





Report of the First Meeting of the Western Indian Ocean – Marine Turtle Task Force (WIO-MTTF)

A workshop to promote implementation of the IOSEA Marine Turtle Conservation and Management Plan in the Western Indian Ocean

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List of acronyms used in the text

Abbreviation	Meaning
ADSEI	Association for the Socioeconomic Development of Itsamia
ASCLME	Agulhas and Somali Current Large Marine Ecosystems Project
BRD	By-catch Reduction Device
CAPFISH	Capricorn Fisheries Monitoring
CEDTM	Centre of Study and Discovery of Marine Turtles
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CMS	Convention on the Conservation of Migratory Species of Wild Animals
EAME	Eastern African Marine Ecoregion
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EKZNW	Ezemvelo Kwazulu-Natal Wildlife
EMCA	Environmental Management and Coordination Act
FADs	Fish Aggregating Devices
FAO	Food and Agriculture Organization
GEF	Global Environment Facility
IOC	Intergovernmental Oceanographic Commission
IOSEA	Indian Ocean – South-East Asian Marine Turtle MoU
IOTC	Indian Ocean Tuna Commission
IUCN	The World Conservation Union
IUU	Illegal, Unregulated And Unreported Fishing
KESCOM	Kenya Sea Turtle Conservation Committee
KWS	Kenya Wildlife Service
MCS	Monitoring, Control and Surveillance System
MMP	Mohéli Marine Park
NEPAD	New Partnership for Africa's Development
ORI	Oceanographic Research Institute
RFMO	Regional Fisheries Management Organisation
SEAFDEC	Southeast Asian Fisheries Development Center
SEYMEMP	Seychelles Marine Ecosystem Management Plan
STRAP	Sea Turtle Recovery Action Plan
SWIOFC	South West Indian Ocean Fisheries Commission
SWIOFP	Southwest Indian Ocean Fisheries Project
TCG	Turtle Conservation Group
TED	Turtle Excluder Device
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational Scientific and Cultural Organization
WCS	Wildlife Conservation Society
WIO-LaB	Western Indian Ocean Land Based Sources of Pollution Project
WIO-Lab	Western Indian Ocean Marine Science Association
WIOMSA WIO-MTTF	Western Indian Ocean Marine Science Association Western Indian Ocean – Marine Turtle Task Force
WWF	World Wide Fund for Nature
ZSL	Zoological Society of London
LOL	Loological society of London

Background

Five out of seven species of marine turtle worldwide occur in the Western Indian Ocean (WIO): Green *Chelonia mydas*, Hawksbill *Eretmochelys imbricata*, Loggerhead *Caretta caretta*, Leatherback *Dermochelys coriacea*, and Olive ridley *Lepidochelys olivacea*. According to the Sodwana Declaration (IUCN, 1996) "only a few of the discrete populations in the region are stable or growing; three of the populations are extinct; most populations are either in decline or have not yet begun to recover from centuries of irrational use". All five species are categorized globally as endangered or critically endangered on the IUCN Red List.

Some of the threats facing marine turtles in the WIO include: exploitation for food, oil, leather and ornamentation; mortality associated with incidental capture in fisheries; marine and land-based pollution; and disruption of essential feeding and nesting sites. Though such threats are fairly well-recognised they are not as well-documented, and spatial and temporal overviews of threats generated from specific data sources are lacking.

Several meetings have been hosted in the WIO over the last decade, all calling for regional cooperation among countries to manage sea turtles as a shared stock. Yet, despite a large number of international programmes (eg. WIOLab, SWIOFP, ASCLME, EAME, WIOMSA), international instruments (CITES, CMS – IOSEA, Nairobi Convention) and workshops (South Africa - 1995, Kenya - 2004, WIOMSA - 2005), WIO countries are still conducting turtle conservation and management largely in isolation.

Various frameworks for conservation action exist and provide useful guidance, among them:

A Marine Conservation Strategy and Action Plan for the Western Indian Ocean (IUCN, 1996) provides a fairly comprehensive "shopping list" of priority actions and strategies in various domains (eg. research/monitoring, integrated management, community participation, capacity-building, public awareness, international cooperation, and funding). However, it was not set up as an instrument through which Governments and other partners could be held accountable for progress made (individually or collectively) towards conservation objectives.

A broadly endorsed regional programme does exist in the form of the Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia, adopted in 2001 under the auspices of the Convention on the Conservation of Migratory Species of Wild Animals (CMS). This non-binding, intergovernmental agreement has been signed by some 27 States around the whole of the Indian Ocean and South-East Asia, including most of the countries of the Western Indian Ocean.

Supported by a secretariat co-located with UNEP in Bangkok, Thailand, the IOSEA Marine Turtle MoU has been coordinating and closely monitoring region-wide conservation efforts for over four years. Among other things, it has been responsible for the development of a state-of the-art Online Reporting Facility, and the organisation of successful region-wide Year of the Turtle campaign in 2006. All of the twelve "Priority Actions" identified in the 1996 WIO Strategy and Action Plan are fully integrated in the IOSEA CMP, and many of them have seen substantial progress.

Introduction to the WIO-MTTF

The Western Indian Ocean - Marine Turtle Task Force (WIO-MTTF) is a technical, non-political, working group comprised of specialists from eleven countries in the Western Indian Ocean (Comoros, France (La Réunion), Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa, United Kingdom (BIOT) and United Republic of Tanzania, as well as representatives from intergovernmental organizations, academic, and non-governmental organisations within the region. The Task Force falls under the aegis of the Nairobi Regional Seas Convention and the Convention on Migratory Species' *Memorandum of Understanding for the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South East Asia* (IOSEA). It serves as an advisory body to the member States of both the Nairobi Convention and the IOSEA.

As an umbrella organisation, the IOSEA Marine Turtle MoU envisages and encourages closer cooperative arrangements at a sub-regional level, in keeping with the recommendation of the Western Indian Ocean Marine Turtle Conservation Workshop, held in Mombasa, in September 2004. That workshop highlighted the need for a regional task force that could provide specialist and technical advice to governments, intergovernmental organisations, national turtle committees and/or NGOs that assist with the implementation of the IOSEA MoU's Conservation and Management Plan (CMP).

The proposed model that arose from discussions at the meeting was a committee to be appointed as a Task Force under the Nairobi Convention, with the explicit aim of facilitating implementation of the IOSEA MoU CMP, while fulfilling at the same time the general programme of work of the Nairobi Convention in its broader scope of management of East Africa's coastal and marine environment. The IOSEA MoU Secretariat subsequently presented the concept for such a task force to the meeting of Focal Points to the Nairobi Convention in Dar-es-Salaam, Tanzania, in November 2005. The idea was positively received, and it was agreed that terms of reference (ToR) be developed and presented for endorsement by the next full meeting of Contracting Parties.

Provisional Terms of Reference of the WIO-MTTF were agreed by the IOSEA Signatory States at their Fourth Meeting (Muscat, March 2006). WIO Governments were then invited to nominate candidates to serve on the Task Force. Participation of other organisations was also foreseen. The nominations were vetted by the IOSEA Advisory Committee and the Task Force was formally established by the Nairobi Convention Conference of the Parties when it met in Johannesburg in early November 2007.

Agenda point: Opening Session of the Meeting

Welcoming Remarks

Mr. Douglas Hykle, Coordinator of the IOSEA Secretariat, called the meeting to order and welcomed participants to the first meeting of the Western Indian Ocean – Marine Turtle Task Force. Though he hoped the meeting would be conducted through informal discussion, it was nonetheless historic as it represented the first-ever collaboration among WWF-EAME, the Nairobi Convention and the IOSEA. It would build on the recommendations of a workshop held in Mombasa in September 2004 which highlighted the need for a regional body that could provide specialist and technical advice. He underscored the value of using information

on progress and gaps in implementation, already compiled by IOSEA, to facilitate the drafting of practical recommendations.

Mr. Dixon Waruinge of the Nairobi Convention Secretariat thanked WWF and the Government of the United Republic of Tanzania for the invitation and the offer to host the meeting. He noted that initially the meeting was planned to be held in Nairobi but due to the prevailing political crisis this was not possible. He also thanked the IOSEA Secretariat for following through with the preparatory work, which culminated with the terms of reference (ToR) for the Task Force having been endorsed by the 5th Meeting of the Contracting Parties to the Nairobi Convention in Johannesburg in November 2007. The Nairobi Convention recognized the important role played by a wide range of key stakeholders in the implementation of resolutions and decisions passed by Governments in different fora. The mandate of the Nairobi Convention is to generate information on how each country is managing their coastal and marine resources. It is interested, therefore, to know what each country is doing towards protecting the marine turtles. The Convention has plans to prepare a periodic report on the status of marine environment and could consider having a chapter on the activities being undertaken by the MTTF in the respective countries.

Dr. Amani Ngusaru of the WWF – Eastern African Marine Ecoregion (EAME) Secretariat thanked the partner organisations for the crucial roles they played to make the meeting happen. He said that WWF was honoured to support the first meeting of the MTTF and had many expectations of the Task Force. Dr. Ngusaru told participants that WWF would continue promoting partnership in marine turtle conservation. The EAME's strategic objectives included building regional capacity for turtle conservation and management by supporting national committees, development of marine recovery plans, support for study tours and lesson learning, addressing information needs for marine turtle management, including coordination of regional programmes, and strengthening networking and collaboration amongst practitioners and decision makers. He acknowledged that all of these objectives were essential building blocks of a regional conservation initiative, but did not in themselves constitute a regional programme with formal endorsement and support from the respective governments, as provided by IOSEA - hence the importance of constituting the WIO-Marine Turtle Task Force.

The meeting was officially opened by Mr. Winfried Haule, Assistant Director of Fisheries in the Ministry of Livestock and Fisheries. Mr. Haule extended a warm welcome to all the participants. On behalf of the Government of the United Republic of Tanzania, he thanked the Nairobi Convention, WWF-EAME and IOSEA Secretariat on their decision to support and host the meeting in Tanzania. His country was a party to a number of relevant regional and global agreements/initiatives aimed at protecting coastal and marine resources, including the IOSEA MoU on marine turtle conservation. Tanzania had a number of initiatives being spearheaded by the government in close collaboration with local communities, NGOs, the national turtle committee and development partners. However there a number of challenges, including illegal harvesting and limited knowledge of genetics and population dynamics, as well as other inherent factors. He encouraged participants to contribute to the discussions freely to make the workshop successful and productive, and declared the first WIO-MTTF workshop officially open.

Dr. Ronel Nel, Interim Task Force Chair, expressed her sincere appreciation to WWF for organising and hosting the meeting. She also thanked the Nairobi Convention Secretariat for its willingness to host the meeting in Nairobi, though this was not possible. She also thanked

the IOSEA MoU Secretariat for having produced all of the meeting documentation, and Dr. Jack Frazer, IOSEA Advisory Committee Chairman, for having facilitated the selection of MTTF members.

Organisation of the meeting

The meeting drew participants from seven IOSEA signatory states: Comoros, Kenya, Madagascar, Mauritius, South Africa, United Kingdom, and United Republic; as well as France (Réunion), Mozambique and Somalia, which have yet to sign the IOSEA MoU. A number of intergovernmental and non-governmental organisations were also represented. The list of participants appears at Annex 1.

Dr. Nel chaired the meeting, which was conducted in English. Douglas Hykle of the IOSEA Secretariat provided secretariat support and Edward Kimakwa of the WWF-EAME Secretariat served as rapporteur. Task Force members were reminded of the essential meeting documents, including a compilation of regional information based on national reports and site-specific data sheets.

The Chair explained that the meeting had three main tasks before it: reviewing the Task Force terms of reference, reviewing the synthesis of national reports for gaps and successes in IOSEA implementation, and developing a work plan to guide future activity. The specific meeting objectives, agenda, and expected outcomes are summarised in Annex 2. Dr Nel noted that the Western Indian Ocean was one of four sub-regions under IOSEA, and was breaking new ground with the creation of the WIO Task Force. She encouraged members to think beyond a purely national perspective when developing their work programmes, since the Task Force needed to build partnerships, collaborate with other NGOS and academic institutions, and maintain a relationship with the IOSEA Secretariat – all the while keeping in mind the migratory nature of the turtles.

In their opening remarks, participants noted the institutional challenges of improving communication and collaboration within countries, the need to adequately compile relevant information that is known to exist, and the value of a forum for exchanging knowledge and experience. Tanzania had established a national committee which might be instructive for other countries; and Mozambique had taken the decision to sign the IOSEA Memorandum of Understanding.

Agenda point: Review of marine turtle conservation progress from a sub-regional perspective

The IOSEA MoU Secretariat had circulated by e-mail to all Task Force members, in advance of the meeting, a set of documents which included:

- national reports for all 11 WIO countries (including non-IOSEA members);
- regional syntheses pertaining to approximately 80 different aspects of IOSEA CMP implementation (with priority attention given to about 30 aspects, listed in Annex 3);
 and
- a list of about 125 sites of importance for marine turtles in the WIO, accessible via the IOSEA Website (http://www.ioseaturtles.org/report.php).

The Task Force used these documents to guide the discussions over the three day meeting. The regional syntheses were organised into eight different themes, mirroring to a large extent the format of the IOSEA Conservation and Management Plan:

I. OVERVIEWS

II. FISHERIES-INTERACTIONS

III. ECONOMIC USES OF MARINE TURTLES

IV. MONITORING / MITIGATION

V. RESEARCH

VI. STAKEHOLDER INVOLVEMENT

VII. PRIORITIES / NEEDS

VIII. IMPLEMENTATION PREREQUISITES

These same thematic headings are used in the report that follows.

I. OVERVIEWS

Members of the MTTF from the respective countries gave an overview on the national conservation status of marine turtles.

Comoros: Species occurrence: *Chelonia mydas*, *Eretmochelys imbricata* (primarily); and *Dermochelys coriacea*, *Caretta caretta* (few observations). Of the 30 beaches constituting the Mohéli Marine Park (MMP), the most important are: five beaches in Itsamia - Mohéli (for nesting and feeding); and seven beaches on the small islands of Nioumachoi (for nesting and feeding). Of lesser importance: five beaches in the north of Mohéli; four beaches in Grande Comore (nesting), which are not frequented by turtles any longer; and three beaches in Anjouan (for nesting and feeding), also not frequented any more.

The community of Itsamia considers marine turtles as a national heritage and realises the benefit they bring to the local economy, so they protect them. However, some poaching activities on the beaches of Mohéli, conducted by outsiders, have been reported. Turtle meat sold on other islands is relatively cheap compared to beef, for instance 1 kg of turtle meat costs about 1 Euro as opposed to beef which costs 5 Euros. The population of turtles is substantial: with about 500 turtles sighted on the beach during a peak night in June. Some

work on protecting turtles is ongoing with the support of UNEP and the WIOLab project. Comoros is collaborating with Réunion to analyze data on marine turtle populations which could be a good model for the region. There are also annual national "day of turtles" when many activities take place. The marine turtle tagging and monitoring programme is strong, though there is need to build the capacity of local communities on marine turtle monitoring.

Kenya: There are over 18 Turtle Conservation Groups (TCGs) based at the various sites. KESCOM is involved in the coordination of turtle conservation efforts. Marine turtles are protected under the Fisheries Act and the Wildlife Act. The Kenya Wildlife Service and the Fisheries Department have joint monitoring and surveillance activities, which are said to be excellent. KWS also conducts some form of intelligence work. Public education and awareness creation; and sensitization of the local communities and school children are integral of the conservation plan. The media is actively involved in this activity. Development along the beach and sea front is controlled and subjected to EIA through the EMCA Act. There has been some incentive-based conservation; however it has not been sustainable. Some efforts are being directed towards developing some protection on the sites through revenue from conservation areas. Plans are underway to develop a national strategy on marine turtle conservation spearheaded by the KWS.

Madagascar: Has a strong community incentive for turtle conservation. Though fairly new, the system embraces the community structure - employing traditions, culture and customs in conserving marine turtles. TEDs are used in the trawl fishery as part of the management measures enforced by the Fisheries Department, MCS Unit, through a 2003 decree. Training was conducted by Ifremer. The use of TEDs by commercial trawlers is motivated by the availability of the United States export market for the shrimp fishery. Another apparent reason for the high usage rate was the fact that the industry is centred around large companies (French-owned), rather than individuals.

Mauritius: Research or monitoring work for marine turtles not yet established. Information and data on turtles nesting and habitats are very scanty. Some resources have been allocated under the SWIOFP for research. Green turtles and Hawksbills are the most common on outlying Mauritian beaches. The entire coastline of the main island has been developed, however a recent case of a fisherman who protected a Green turtle nest until it hatched was reported. Elsewhere, poaching has been reduced to near zero because the community is involved in ecotourism and they see this as an alternative. A full time conservation officer is employed by the ecotourism programme management of one island, where turtles are viewed as a flagship species. They are also used in tourist and education programmes. There is need for in-depth research work on minimizing the impacts of coastal development and beach lighting.

Mozambique: A National Strategy and Action plan have been developed, with a component on assessing the impact of fishing activities on marine turtles. Trial and testing of TEDs was done in the past. They are now supposed to be used in the shrimp trawl fishery, but compliance is poor. A marine turtle working group has been set up and functions on a voluntary basis. It met in the last week. The Government reportedly would like to use the group to help in implementation of marine turtle activities. Another meeting was scheduled for next month. Nation-wide campaigns for marine turtle conservation have been conducted, with positive results. Last year government requested key ministries/sectors to identify the specific issues that affect marine resources as a starting point for developing a national action plan.

Seychelles: Has a long-term monitoring programme dating back to 1972. Government of Seychelles formally established nature reserves at the following sites, managed by organizations indicated: Aldabra (by the parastatal, Seychelles Islands Foundation; UNESCO World Heritage - Aride (by the NGO, Island Conservation Society; Cousin (by the NGO, Nature Seychelles; Curieuse MP & Ste. Anne MP (by the parastatal, Marine Parks Authority. There is a nation-wide turtle monitoring programme, involving the government, NGOs and the private sector. Members of the community participate in turtle monitoring and a stranding network by telephoning the Ministry of Environment's "Green Line" environmental hotline.

South Africa: Five species of sea turtles are found in the waters off South Africa, of which two species - loggerhead and leatherback - nest in significant numbers. About one or two olive ridleys are observed per annum as occasional strays or in strandings. information exists for the nesting beaches and reefs in the iSimangaliso Wetland Park (formerly known as the Greater St Lucia Wetland Park), where loggerhead and leatherback nesting numbers have been monitored since 1963. Initially an area of 8km was monitored and that area has now been expanded to ~56km. It is monitored nightly for the entire nesting and hatching season (i.e. 5 months). No programme exists to do in-water counts for any of the species, other than through fisheries information. South Africa has a good network of protected areas and all of the nesting area, as well as a substantial amount of reef habitats are taken up in protected areas. The result is that direct harvesting and habitat destruction are marginal threats in South Africa. Fisheries impacts, specifically long-lining and bather protection nets are the greatest (quantified) threat to turtles while in South Africa waters. Ghost fishing and trawling may also be of importance, but needs to be monitored. Diseases such as fibropapilloma or fungal infections in nests seem to be largely absent. The effect of climate change is a great unknown at this stage and the effect could go in any direction i.e. positive or negative. Studies will be undertaken in the near future to better understand the threats associated with climate change and South African turtle populations.

United Kingdom: Has put together a comprehensive conservation management plan. Funded, published research has been conducted involving relatively short periods of field work. There is a well-established yearly monitoring programme which generates substantial data on marine turtles.

United Republic of Tanzania: Marine turtle conservation work is centred around working with communities on monitoring, surveillance, nesting activities, awareness creation/campaigns, and beach cleaning. Turtles form important components of ecotourism initiatives. Tanzania provides an important nesting ground for Green turtle and Hawksbills. Marine turtles are protected by law: the Fisheries Act 2003. The country has not provided for the use of TEDs in its fisheries legislation, though there are some efforts in that direction.

In their national reports, most countries provided descriptions of exemplary practices which were quite informative. For example, South Africa mentioned strong marine legislation with fairly good implementation and compliance, the development of an observer programme on longliners, integrated coastal zone and marine management, and a comprehensive turtle monitoring programme. Comoros reported on its effective community monitoring and marine turtle tagging programme which could serve as a model for the region. Kenya's expertise in both biological and social science, and embodied in the conservation work of KESCOM, was also lauded. Though considerable information on best practices exists, the Task Force considered it necessary and worthwhile to undertake a study to consolidate best

practices on marine turtle conservation in the region to inform the policy and decision making. It was suggested that WIOMSA and WWF be approached on about this for funding consideration.

II. FISHERIES-INTERACTIONS

The information on fisheries interactions was found to be weak and subjective; hence may not necessary reflect the realities in the various countries. Most countries have fisheries data held by their respective fisheries departments/authorities. The IOSEA Secretariat acknowledged that it was a challenge to obtain fisheries-related data/information since most IOSEA Focal Points and Task Force members were not fisheries officers. Task Force members were requested to facilitate the provision of this information, through their contacts with the respective focal points. A summary follows of the main findings with regard to fishing effort and perceived impacts, organised by fishery (including corrections to existing information):

Fisheries, Fishing Effort and Perceived Impacts (1.4.1, 1.4.2)

Shrimp Fishery

Comoros: No shrimp trawl fishery. **Kenya:** Shrimp trawlers in the range of 4 – 5 vessels per year with some documented impact on marine turtles. Use of TEDs mandatory, but ineffective enforcement. **Mauritius, Seychelles, UK:** No shrimp trawling. **Tanzania:** Shrimp trawling with known effort. Turtle mortalities are a reflection of a number of trawl vessels, which have been declining steadily from a peak of 25 boats in the 1990s. Use of TEDs not legislated. Moderate impact of trawl fishery on turtles (70 - 80 turtles per year, but most of these are taken alive – far fewer than caught in gill nets: i.e. ca. 600/year.) **Madagascar:** Reported that the use and effectiveness of TEDs has been very successful, through a programme that could be a model for the region. Number of trawlers expected to decline in future. **Mozambique:** Although the use of TEDs is compulsory, they are not widely used nor enforced. A campaign to convince the fishing industry about the advantages of using TEDs would be necessary.

Members proposed that the use of TEDs and legislation should be taken up for discussion by the SWIOFC. An entry point would be to bring up the issue as an agenda item during the Commission meeting or Scientific Committee of the SWIOFC. Market-based incentives should also be encouraged to bring about change in the management of shrimp fishery. WWF-EAME has initiated a process of marine fisheries certification and there are also global campaigns for consumers to demand certified seafoods. Members were encouraged to explore the possibility of taking advantage of the provisions of the Convention on Migratory Species (relating to obligations of flag vessels in distant waters) and EU Fisheries Policy review process to influence sustainable fisheries management programmes.

Bundit Chokesanguan informed the meeting about a FAO-UNEP/GEF project on by-catch reduction in shrimp fisheries, running for several years in about a dozen countries, with some success reported in Nigeria. FAO and GEF were about to begin the second phase of the project, which would include participation of Kenya, Madagascar, Mozambique and Tanzania. He recommended that members in the respective countries seek information from FAO about future plans. The Nairobi Convention Secretariat (Dixon Waruinge) was asked to

follow up on this and report back to the IOSEA Secretariat on possible entry points through UNEP/GEF.

Set Gill Nets

Considered much more difficult to quantify and manage, in view of the large number of operators. In Tanzania, for example, 85% of fish was caught in artisinal fisheries. Comoros: Effort and impacts reported to be relatively high; also in **South Africa** (as bather protection nets). **Kenya:** relatively low effort (in pockets), but moderate impact due to improper use (eg setting at angle prone to catch more turtles). **Madagascar:** possibly relatively high effort, and moderate impact. **Mauritius:** closed season, unknown impacts. **Mozambique:** relatively high effort outside of MPAs, unknown impacts. **France**, **UK** and **Seychelles**: no use or virtually no use of gill nets reported.

Long lines

Generally, Focal Points had provided little information concerning long line fisheries and their interaction with marine turtles. Effort was reported to be relatively high in **France** (with moderate impact) and **South Africa** (with relatively high impact, an order of magnitude higher than gillnetting, as evidenced by its observer programme), and moderate effort/impact in **Comoros**. **Tanzania** and **UK** reported effort of unknown magnitude by foreign vessels (including vessels from Japan and Spain operating in Tanzania's EEZ; and licensed longliners from Japan and Taiwan, in the case of UK). Longlining of unknown effort also occurs in **Kenya**, **Mauritius** and **Mozambique** (possibly involving vessels from China, Japan, Republic of Korea). No longlining is reported to occur in **Madagascar**. It was considered helpful to clarify what was meant by "perceived impact" when making assessments using the subjective scale of measurement.

Drift nets

Members indicated in the existence of driftnet fisheries in some countries, though knowledge on effort and impact was very limited. Members from Comoros, Mauritius and Madagascar reported that there was no drift net fishery in their respective countries. MTTF members were asked to liaise with the national focal points for more information on this subject.

Fish Aggregating Devices (FADs)

Turtle entanglement by tuna purse seining vessels using FADs in the Indian Ocean was reported at the meeting. However there is a paucity of data on turtle by-catch in purse seining, especially the impact of using FADs.

It was recommended that the MTTF members and the IOSEA Secretariat liaise with the Indian Ocean Tuna Commission (IOTC) for data on marine turtle by-catch in purse seining and long lining, including the impact on the use of FADs. Task Force members could also be more opportunistic and proactive in accessing information being generated by other projects in the region, namely the SWIOFP and ASCLME. The meeting also suggested the co-option of RFMOs – namely IOTC, SWIOFC and IOC – in the MTTF. SWIOFC had already availed itself of the formal invitation of the IOSEA Secretariat to do so.

Illegal fishing (1.4.3)

With regard to illegal fishing, including IUU fishing, participants had a body of information showing evidence of malpractice in many countries. Comoros: 3 boats from China reported France: has no information on illegal fishing in its EEZ. to have fished illegally. Enforcement is considered effective, but sometimes Chinese and Japanese boats come to fish illegally. **Kenya:** Unconfirmed reports of illegal fishing activities by foreign fishing vessels; as well as blast fishing in the southern part of the country believed to be masterminded by some communities from Pemba Island, Tanzania. Madagascar: Unconfirmed reports of foreign vessels fishing illegally. Mauritius: Illegal fishing reported and impact on turtles unknown. Mozambique: Illegal fishing vessels from China and Korea, as well as poison fishing in the northern part of Mozambique. Seychelles: In 2006, six turtle poachers were successfully convicted, but the judgment was overturned after one year on technical appeal. Somalia: In the north of the country, illegal harvest and poor fishing practices as well as poaching of turtles for meat is quite common. South Africa: Illegal fishing vessels from China and Korea. Tanzania: Dynamite fishing, spear gun and use of monofilament. A special committee has been formed by the government to address this problem.

It was observed that IUU fishing is a regional issue and therefore should be reflected in the management of fisheries resources in all countries in the region. Recently there was a meeting in South Africa to address IUU fishing, especially from Korean and Chinese boats. This served as a preparatory meeting for an inter-ministerial meeting scheduled for May 2008 in Namibia for SADC member countries to address IUU fishing. The meeting recommended sharing of intelligence information on illegal fishing activities and pursuit of efforts to have a central Monitoring, Control and Surveillance (MCS) system for the region.

Methods to Minimize Incidental Capture (1.4.4)

Task Force members clarified or elaborated on information from their respective countries concerning various methods or programmes aimed at minimising by-catch, as follows: *Turtle Excluder Devices (TEDs)*

As reported elsewhere, Madagascar has effectively implemented a TED programme in its shrimp trawl fishery. Mozambique and Kenya both have legal provisions for the use of TEDs, but they are not effectively applied or enforced. Other countries either have no TED programme or their use is not considered relevant (as they have no shrimp trawl industry).

Appropriate Handling

Not much has been done on appropriate handling in the Western Indian Ocean region; and there is a need to initiate training programmes. It was observed that some dehooking devices, used improperly, have been known to injure turtles instead.

Use of Circle Hooks

Few countries have experimented with alternative hook types. **France:** Too early to evaluate the effectiveness of the circle hooks, however preliminary reports indicate that the circle hooks have reduced incidental catch of turtles and that they are easier to dehook. **Seychelles:** Nature Conservancy - Seychelles tested the use of circle hooks in a small, locally-based long

line fishery. The idea of this one-off trial was not to reduce mortality of turtle by-catch in Seychelles *per se*, but to support global research in the long line fishery. **South Africa:** Experimental fishing on the use of circle hook fishery. South Africa has also undertaken some trials on the use of By-catch Reduction Devices (BRDs).

Spatial and temporal Control

Comoros: No closed season. **Kenya:** Has closed season and nautical mile restriction for the shrimp fishery, taking into consideration ecosystem concerns. **Madagascar:** Has a closed season for shrimp fishery. **Mozambique:** Has a close season for shrimp fishery. **Tanzania:** Has a closed season for some fisheries. **UK:** no spatial and temporal measures in place. It was noted that few if any of the spatial and temporal measures have been put in place especially to address turtle by-catch.

Observer programmes

No turtle-specific observer programmes have been implemented. The programmes in place cover diverse elements to support law enforcement and management of fisheries resources as well as other marine resources, including turtles. The meeting recommended that countries of the region should implement observer programmes in their waters and consider possibilities of a centralized system within the framework of IOTC. Participants proposed commissioning a study to take stock of the status of observer programme in the entire Indian Ocean.

III. ECONOMIC USES OF MARINE TURTLES

Economic Uses and Cultural Values (1.5.2)

Most countries had provided fairly comprehensive information in the reports about a range of economic uses and cultural values of marine turtles, including the relative prevalence/importance of each consumptive or non-consumptive use. The Task Force discussion served to clarify or elaborate on this information.

Meat and Egg Consumption

Kenya: Moderate prevalence of meat consumption, restricted to communities to the north coast, based on a claim of medicinal benefit. **Somalia:** Consumption of turtle meat is very high due to the insecurity in the region. **Madagascar:** High prevalence of meat consumption; low egg consumption. **Tanzania:** Consumption of turtle meat is prevalent, but scale is unknown. **Mauritius:** Low prevalence.

Generally, the prevalence of turtle meat consumption in the region is thought to be moderate to high, and this is generally an illegal activity. It may be necessary to undertake some studies on trade and consumption patterns of sea turtle products in the region. Some work has already been done in Kenya, Comoros, and Madagascar in this respect. It was suggested that support be requested from WIOMSA to conduct a regional workshop to standardize methodologies for assessing use and trade of marine turtles.

Ecotourism

The Task Force recognised that marine turtles are highly important as tourist attractions, and that there is considerable potential within the region to use marine turtles as a basis for ecotourism development. However, this activity should be managed well since it could be potentially damaging if not properly managed.

Traditional Harvest (1.5.3)

All form of harvesting of turtles in all the countries in the Indian Ocean region is illegal, according to national legislation and regulations. It was noted that the Convention on Migratory Species allows for traditional/subsistence use of Appendix I species (including turtles), but stipulates that such exceptions to the general prohibition on taking must be "precise as to content and limited in space and time".

Socio-Economic Studies (1.3.1)

A number of countries in the region have conducted socio-economic studies on marine turtles, and a number of these are cited in the national reports. Marine turtle conservation initiatives are integrated with community-based initiatives in varying ways throughout the WIO sub-region. Some examples are: traditional social systems and values ("Dina") – Madagascar; site-based "turtle conservation groups" – Kenya; village initiatives in turtle conservation and development – Comoros and Tanzania; active inclusion of local community

members in conservation activities as a source of employment and social status – South Africa; and tailored objectives and programs for individual islands – Seychelles.

It was pointed out that there is an opportunity to publish some of the studies in the WIOMSA journal and to make presentations in the WIOMSA scientific symposium. The meeting subsequently agreed on a proposal to request the support of WIOMSA to conduct a regional study and workshop on the social-economic value of marine turtles.

IV. MONITORING / MITIGATION

Long-term Monitoring Programmes (3.1.2)

Most countries reported having put in place long-term monitoring programmes in relation to nesting activities; however there was inconsistency in terms of duration, effort and methodology.

Comoros: Research initiated by a turtle research centre in Réunion (CEDTM - Study and Discovery Center for Marine Turtles) in collaboration with MMP and ADSEI in Itsamia. (1998-2006).

France: Aerial sea turtle monitoring on the west coast of Réunion Island by micro-light aircraft survey since 1996 (/ Ifremer / Parc Marin de la Réunion). Health centre for injured turtles in Réunion since 1997 (Kélonia/Ifremer). Nesting site rehabilitation on Saint Leu beaches (Réunion) since 1999 (Kélonia/Ifremer). Database (Ifremer/Kélonia) including: track count on nesting beaches, tagging, genetic on nesting and foraging habitats of Iles Eparses, La Réunion, Mayotte (DAF et CG Mayotte), Mohéli (Parc Marin Mohéli, ADSEI). Nesting beach monitoring of Iles Eparses since 1985 (Ifremer/Kélonia). Tagging programs in Iles Eparse, La Réunion, Mayotte. Feeding habitat monitoring in La Réunion since 1996 (Kélonia, Ifremer, Parc Marin) and Mayotte (DAF Mayotte, CG Mayotte, Kélonia, Ifremer) since 2003. Monitoring of feeding habitat. Aircraft used for aerial survey since 1996. The same programme has been extended to Mayotte.

Kenya: Well-established Turtle Conservation Groups (TCGs) and other community-based conservation groups who report on turtle activities occurring within their areas, through patrols and monitoring. A national marine turtle database housed at KESCOM is continually updated. The communities fill in the data sheets and submit them to KESCOM. KWS, Fisheries and TCGs have some information on turtles but plans are underway to have one repository. Maintenance of the database has not been consistent, and is mainly project dependent due to monetary incentives. Efforts are underway to explore other more sustainable options.

Madagascar: Has yet to establish a long-term monitoring plan for marine turtles.

Mozambique: Some studies dating back in the 1970s, including species composition, distribution, conservation and threats to marine turtles. However, it was only after 1987 that action began to take place regarding research, monitoring and management of marine turtles in Mozambique - in Ponta do Ouro to Cabo de Santa Maria - Maputo, Southern Mozambique. The Zoological Society of London in collaboration with the Mozambican government (i.e. Provincial Directorate for Environmental Affairs in Pemba), the Natural History Museum in

Maputo and the Department of Biological Sciences, Eduardo Mondlane University have a project on monitoring and protecting nesting *Chelonia mydas* and *Eretmochelys imbricata* females and their nests (Hill & Garnier, 2003). This project is running a marine turtle tagging programme, where titanium tags are being used with the tag codes MZC0000 - MZC0999.

Mauritius: No long-term monitoring plan.

Seychelles: Long-term monitoring in place. While the effort has not been consistent, the methodology is. Some monitoring work on-going in Aldabra atoll, Aride Island, Bird Island, Curieuse Marine Park, Cousin Island, Mahe (southern beaches) and Ste. Anne Marine Park.

South Africa: In 1963 a long-term monitoring programme was initiated, monitoring the nesting loggerhead and leatherback turtles over an 8 km stretch of beach. In 1972 this area was expanded to nearly 60 km including the highest density areas of both these species. Shark net by-catch (outside of protected areas) has been monitored for ~ 20 years. This is the only consistent information on non-nesting species in South Africa (including green turtles, hawkbill and olive ridleys). Sub-sect is used to make between year comparisons, demonstrating a clear increase of loggerheads to over 4,000 in this year.

Tanzania: Village contacts in Zanzibar have been made consistently since 1993 for the nesting sites. Also in Mafia and Kilwa. In Tanzania, however, information concerning turtle populations and habitats is incomplete. Knowledge of developmental and foraging habitats is poor and little is known about the extent and level of human actions on turtle populations at different states in their life cycle.

United Kingdom: Three index beaches on Diego Garcia have been identified for long-term monitoring, and baseline data was collected in 1999 and 2001. Unfortunately, data gathering was suspended because on increased military activity in Diego Garcia following the international events in 2001. Some ad-hoc turtle monitoring activities were carried out in July 2003 and a more systematic plan of data collection is due to be reinstated soon, now that the military situation is quieter. It is intended that long-term survey activities are to be coordinated by the British Representative and the US Naval Support Facility (NSF) Environmental Office.

Key Management Measures (5.2.1)

It was noted that WIO countries are at various stages of developing National Action Plans. It was suggested that every effort should be made to consider a regional vision in the respective national action plans, particularly in relation to information sharing and technology transfer.

Comoros: No national action plan, but existing regional plans for turtle conservation could be considered a possible model. **France:** No national action plan *per se*, but plans are underway for developing one. Conservation plans for green turtle and hawksbill are in preparation. **Kenya:** A Sea Turtle Recovery Action Plan (STRAP) prepared in the 1980s is currently under review. **Madagascar:** No sub-regional plan and no national plan (officially), but a draft exists and is expected to be reviewed again in 2008. Elements of existing plans that could be considered as possible models are: Fanomena project recommendations and WWF- marine turtle conclusion and recommendations. **Mauritius:** A National Action plan for stranded marine mammals/ turtles has been prepared and the geographical area covers the

lagoonal waters of Mauritius. Many government agencies and NGO's will be involved and a protocol of action is clearly stated in the action plan introduced in 2007. **Seychelles:** No specific action plan for turtles, but various projects – such as the GEF SEYMEMP (Seychelles Marine Ecosystem Management Plan) project – have addressed turtle conservation from an ecosystem perspective. **Mozambique:** Draft action plan expected to be adopted by mid-2008. **South Africa:** A management plan is envisaged, but will have to be linked to the national legislation process. **UK:** National Shark Conservation Management Plan, which incorporates turtles. **Tanzania:** Has an Action Plan for Zanzibar but it is in need of updating. Mainland Tanzania has no action plan, but hopefully one will be developed.

It was observed that some countries may have national biodiversity action plans with elements dealing with marine turtle conservation. Task Force members were requested to consult with their national focal points to establish whether the existing national action plans have incorporated comprehensively marine turtle conservation aspects.

Various workshops (eg. Sodwana Bay, 1995; Mombasa, 2004) have defined elements of a regional plan for turtle conservation, which have largely been incorporated in the existing IOSEA Conservation and Management Plan (CMP). The challenge for Governments and the WIO-Marine Turtle Task Force is to identify the highest priority actions and the means for implementation on the ground in the respective countries.

Measures to Reduce Mortality (1.6.1)

The national report synthesis (in the form of a colour-coded matrix and supplementary detail) provides fairly good overview of measures in place to minimise the mortality of eggs, hatchlings and nesting females, including: education and awareness, egg relocation, predator control, restriction of vehicles to the beaches, removal of debris, dune re-vegetation, regulation of construction/buildings along the beaches and light reduction.

The application and relative effectiveness of such measures varied in the respective countries. Generally, more descriptive information is required in the reporting to enable a more comprehensive assessment of progress. The observer from WIOMSA drew attention to beach management efforts in Seychelles, where predation is not a problem, entering of vehicles to the beaches is restricted, lighting is not allowed on the beaches, EIA is required for hotel development and a 25 meter set back is strictly observed.

Recovery of Corals and Sea Grass Habitats (2.2.1, 2.2.3)

The Task Force noted that not much work has been done on foraging studies. It would be important to link up with the Coral Reef Task Force anchored within the Nairobi Convention for more information. The ten-member task force (one from each country) is chaired by Dr. Nyawira Muthiga (WCS, based in Mombasa, Kenya). The Nairobi Convention provided seed money to develop their action plan. The Task Force has a free hand to agree on priority activities, resource mobilization etc., and it reports back to the Nairobi Convention.

V. RESEARCH

Standardized Methods of Data Collection (3.4.1)

Although some countries reported of undertaking some initiatives to standardize methods of data collection, more needs to be done in terms of harmonising approaches at both at national and regional levels.

Comoros: Initial collaboration based on a memorandum of understanding with the CEDTM in Réunion. The current collaboration between Kélonia and the MMP allows for standard tagging programmes, monitoring programmes and standard genetic studies.

France: Database populated with data from Iles Eparses, La Réunion, Mayotte, and Mohéli. Standardisation of nesting beach monitoring methods and aerial survey programmes.

Kenya: KESCOM has standardized activity (nesting, mortality, tagging and sighting) data sheets, which are being used by all TCGs and volunteers for 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.

Madagascar: The WCS-Madagascar marine program and the WWF-Madagascar marine program are exchanging information and this has led to the use of some standardized methods on nesting beaches and threats to marine turtles. Madagascar reported of having only one specialist on marine turtle in the entire country and seeks support for external expertise.

Mauritius: Does not have a monitoring programme, and consequently no standardized data collection methods.

Mozambique: Mozambique is yet to standardize data collection methods.

Seychelles: Turtle monitoring programmes using standardised techniques were initiated at a national level and training of personnel has been ongoing under several government & NGO programmes during the past two decades. The Ministry of Environment has coordinated and approved these programmes. An e-turtle database has been set up whereby all the stakeholders feed data into a centralized database.

Somalia: Somalia collaborated with PERSGA in the past. The observer from Somalia requested renewed support for the conservation of the marine turtles in the country.

South Africa: Has standardized data collection formats, however responsibilities for various data collection and monitoring aspects are sectoral. Each of the different jurisdictions/sectors is managed by a different authority. For example, all flipper tags are managed through EKZNW (including nest monitoring or aquaria rehabilitation); satellite tags, EEZ and high seas observer information by MCM (in combination with partners CAPFISH, WWF & Birdlife); prawn fisheries bycatch by ORI; and bather protection nets by NSB. These responsibilities were derived out of the functions of each authority and cannot be replaced or duplicated by any other entity. However, the information is managed through an informal turtle working group which has been established. Once a draft national policy is adopted this will become an official working group. The results from each of these sectors are tabled annually for review and discussion. Furthermore, there is a very close working relationship and information exchange policy among these authorities, which has a positive effect on turtle conservation.

United Kingdom: Index beaches have been chosen for long-term monitoring on Diego Garcia. A Monitoring Protocol has been adopted for Diego Garcia including standardization of equipment and frequency of surveys. The type of data recorded has also been standardized. Training materials have been produced to ensure volunteers are able to carry out surveys effectively.

United Republic of Tanzania: The Tanzania Turtle Committee designed a standardize data collection format, but it has not yet been operationalized. Plans are underway to have it harmonized and operationalized.

Generally, it was acknowledged that countries have made efforts to develop and standardize data collection protocols and that these could be shared for the purpose of lesson learning. Members suggested conducting a training workshop to look at this important aspect in more detail for the whole region. Fostering linkages with universities and research institutions within the region or globally was proposed as a means of filling the skills and knowledge gap in the WIO region.

Genetic Identity and Migration Routes (3.1.3)

The Task Force acknowledged that there is a lot of work being conducted on genetic studies, tagging and satellite tracking, however it is poorly coordinated. The IOSEA Secretariat maintains a database on tag series currently in use, but the entries for the Western Indian Ocean have not been updated recently, for lack of information from researchers working in the field.

Comoros: A thesis on the genetic identity of the Marine Turtles of the SWIO has been started (Ifremer / Kélonia, Réunion). The results are ongoing for 2007.

France : Satellite tagging for Green Turtles in some countries of the Indian Ocean region. Several programmes on satellite tagging are ongoing. Some publications are available, cited in the provisional national report.

Kenya: DNA studies are being undertaken; some data has been collected and is being analyzed in Réunion. Additional samples are due to be analyzed in Australia.

Madagascar: Samples have been taken by the project but no results are known, as yet. Genetic studies to be completed in 2008. This work is being done by an NGO in the southwest coast of Madagascar. No satellite tagging.

Seychelles : During 1995-1997, as a component of the GEF Turtle & Tortoise Conservation Project (EMPS- J1), a total of 160 genetic samples were collected from nesting green turtles and nesting hawksbills throughout Seychelles, and 370 genetic samples were collected from foraging green turtles and foraging hawksbills throughout Seychelles. Additional genetic samples from foraging turtles and also from stranded turtles continue to be collected on a routine basis, with the intention of eventually conducting more detailed genetic analysis using micro-satellites or other appropriate techniques. Satellite tagging was done on two turtles, though one them died later.

South Africa: Has only made contributions to global studies, cited in the national report.

United Kingdom: Nesting hawksbills in Seychelles and Chagos are both characterized by high frequency mtDNA variants not recorded elsewhere in the world and differ from each other by significant haplotype frequency shifts. The few nesting green turtles sampled for Chagos had haplotypes shared with green turtle populations in both the eastern and western Indian Ocean, but distinct from those in the Arabian Peninsula. However the sampling of Chagos green turtles was too small to permit statistical analysis and additional samples from rookeries in the Chagos are needed. A project to characterise the genetic identity of marine turtle populations in the British Indian Ocean Territory has already started and will continue in February 2006. Populations of foraging juvenile hawksbill turtles from the Chagos and Seychelles could not be genetically differentiated from each other and their pooled mtDNA frequencies are not significantly different from either Seychelles or Chagos rookeries, but are

more similar to Seychelles rookeries, indicating that resident foraging populations appear to be recruited primarily from Seychelles stock.

United Republic of Tanzania: Tagging of Green and Hawksbill turtles is being done on Mafia and Pemba Island. Some genetic studies are being undertaken in Mafia Island.

Mozambique: Genetic studies have been done by the British Zoological Society and one of the universities in Mozambique conducted satellite tagging in 2003 (more information requested).

Somalia: Has undertaken some tagging in the past and requested more support in this field.

It was agreed that a regional mechanism would be useful to keep track of and coordinate work on genetic studies in the region. Stéphane Ciccione offered to take on this responsibility and to submit the information to the IOSEA Secretariat, for posting on the IOSEA website. Similarly, Ronel Nel offered to keep tabs on satellite tracking studies in the region. All Task Force members were invited to inform themselves and provide information to IOSEA about tag series used in their respective countries.

Traditional Ecological Knowledge (3.1.7)

The meeting was informed that Valérie Lilette conducted her PhD work and published her thesis at the University of Réunion on the conservation and inheritance of marine turtles in the SWIO. French title: CONSERVATION ET PATRIMONIALISATION DE LA TORTUE MARINE DANS LE SUD-OUEST DE L'OCÉAN INDIEN. Stéphane Ciccione provided an electronic copy to the IOSEA Secretariat, for dissemination to interested Task Force members upon request.

VI. STAKEHOLDER INVOLVEMENT

Public / Private Sector Initiatives, Partnerships (4.3.2)

Some countries reported having initiated collaborations with hotels and tourist resorts for marine turtle conservation (eg. Kenya, Madagascar); while Seychelles has successfully adopted a model which includes privately administered island nature reserves.

Community Participation and Alternative Livelihood Opportunities (4.2)

Models of community participation and development of alternative livelihood opportunities as part of marine turtle conservation from the various countries were presented. Kenya, Mozambique and Comoros presented good case studies for community involvement in planning and managing marine turtle conservation. Tanzania (Mafia) and Madagascar were also offered as examples where collaborative community partnerships are working.

Comoros: Building of bungalows and organizing nesting beach tours are alternative livelihood opportunities used in Itsamia and the rest of the MMP (Mohéli). The income is used for the protection of the turtles (monitoring of beaches) and for local development.

France: Development of ecotourism activity is one way to give another value for sea turtles. Handicraft people are using shells from the closed sea turtle ranch. They are given certificates attesting to the origin.

Kenya: 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 programs to support local communities in their areas of operation. KWS is developing a community management plan; and community members are incorporated in the planning (eg. at Kiunga Marine Reserve).

Madagascar: Project in Taolanaro ecotourism visits; tourism activity in southeast and east (Masoala and Sainte Marie Island); Conservation activities within tourism program (Sainte Marie island)

Mauritius: None; not required.

Mozambique: In the northern part of Mozambique local communities are involved in surveillance and monitoring.

Seychelles: An Artisan Re-training & Compensation Programme was conducted during 1993-94. This programme was funded in part by GEF and in part by the Government of Seychelles to provide alternate livelihoods for tortoiseshell artisans.

Somalia: No initiative has been undertaken but if it could generate income to local coastal communities, it would be good and helpful.

South Africa: The livelihood issues - especially around turtle nesting beaches - are complex since turtle nesting beaches are in protected areas (a world heritage site) that has been under conservation for an extended time. The community therefore has a limited recent history of turtle use and is not dependent on turtles for their livelihood. On the other hand the potential of alternative livelihood opportunities has not been investigated nor used to its potential. The current initiatives centre on the community being employed in the monitoring programme for the nesting/hatching season (~ 5.5 months of the year, ~16-20 individuals). Two individuals are employed by their own community, through walk concession operations (max of 30 clients per night for ~ 3 months of the year), and ~ 6-10 individuals are employed through other drive concessions to act as guides or assistants with tourists.

United Kingdom: Not applicable

United Republic of Tanzania: In Zanzibar and Mafia, involvement of local communities in nest protection, monitoring, data collection and awareness-raising has played a key role in reducing threats to turtles. The provision of financial incentives is a conservation option, and is practiced in some areas in the region. Dangers associated with incentive-driven conservation include financial sustainability. However, in areas where mortality (through turtle and egg poaching) has reached critical levels, financial rewards may be the only realistic short-term solution. In the longer-term it may be possible to generate revenue to fund turtle conservation through turtle tourism and park entry fees. In Zanzibar, cash incentives have been found to be counter-productive to obtaining committed public participation. However, in Mafia and Mtwara modest incentives have proven highly effective in involving local communities and in protecting nests.

Task Force members emphasized the need to promote activities that an enhance the use of turtles as an ecotourism attraction rather than the harvesting of turtles. Harvesting of turtles and their products/derivatives in most of the countries was illegal, making it difficult to develop strategies for alternative livelihood around this premise. It was also learnt that marine turtles are consumed because of their intrinsic value which may not be quite obvious. The meeting recommended the documentation of what has been done in other countries about different approaches/strategies on alternative livelihoods as well as exchange visits and lesson learning programmes.

VII. PRIORITIES / NEEDS and VIII. IMPLEMENTATION PREREQUISITES

A table was presented to summarise the ranking given by countries in their national reports as to priority turtle populations as well as population trends (Annex 4).

Most countries ranked the **Green** turtle as a high priority – ranked 1st or 2nd by five and two countries, respectively. The **Hawksbill** followed closely with four 1st place and two 2nd place rankings. **Loggerheads** and **Leatherbacks** ranked highly in a small number of countries with key populations (ie Madagascar, Mozambique, South Africa). However, it was pointed out that some countries tended to look at biodiversity in its totality, rather than focusing on one or two species of marine turtles.

The Task Force also had before it information provided by countries on priority activities and sites (Paper 5.2.2), local management issues requiring international cooperation to achieve progress (Paper 5.2.3), as well as identified resource/equipment needs (Paper 5.4.1). There was insufficient time to review these compilations in detail. However, with more ample information and analysis, taken together these three papers could provide a valuable overview of common regional priorities and needs. Task Force members of the respective countries were requested to liaise with their respective IOSEA Focal Points to encourage them to give further consideration to the topics covered in these papers. The identification of concrete resource needs might be consolidated in the form of a regional project proposal for purposes of soliciting support from funding bodies.

Concern was raised that some countries had not provided comprehensive site specific information/data, and that there were poor institutional linkages with the key partners on marine turtle conservation work

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Having concluded the review of the regional synthesis, the meeting turned its attention to reviewing the Task Force's terms of reference and to the development of a work plan for the following three years.

Agenda point: Review of the Terms of Reference of the WIO-MTTF

The Fourth Meeting of IOSEA Signatory States (Muscat, March 2006) developed and adopted provisional terms of reference for the Task Force. Some considered it timely and opportune with the formal convening of the Task Force to review and adjust the terms of reference. Dr. Frazier, Chairman of the IOSEA Advisory Committee noted that there are many and diverse important actions that need to be taken for the conservation of marine turtles and their habitats. However, he considered the provisional terms of reference for the WIO-MTTF overly ambitious, and suggested that there needed to be clear and practical priorities for the Task Force, bearing in mind that it is an entirely voluntary organization. He noted that there was great diversity in experience, background, and training among Task Force members. Moreover, the MTTF could not be assured of financial support from either the two related Secretariats (IOSEA or the Nairobi Convention) or other NGOs.

Faced with these realities, the meeting reconsidered the Task Force's terms of reference and adopted a revised version, taking account of member feedback and including as an appendix

the Task Force's current programme of work. The revised Terms of Reference are reproduced at Annex 5.

Agenda point: Work Programme of the Task Force

To facilitate discussion of the Task Force's programme of work, the Secretariat compiled a list of points which emerged from the previous days' deliberations. Two working groups were set up, based on linguistic lines, to review and revise the preliminary list of recommended actions. Peter Richardson was charged with synthesising the outputs of both working groups in a final plenary session. After lengthy discussion and integration of member inputs, a series of 15 recommendations was adopted, including identification of responsible actors and time frames. The Work Programme is reproduced in Annex 6.

Agenda point: Any other business

- i. It was suggest that each country be entitled to nominate an alternate to their official Task Force member, to ensure consistency in participation. However, it was observed that there were no difficulties with the current arrangement of substitutes; but should a more formal arrangement become necessary, the matter could be revisited.
- ii. The IOSEA Secretariat requested IUCN to confirm in writing its interest in ex-officio membership to the WIO-MTTF.
- iii. Peter Richardson informed members of the request for country representatives to serve as national contacts for the Indian Ocean Turtle Newsletter (www.seaturtle.org/iotn)
- iv. Bundit Chokesanguan, observer from SEAFDEC, informed participants of an international fisheries symposium scheduled for October 2008, Bangkok, Thailand.

IOSEA Online Reporting Facility

Douglas Hykle gave a demonstration of the IOSEA Online Reporting Facility, which offers users options for searching a wide range of information, creating tailor-made queries and printing outputs: http://www.ioseaturtles.org/report.php. Information can be retrieved for the whole IOSEA region, each of the four sub-regions, or individual/multiple countries.

Site-specific data sheets provide information on species occurrence, types of habitats, the nature of threats, conservation status and mitigation measures. A site may be defined as a beach (nesting ground), an island, or even a foraging ground that has some geo-referencing. To some extent, the usefulness of the outputs depends on the quality of data input to the system. Users can update information at any time, though it might be useful for comparisons over time to keep a record of historical information.

Each national IOSEA Focal Point has been assigned a confidential password. The use of the password can be coordinated at country level while at the same time ensuring the security and confidentiality of the information on the website. Some countries have yet to provide comprehensive site specific information/data. Task Force members were therefore requested

to liaise with their respective national focal points with a view to including additional information on particular sites of importance.

The meeting noted that there could be differing interpretations of the relative importance of sites within and across countries. It may be necessary to consider standardizing the scale of sites, to the extent this was possible, in order to make the results more comparable. It was also recognized that some members of IOSEA are French speaking and would be worthwhile to consider having a French version of the on-line reporting facility/database. The secretariat noted that this was partly an issue of funding, but undertook to explore possible options that might allow the system to accommodate texts in French. The next phase of this project is to develop a graphical representation of the results generated from the database.

Agenda point: Election of WIO-MTTF Officers

Dr. Ronel Nel was elected unopposed as Chair of the Task Force; and Stéphane Ciccione as Vice-Chair.

Closure of the meeting

The Chair thanked members of the Task Force for their confidence in electing her for a three-year term; and members expressed their satisfaction with the outcomes of the meeting. The Chair of the IOSEA Advisory Committee, Dr Frazer, note that Western Indian Ocean had taken the lead by being the first task force to be formally constituted and launched under the IOSEA framework. He thanked the IOSEA Secretariat, the organisers and all the participants for their effort for making the meeting possible.

All Task Force members realized the commitments and responsibilities that arise from the recommendations agreed by the meeting. By a show of hands, all members confirmed their readiness and commitment to assist in the implementation of the recommendations.

After an exchange of courtesies, the Chair closed the meeting.

Annex 1: List of Participants

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Annex 2: Objectives, Agenda, and Expected Outcomes of the Meeting

The specific objectives of the meeting were as follows:

- i) Providing feedback on the establishment the WIO MTTF during the 5th COP of the Nairobi Convention, and familiarize participants with its purpose and terms of reference.
- Reviewing the current status of sea turtles and conservation activities in the IOSEA CMP as captured in the IOSEA Online Reporting Facility: (http://ioseaturtles.org/report.php). Participants will have been requested in advance to review, and if possible, update existing information in the system, especially sitebased data.
- iii) Drafting of the scope and work programme for the WIO-MTTF for 2008-2010.
- iv) Identification of priority issues for implementation for the sub-region, as well as nationally.
- v) Identifying activities for fast tracking by the WIO-MTTF in furthering the implementation of the IOSEA Conservation and Management Plan.

The agenda of the meeting was as follows:

- i) Review the purpose and Terms of Reference of the WIO MTTF.
- ii) Identify common goals and synergies between the respective regional programmes (IOSEA MoU, WWF EAME, Nairobi Convention / WIO MTTF etc).
- iii) Review marine turtle conservation progress from a sub-regional perspective as identified through a compilation and analysis of country reports in the IOSEA Online Reporting Facility.
- iv) Identify strengths and particular expertise per country.
- v) Identify gaps, inconsistencies and conflicts (if any) in the implementation of the IOSEA CMP throughout the sub-region.
- vi) Draft work programme for the WIO MTTF 2008-2010.
- vii) Identify financial needs and funding opportunities.
- viii) Election of officers (as identified in the ToR).

The expected outcomes of the meeting were as follows:

- i) An appreciation of how various existing programmes and instruments intersect, and learn about their respective roles, strengths and limitations
- ii) Reviewed the status of marine turtle conservation and management initiatives in the various WIO Range States, with a view to identifying progress and gaps.
- iii) A clear understanding of the value of the newly upgraded IOSEA Online Reporting Facility as a tracking and decision support tool in sea turtle conservation efforts, and will be motivated to contribute updated information on a regular basis.
- iv) Identified a process for implementing a work programme for the WIO MTTF in both the short-term and long-term

Annex 3. Partial List of Documents considered by the Meeting

Regional syntheses produced from the IOSEA Online Reporting Facility:

I. OVERVIEW

- 1.1 Introduction / Overview
- 1.2.1 Exemplary protocols / Approaches

II. FISHERIES-INTERACTIONS

- 1.4.1 Fisheries, Fishing Effort & Interactions
- 1.4.2 Perceived Fishing Impact
- 1.4.3 Illegal Fishing
- 1.4.4 Methods to Minimize Incidental Capture
- 1.4.5 Programmes to Minimize Incidental Capture
- 1.4.7 Research & Development

III. ECONOMIC USES

- 1.5.2 Economic Uses & Cultural Values
- 1.5.3 Traditional Harvest
- 1.3.1 Socio-economic Studies

IV. MONITORING / MITIGATION

- 3.1.2 Long-term Monitoring Programmes
- 5.2.1 Key Management Measures
- 1.6.1 Measures to Reduce Mortality
- 2.2.1 Recovery of Coral Reefs
- 2.2.3 Recovery of Seagrass Habitats

V. RESEARCH

- 3.4.1 Standardized Methods of Data Collection
- 3.1.3 Genetic Identity
- 3.1.4 Migration Routes
- 3.1.7 Traditional Ecological Knowledge

VI. STAKEHOLDER INVOLVEMENT

- 4.3.1 Stakeholder Involvement
- 4.3.2 Public / Private Sector Initiatives
- 4.2 Alternative Livelihood Opportunities
- 4.1.1 Education Materials / Programmes

VII. PRIORITIES / NEEDS

- 3.3.1 Priority Populations / Trends
- 5.2.2 Priorities for Action: Activities & Sites
- 5.2.3 Local Management Issues
- 5.4.1 Resource / Equipment Needs

VIII. IMPLEMENTATION PREREQUISITES

- 5.4.2 Conservation / Management Training
- 5.4.3 Capacity Building Partnerships
- 6.3.1 Domestic Funding for MoU Activities
- 6.3.2 Solicitation of External Funding
- 6.4.2 Roles Clearly Defined
- 5.5.2 Review of Policies and Laws

Annex 4: Priority Populations / Trends (as identified in IOSEA National Reports)

Green	Hawksbill	Loggerhead	Leatherback	Olive Ridley
3 genetic stocks around Mozambique Channel; increasing or stable in FRA nesting sites	1 SEY site w. good protection; increasing MOZ in decline, few sites elsewhere	SAF increasing; MOZ wide distribution; MAD in decline?	SAF / MOZ small numbers	Incidental most places; insufficient genetic information
COM (1)	COM (2)	FRA (3)	MAD (3)	MOZ (4)
FRA (2)	FRA (1)	MAD (1)	MOZ (2)	FRA (5)
MAD (2)	MAD (4)	MOZ (5)	SAF (1)	TAN (3)
MAU (1)	MOZ (1)	SAF (2)	FRA (4)	KEN
MOZ (3)	SEY (2)	TAN (3)	TAN (3)	
SEY (1)	SAF (3)	KEN	KEN	
SAF (3)	GBR (1)			
GBR (1)	TAN (1)			
TAN (1)	KEN			
KEN				

Abbreviations:

COM - Comoros, FRA - France, GBR - United Kingdom, KEN - Kenya, MAD - Madagascar, MAU, Mauritius, MOZ - Mozambique, SEY - Seychelles, SAF - South Africa, TAN - United Republic of Tanzania



Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia



Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region

First meeting of the Western Indian Ocean - Marine Turtle Task Force Dar es Salaam, United Republic of Tanzania, 27-29 February 2008

TERMS OF REFERENCE OF THE WESTERN INDIAN OCEAN - MARINE TURTLE TASK FORCE

Membership:

Parties to the Nairobi Convention as well as current Signatory and non-Signatory States to the IOSEA Marine Turtle MoU from the Western Indian Ocean region, selected international nongovernmental organizations, and observers from other relevant organizations contributing to or affecting marine turtle conservation.

Objectives:

The objective of the IOSEA Memorandum of Understanding is to protect, conserve, replenish and recover marine turtles and their habitats, based on the best scientific evidence, taking into account the environmental, socio-economic and cultural characteristics of the signatory States.

The Nairobi Convention sets a framework in which UNEP, in close collaboration with the relevant components of the United Nations system assists Governments in formulating and implementing programmes for proper management and conservation of the resources of the region. It calls specifically on contracting parties to manage all forms of pollution impacting on marine and coastal environments, as well limiting damage to the coast through the proclaiming of protected areas, following EIA procedures and restricting engineering activities that can be harmful to the environment. Article 14 of the Convention further calls for scientific and technical cooperation through *inter alia* a regional network of national research centres and institutes.

The objectives of the Nairobi Convention and the IOSEA MoU are compatible and the Terms of Reference for the WIO Marine Turtle Task Force should therefore integrate both. The proposed objective of the Task Force is thus to serve explicitly to facilitate implementation of the IOSEA Marine Turtle MoU (including its Conservation and Management Plan) in the sub-region, at the same time fulfilling the general programme of work of the Nairobi Convention within its broader scope of management of East Africa's coastal and marine environment.

The WIO MTTF is therefore a technical committee spanning both scientific and management expertise.

Nomination and Appointment

The WIO-IOSEA Marine Turtle MoU Task Force will be comprised of:

- Nominated country representatives, who can be the IOSEA Focal Point (where one has been appointed) or an alternate (otherwise), and officials from those countries that have yet to sign the IOSEA MoU;
- *Ex-officio* members from selected international nongovernmental organizations (e.g. IUCN, WIOMSA, WCS, WWF);
- Observers from other relevant organizations contributing to or affecting marine turtle conservation (e.g. ASCLME, IOTC, NEPAD, SWIOFC).

The Task Force will organise its own business and will elect its own Chair and Vice-Chair on a three-year rotational basis. The Chair and Vice-Chair should be the principal point of contact between the Task Force, IOSEA Secretariat and the National Committees.

The Task Force members should serve for three years (i.e. through two regular Meetings of the Task Force and Signatory States), and should be eligible for re-nomination and reappointment at subsequent Meetings.

Meetings and communications

To minimise costs, the Task Force should conduct as much of its activity as possible through electronic communication on a regular basis.

At least once a year the Task Force can meet in conjunction with the Meeting of IOSEA Signatory States to review progress, confirm funding and decide on a regional work plan. Where possible the task force may also meet in conjunction with the meeting of Nairobi Convention Focal Points, held every two years.

Meetings will be held in different venues and may be convened, as appropriate, with the IOSEA Marine Turtle MoU, the Nairobi Convention, and other related instruments, such as CITES, EAME, NEPAD, SWIOFC and other regional and international networks.

The Chair and/or Vice Chair should endeavour to participate in the relevant meetings of the IOSEA Signatory States and the Nairobi Convention, and may also participate in the meetings of related and associated agreements and organisations. Wherever possible, the other members of the Task Force should also participate in the meetings of the IOSEA Signatory States and Nairobi Convention.

Mandate (priorities shown in bold, as identified by the Task Force)

Strengthen regional cooperation and coordination

- Serve as the WIO coordinating and advisory committee for marine turtle conservation in the sub-region.
- Develop linkages and dialogue between the conservation sector and other sectors and industries, such as development, tourism, planning, economy, fisheries, protected areas etc., and encourage National Committees to make these linkages.
- Support the implementation of the goals of both the Nairobi Convention and the IOSEA Marine Turtle MoU.
- Advocate and direct collaborative efforts for marine turtle conservation among stakeholders, including governments, management authorities, the private sector, coastal communities and non-governmental organisations.

• Ensure good relations are maintained among Governments, NGOs, regional, national and local groups and individuals interested in marine turtle conservation, by conveying information to support ideas, goals, achievements and lessons learned.

Review and Reporting

- Develop and standardize protocols for data collection, management and data sharing for research and monitoring programmes.
- Develop methods to regionally review the collective implementation of national commitments to the IOSEA Marine Turtle MoU, making use of the standardised IOSEA National Report template.
- Review and recommend best practice principles for activities requiring the interaction with turtles such as monitoring, education facilities (aquaria) and hatcheries, filming and ecotourism ventures.
- Promote both biophysical and socio-economic monitoring and more effective coordination with regional and international monitoring programmes.

Planning, Conservation and Management

- Collaborate with National Committees, NGO's, regional, national and local groups and individuals interested in marine turtle conservation to recommend coherent subregional priorities for marine turtle conservation, based on the IOSEA CMP.
- Encourage signatories and non-signatories to the MoU to develop national marine turtle conservation action plans or strategies within the context of the regional framework of the Nairobi Convention and IOSEA CMP.
- Work with National Committees to ensure national planning is compatible with marine turtle conservation planning across the region.
- Obtain government and convention endorsement for a regional strategy.
- Collaborate with National Committees to prioritise future work for the implementation of the IOSEA MoU with individual respect given to each countries situation.
- Solicit funds for activities to be undertaken by the WIO-IOSEA Marine Turtle MoU Task Force and assist in fundraising for other marine turtle conservation activities/projects that will benefit the region and individual countries.
- Assist National Committees to solicit funding for national conservation activities.

Capacity Building

- Support the development of local capacity in research, management and governance by identifying capacity needs, implementing exchange programmes or (where possible) seeking resources to conduct research and monitoring programmes.
- Facilitate the creation or strengthening of National Committees in all countries.
- Encourage National Governments to recognise local issues and establish national legislation or enforcement to further protect marine turtles.

Facilitate Communication

- Provide and facilitate access to technical advice. Act as a reference body and provide
 advice on proposals for marine turtle conservation projects in the region. Encourage
 proposals to have a regional perspective and provide linkages between local, national
 and regional networks where possible.
- Facilitate linkages and collaboration with regional organisations such as IUCN, WIOMSA, WCS, WWF, SWIOFC, and IOTC.
- Facilitate communication and the dissemination of information for the purposes of scientific and public awareness.
- Facilitate and support communication at the national level and serve as a platform to coordinate local initiatives (where required in the absence of national committees).
- Encourage active participation in sub-/regional meetings by institutions and relevant parties in order to raise awareness about priority and emerging issues concerning marine turtles.

Considering the current level of implementation, it is clear that the sub-region has very limited resources for implementation. It is therefore expected that the responsibilities and activities should not be reliant on many additional resources from governments. All of the WIO-MTTF activities will take place in consultation with the IOSEA and Nairobi Convention Secretariats, and will seek additional resources, opportunities and frameworks.

Appendix: Work Programme of the WIO - Marine Turtle Task Force, March 2008 - February 2011

Annex 6: Work Programme of the Western Indian Ocean – Marine Turtle Task Force: March 2008 – February 2011

Adopted by the First Meeting of the Task Force (Dar es Salaam, 27 - 29 February 2008)

IMPLEMENTATION PREREQUISITES

Recommendation	Lead / Responsible	Time-frame
1a. Task Force members should establish working relationships with their respective IOSEA Focal Points;	TF Members	Immediate
1b. Provide suggestions to, and assist their respective national Focal Points on strengthening national committees, networks, working groups or other national arrangements, as appropriate;	TF Members	Ongoing
1c. Assist respective Focal Points with the updating of IOSEA national reports, including identification of specific resource needs.	TF Members	Within 3 months (before IOSEA SS5)

SOCIAL CUSTOMS AND PRACTICES (Social Aspects)

Recommendation	Lead / Responsible	Time-frame
2: Develop a proposal for a compilation of available, relevant information on social aspects of marine turtle conservation in the region, including a literature review as a form of policy brief, perhaps to be funded and made available by WWF or WIOMSA, in preparation for a symposium/workshop.	TF Chair	2 months

ECONOMIC USES OF MARINE TURTLES

Recommendation	Lead / Responsible	Time-frame
3. Request the support of WIOMSA and other regional funding bodies to conduct a regional workshop to assess the social-economic values of marine turtles and socioeconomic conservation approaches (concept to be drafted by J. Frazier for review by the Task Force).	TF Chair; IOSEA, Nairobi, Jack Frazier	12 months
4. From the workshop, produce an annotated bibliography, socio-economic study guidelines and analysis of conservation approaches from the region.	(To be decided at workshop)	

FISHERIES-INTERACTIONS

Recommendation	Lead / Responsible	Time-frame
5. Task Force members are encouraged to work directly with IOSEA Focal Points and relevant stakeholders to complete and improve the quality of data in national reports in relation to fisheries and fisheries interactions, in particular.	TF Members	Immediate and ongoing
6. Engage RFMOs and other bodies not yet participating in the Task Force, including IOTC, ASLME, IOC, SWIOFP etc	IOSEA, Nairobi	Immediate and ongoing
7. Liaise with the Indian Ocean Tuna Commission (IOTC) and SWIOFC for data on marine turtle by-catch in purse seining and long lining, including the impact of the use of FADs, and other non-tuna fisheries.	IOSEA, Nairobi	Immediate and ongoing
8. Compile information on the status of on-board observer programmes and the status of marine turtle bycatch recording within those observer programmes in Western Indian Ocean region.	TF Members	3 months
9. Explore opportunities for applying market incentives (eco-labelling, certification etc) and role of international bodies and instruments (EU, FAO, CMS, SWIOFC) to enhance compliance in use of bycatch reduction measures.	TF Chair, TF Members, IOSEA	3 months
MONITORING / MITIGATION / RESEARCH		
Recommendation	Lead / Responsible	Time-frame
10. Compile information on existing monitoring protocols and needs within region and submit to IOSEA Secretariat in preparation for a regional training workshop.	TF Chair, TF Members	6 months
11. Develop a proposal for a WIO regional technical training workshop(s) to develop minimum standardized protocols for monitoring, for submission to interested donor bodies.	TF Chair; IOSEA, Nairobi	12 months
12. Maintain a record of genetic studies conducted in the region and submit the information to IOSEA for posting on the IOSEA website.	S. Ciccione (TF Vice-Chair), TF Members, IOSEA	3 months
13. Provide up-to-date lists of flipper tag series used in the countries for inclusion in the existing IOSEA online database of tag series.	TF Members, IOSEA	3 months
14. Submit information on satellite tracking studies in WIO countries to TF Chair, who will compile a record of regional activities for sharing on the IOSEA website.	TF Members, TF Chair, IOSEA	3 months

PROGRESS EVALUATION

Recommendation Lead / Responsible Time-frame

15. Review the status of implementation of IOSEA, Nairobi, recommendations made at the first MTTF meeting (Dar TF Chair es Salaam, Feb 2008)

Explanation of abbreviations used in the text:

IOSEA: Secretariat, IOSEA Marine Turtle Memorandum of Understanding

Nairobi: Secretariat, Nairobi Convention