could be used as an indication of the survival rate of incidentally caught turtles, at least those caught by artisanal / subsistence fishermen. Turtle mortalities are monitored through beach patrols and cause of death assessments (Weru 2005).

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

☐ YES ■ **NO** ☐ UNSURE

No formal research has been conducted on the frequency or pathology of diseases, but signs of diseases are recorded during necropsies conducted on some stranded individuals. There are some records of fibropapilloma on sea turtles in Kenya (Church and Palin 2003; Zanre 2005). Reports from beach monitors suggest an increase in diseases among turtles (Church and Palin 2003). An unnamed skin disease has also been observed on some stranded, dead turtles in the KMNR (Church and Palin 2003).

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

■ **YES** ☐ NO ☐ UNSURE

This has been tried on a small scale in 2006 during the year of the turtle.

Participatory rural appraisals have been used to assess turtle population and habitat trends (e.g. Wamukota and Okemwa 2008).

**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]**

There is currently a regional initiative to prioritize and harmonize research and monitoring activities within the Western Indian Ocean region. However national priorities are area and resource depended.

The main areas, which are being covered are, the collection of data on turtle activities and habitat protection measures alongside efforts to mitigate poaching.

**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

With Reunion and Australia

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

Information exchange

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

Information exchange and tag returns. Have had tags returns to Seychelles and South Africa. Tag returns from South Africa, Somalia, Seychelles, Comoros and Tanzania have been recorded (Nzuki 2005a). There have also been local returns and recaptures.

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

Information exchange

☐ **Other**

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

Conservation targets all species irrespective of their population. Legislation prohibits any form of exploitation.

There is some uncertainty regarding turtle population trends in Kenya (Wamukoya et al. 1996), perhaps at least in part due

to a lack of long term data (Zanre 2005). The general perception is that the nesting and foraging sea turtle populations in Kenya are declining (Wamukoya et al. 1996; Zanre 2005; Wamukota and Okemwa 2008). This notion is based mainly on the perceptions of local communities, through participatory rural appraisals / interviews.

Green turtles are the most abundant turtle species in Kenya (Okemwa et al. 2004), and, because they are sought after for their meat (Nzuki 2005b), probably the most exploited. This species also constitute the largest proportion of strandings (Okemwa et al. 2004). Hawksbills occur in smaller numbers, but are threatened by poachers specifically for their carapaces (Nzuki 2005b). Olive ridley nesting and feeding sites overlap with prawn fishing areas (FAO 2007). Leatherback and loggerhead turtles do not nest in Kenya, and little information is available for these two species. Strandings of these two species are very infrequent (Okemwa et al. 2004; Wamukota 2007).

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

☐ YES ■ **NO** ☐ UNSURE

**3.3.3 Describe how research results are being applied to improve management practices and mitigation of threats (in relation to the priority populations identified in 3.3.1, among others). [SAP]**

Research results being used to improve the effectiveness of conservation actions through management, threat mitigation, assessment of hatchery management practices, assessment of habitat loss, capacity building, education and awareness.

**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

KESCOM has standardized activity (nesting, mortality, tagging and sighting) specific data sheets, which are being used by all TCGs and volunteers in data and information collection. There is an agreed set of protocols in data collection, especially in habitat characterization, tagging, treatment of sick turtles and DNA sampling.

**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]**

Internet
Brochures
Publications-Jambo kasa
Meetings
Website

**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

Kenya maintains a national database which holds specific data on tagging and tag returns from countries within the WIO and has been involved in the collection of DNA data which has a regional potential in terms of population genetic mapping and migratory information. The national data on nesting periodicity offers an opportunity for comparisons of reportedly spatial temporal shifts in nesting behaviours elsewhere in the region and a declining number of nesting females.

## 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]**

- Videotapes on turtles and marine environment, which have mainly been acquired from other countries.
- Brochures
- Posters
- Stickers and Stamps issue
- Kasa News Newsletter, produced by KESCOM on a quarterly basis.
- Jambo kasa newsletter that was produced and distributed on a monthly basis
- Website
- Exchange programs between TCGs
- Education Manual-in process
- T-shirts
- Annual awareness days (Marine Environment Day, International Coastal Clean-up)
- Contributions to the IOSEA website and www.seaturtle.org
- Mass media information programmes through national newspapers

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

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

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

■ **YES** ☐ NO

Watamu Turtle Watch has constructed an information center where members of the local community and school children learn about the marine environment from displays, games and video shows.

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

Four of KESCOM's TCGs are undertaking income generating projects. WWF-Kiunga has a marine waste based handicraft, while the Funzi Turtle Club are conducting eco-tours within the Island and nesting beaches. There are plans to assist the other TCGs come up with income generating programmes to support local communities in their areas of operation.

**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]**

Local communities involved in the development of a management plan for the MPAs in Kenya

Leaders of community conservation groups participate in KESCOM's meeting and in outputting the annual work plans

Community Participation Strategies developed for some of the TCGs

Some community leaders trained in community mobilization

**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]**

All community groups, Government Institutions, NGOs, Private Sector came together to form KESCOM as the national body coordinating sea turtle conservation and management in Kenya. Formation of the Kenya Sea Turtle Conservation Committee and Integrated Coastal Area Management hosted by the Coast Development Authority

## 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

Unsure

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

☐ YES ☐ NO ☐ NOT APPLICABLE

Unsure

**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

Kenya Wildlife Service has an intelligence unit focusing on illegal trade in endangered species or as listed under CITES and other agreements Customs Department involved in border and port entry control of illegal wildlife and their products.

**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]**

Kenya is a signatory state to the Lusaka Task Force which deals in the trade of endangered flora and fauna as listed in the CITES.

**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]**

Beach patrols and monitoring
Capacity building
Legislation enforcement
Education and awareness
On-going research

**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

Sea Turtle Recovery Action Plan (STRAP) for Kenya which is currently under review

**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]**

1) Data and information on populations (especially of sizes and structure) and foraging areas (3.1)
2) Data on migrations (3.1)
3) Impact of fisheries on marine turtles and socio-economics - Mapping and continued patrols and monitoring (1.4)
4) Capacity building especially at the grassroots level (5.4)
5) Education and awareness (4.1)
6) Rehabilitation of degraded nesting areas (2.2)
7) Pollution control (2.1)
8) Coastal development (2.1)
9) Regional cooperation (5.3)
10) Legislation (enforcement) (5.5)

**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 |

Poaching and trade
Marine fisheries-especially in gear issues
Tagging and tag returns
Genetic mapping

**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]**

Data and information sharing
Regional database
Regional Newsletter
Standardized protocols
Tagging systems
Regional workshops

**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]**

Encourage voluntary reporting, capacity building for EEZ and 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]**

DNA analysis capacity and facilities are lacking, Gear technology, Patrol boats, Camping facilities, Computers, Vehicles, Data collection equipment especially for in-water work.

**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]**

Training TCG leaders in turtle biology, legislation, conducting awareness and education programs, record keeping, data collection and archiving.

Training programmes, workshops etc. been coordinated nationally and regionally by information sharing and networking through the national committee to provide details on contents of workshops and seminars conducted elsewhere.

**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]**

Developed partnerships with the Kenya Marine and Fisheries Research Institute (KMFRI), Coastal Development Authority, Naivasha Wildlife Training Intstitute, University of Nairobi (UoN) and Moi University in the past.

**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]**

They are effective detterents but sometimes enforcement is hampered by resources.

**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

Both the Wildlife and the Fisheries Acts and policies have been under review.

**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

Legal specifications on fishing mesh sizes differ
Limited enforcement capacity
Different levels of enforcement

## 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]**

Regional meetings

The Western Indian Ocean Marine Turtle Workshop, Held in Mombasa, Kenya 16-17 September 2004 provided an opportunity to raise awareness of the MoU.

**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

Subject to condition that it is not in conflict with the existing national legislation.

**6.2 Secretariat and Advisory Committee**

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

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

The government has in place an Institution namely, the Kenya Wildlife Service (KWS) which is implementing some of the aspects of the MOU towards turtle conservation and management.

**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

UNDP project on enhancing turtle conservation and management in the conservation and management of sea turtles in Kenya and BP conservation program among others.

BP company through its BP Conservation Program on enhancing community participation in the conservation and management of sea turtles in Kenya

WIOMSA Participatory habitat characterization and GIS database development for South Coast Kenya

KESCOM is currently engaged in fund raising from the private sector and other NGOs.

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

Nest adoption programs in hotels
Lectures to tourists and students
Adoption of tagged turtles

**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

Kenya Wildlife Service (KWS)

**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

Under the Integrated Coastal Area Management (ICAM) initiative.

**Comments/suggestions to improve the present reporting format:**

It is interactive and easy to complete

**Additional information not covered above:**