



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

**Report of the Fifth Meeting
of the IOSEA Signatory States**

Bali, Indonesia, 20-23 August 2008





IOSEA Marine Turtle MoU

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Executive Summary

The Fifth Meeting of the Signatory States was held in Bali, Indonesia, from 20-23 August 2008, preceded by a two-day session of the IOSEA Advisory Committee. The meeting was hosted by the Ministry of Marine Affairs and Fisheries, with logistical support from WWF-Indonesia and Udayana University.

Twenty-six Signatory States – almost the entire IOSEA membership – were officially represented. Advisory Committee members, invited experts and observers from non-Signatory States, as well as intergovernmental and non-governmental organisations, rounded out the attendance. The gathering of 100 delegates was the largest IOSEA conference held so far, and it marked the second time the meeting was organised in one of the four IOSEA sub-regions, outside of the secretariat's Bangkok headquarters.

The practice of allowing for sub-regional discussions in smaller groups was continued in Bali, with some lively exchanges and fruitful results. A structured outline helped to focus the discussions and produce comparable outputs across the sub-regions. Consideration might be given in future to providing even more time to conduct some of the business of the meeting in this setting, which allows for more dynamic exchange of information among countries with geographic/ecological affinities.

The conference incorporated two 3/4 day-long workshops into its programme: one focussing on coastal development issues and the other on fisheries-turtle interactions and mitigation options. The main address of the coastal development workshop was followed by case-studies from different parts of the IOSEA region illustrating the complexity of reconciling development priorities with conservation. A synthesis of the main points and recommendations has been included as an annex to the full report of the meeting.

The second workshop on fisheries-turtle interactions began with a presentation emphasising the importance of collaborative approaches with the fishing industry, followed by an informative overview of bycatch mitigation efforts conducted by the United States. Other presentations included an account of Indonesian successes and challenges of working with its domestic longline industry; and the problem of marine debris and approaches for tackling the problem of ghost nets.

The fisheries interactions workshop provided an incentive for the Meeting to consider a “Resolution to promote the use of marine turtle bycatch reduction measures by IOSEA Signatory States”, which was adopted on the final day of the meeting. The Meeting also agreed guidelines on the future submission of resolutions for consideration by the Signatory States.

The Secretariat presented its review of IOSEA implementation progress, a major undertaking prepared on the basis of information contained in the online national reports submitted by Signatory States. Implementation and/or reporting of actions undertaken within the framework of the IOSEA MoU has improved markedly since 2006, but there is still plenty of scope for improvement. A short paper highlighting the key issues was introduced, together with colour-coded matrices illustrating strengths and weaknesses in implementation and revealing some interesting sub-regional variations.

The analytical tools to underpin a more in-depth discussion of priorities for further actions under the MoU already exist, in the form of synthetic reports generated from the Online Reporting System. However, more direction is needed for the Signatory States to make the best use of the outputs. Consideration may be given to setting the deadline for submission of national reports and preparation of the implementation review much earlier, and using the findings to generate recommendations that could be discussed and debated in correspondence in advance of the meeting.

There was substantial discussion of the proposed ‘Network of Sites of Importance for Marine Turtles’, both in the Advisory Committee meeting that preceded the conference and in the plenary. The Advisory Committee made good progress in drawing up a basic list of criteria for site selection, but

lingering questions about the fundamental nature of the “network” or “list” of sites remained. In the end, the Meeting agreed that an IOSEA List of Sites should be developed to give recognition to a limited number of sites of critical ecological importance to marine turtles. An intersessional working group will be established to finalise the selection criteria, to enable Signatories to nominate sites to an initial list to be agreed at the next meeting of the Signatory States.

The Meeting agreed a way forward for the compilation of species assessments for Loggerhead and Green turtles which will make use of information contained in the IOSEA Online Reporting System and will result in a more compact assessment to table before the next Meeting.

The value of national networks or committees was emphasised and examples from around the region were introduced. Feedback from a questionnaire on this topic that was circulated prior to the meeting will be analysed, with a view to presenting an overall picture of progress in this area.

IOSEA’s longer-term financial situation was the subject of lengthy discussion, which sought to encourage a broader base of voluntary contributions from IOSEA Signatory States, particularly those considered to be in a position to offer modest support. While recognising that all contributions to the MoU have always been and remain strictly voluntary, without linkage to any obligatory scale of assessment, the Meeting agreed on the principle that the Secretariat should actively solicit additional voluntary contributions from the IOSEA membership.

The IOSEA Advisory Committee was reconstituted with the inclusion of four new members, alongside four existing members who continue to serve in a voluntary capacity. The following Signatory States were confirmed as sub-regional observers to the Advisory Committee: Comoros (for Western Indian Ocean), India (for Northern Indian Ocean), Indonesia (for South-East Asia +) and United Arab Emirates (for Northwestern Indian Ocean).

Apart from the formal discussions that took place within the meeting proper, there were many opportunities for delegates to share information and experiences informally. While these exchanges do not figure in any report of the meeting, they have immense value in enriching knowledge and creating bonds between countries.

Douglas Hykle
IOSEA MoU Coordinator/Senior CMS Advisor
Bangkok, November 2008

Glossary

Abbreviation	Meaning
ASEAN	Association of Southeast Asian Nations
ASCLME	Agulhas Somali Large Marine Ecosystems Project
ATREE	Ashoka Trust for Research in Ecology and the Environment
BNHS	Bombay Natural History Society
BRDs	Bycatch Reduction Devices
BSSE	Bismarck Solomon Sea Ecoregion
CBD	Convention on Biological Diversity
CCMB	Centre for Cellular and Molecular Biology
CIFT	Central Institute of Fisheries Technology
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
CMP	Conservation and Management Plan
CMS	Convention on the Conservation of Migratory Species of Wild Animals
COFI	Committee on Fisheries (FAO)
COP	Conference of the Parties
CRAM	Foundation for the Conservation and Recovery of Marine Life
CTI	Coral Triangle Initiative
DENR	Department of Environment and Natural Resources (Philippines)
EAD	Environment Agency – Abu Dhabi
ECA	Ecologically Critical Area
EIA	Environmental Impact Assessment
FAD	Fish Aggregating Device
FAO	Food and Agriculture Organization
GEF	Global Environment Facility
GoI – UNDP	Government of India – United Nations Development Programme
GUIDE	Gujarat Institute of Desert Ecology
ICZM	Integrated Coastal Zone Management
IISc	Indian Institute of Science
IMapS	Interactive Mapping System (IOSEA/UNEP-WCMC)
IOSEA	Indian Ocean – South-East Asian Marine Turtle MoU
IOTC	Indian Ocean Tuna Commission
IUCN	International Union for Conservation of Nature
JMC-TIHPA	Joint Management Committee- Turtle Islands Heritage Protected Area
KESCOM	Kenya Sea Turtle Conservation Committee
KWS	Kenya Wildlife Service

Abbreviation	Meaning
MCS	Monitoring, Control and Surveillance System
MFRDMD	Marine Fishery Resources Development and Management Department
MMAF	Ministry of Marine Affairs and Fisheries, Republic of Indonesia
MoEF	Ministry of Environment and Forests, Government of India
MPA	Marine Protected Area
NOAA	National Oceanic and Atmospheric Administration, United States
PERSGA	Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden
Project GloBAL	Global Bycatch Assessment of Long-lived Species
PTT	Platform Transmitter Terminal
REBYC	Reducing Bycatch and Change of Management in Tropical Shrimp Fisheries
ROPME	Regional Organization for the Protection of the Marine Environment
SAARC	South Asian Association for Regional Cooperation
SACEP	South Asia Co-operative Environment Programme
SEAFDEC	Southeast Asian Fisheries Development Center
SFA	Seychelles Fishing Authority
SPREP	Pacific Regional Environment Programme
SSME	Sulu-Sulawesi Marine Ecoregion
SWIOFP	South West Indian Ocean Fisheries Project
TAGS	Turtle Action Group of Seychelles
TCP	Turtle Conservation Project
TED	Turtle Excluder Device
TREE	Trust for Environment Education, Conservation and Community Development
TTFD	Thai Turtle Free Device
UNEP	United Nations Environment Programme
USAID	United States Agency for International Development
VCG	Village Conservation Group
WCPFC	Western and Central Pacific Fisheries Commission
WCS	Wildlife Conservation Society
WII	Wildlife Institute of India
WIO-LaB	Western Indian Ocean Land Based Sources of Pollution Project
WIOMSA	Western Indian Ocean Marine Science Association
WIO-MTTF	Western Indian Ocean – Marine Turtle Task Force
WPRFMC	Western Pacific Regional Fisheries Management Council
WWF	World Wide Fund for Nature

Agenda item 1: Opening ceremony and welcoming remarks

1. On behalf of the Organising Committee, Mr. Yaya Mulyana described the arrangements that had been put in place for the meeting and the various organisations involved in its organisation. These included the Ministry of Marine Affairs and Fisheries, the Ministry of Forestry, WWF-Indonesia and the IOSEA Secretariat, with support from a range of other Indonesian agencies. He reported that nearly 100 participants were expected to attend from approximately 30 countries, including virtually all of the Signatory States, Advisory Committee members and resources persons, as well as observers from non-Signatories, intergovernmental organisations and NGOs. The full list meeting participants appears in Annex 1.

2. Mr. Douglas Hykle, IOSEA Coordinator, acknowledged the presence of the Minister of Marine Affairs and Fisheries and thanked the organising committee and the numerous volunteers who had worked so hard to organise the meeting. He offered special thanks to the Governments of Australia, Indonesia and the United States for their additional financial support, which had made it possible to hold the meeting. The Coordinator noted the substantial progress made by the host country in identifying solutions to try to mitigate marine turtle bycatch, and drew attention to its internationally significant marine turtle populations. He pointed out that the meeting would incorporate, for the first time, two thematic workshops on fisheries interactions and coastal development issues. Before concluding, he introduced the informative IOSEA DVD, now available in both English and French, which would be broadcast as a public service announcement in 13 countries across the Asia-Pacific region.

3. H.E. Mr. Freddy Numberi, Indonesian Minister of Marine Affairs and Fisheries, welcomed all delegates to the meeting. He emphasised the importance of the region for marine turtle populations and gave an overview of Indonesia's activities and progress made to date in the conservation of these species. He also drew attention to various regional initiatives that had been launched in recent years to promote intergovernmental cooperation to conserve biodiversity in South-East Asia. Concluding his address, the Minister extended his best wishes for a fruitful outcome and declared open the Fifth Meeting of the Signatory States. The texts of the opening addresses are reproduced in Annex 2.

Agenda item 2: Signature of the Memorandum of Understanding by additional States

4. The Director General of Natural Resources and Research of the Republic of Yemen, Mr. Abdullah Abo Al-Fotooh, signed the Memorandum of Understanding on behalf of his Government, bringing to 28 the total number of IOSEA Signatory States. It was noted that the Memorandum would formally take effect on 1 November 2008, but that Yemen would be considered a *de facto* Signatory State for the present meeting. The Coordinator mentioned that France, Mozambique and Papua New Guinea had all signalled their intention to sign the Memorandum of Understanding, suggesting that the membership could well increase to 30-32 States over the coming months.

Agenda item 3: Election of officers

5. The Meeting elected Dr. Tonny Soehartono, Indonesia, as Chair and Dr. Ravindra Lal, India, as Vice-Chair. The Secretariat requested the assistance of Ms. Patricia Davis, invited expert, to take notes of the meeting.

Agenda item 4: Adoption of the agenda and schedule

6. Following some clarifications introduced by the Coordinator, the agenda and schedule were adopted with only minor amendment. The agenda is reproduced in Annex 3.

Agenda item 5: Opening statements

7. The Chairman invited non-Signatory States to indicate their Government's intentions regarding signature of the Memorandum of Understanding. The observer from Malaysia reported that the Government of Malaysia was still reviewing its intentions and would notify the Secretariat in due course.

Agenda item 6: Report of the Secretariat

8. The Coordinator summarised the main points of document MT-IOSEA/SS.5/Doc.5, detailing activities undertaken since the Fourth Meeting of the Signatory States, including enhancements made to the IOSEA website (www.ioseaturtles.org), upgrading of the Online Reporting Facility, and the development of the IOSEA DVD. Efforts towards sub-regional coordination and inter-agency cooperation had included the establishment of the Western Indian Ocean – Marine Turtle Task Force (WIO-MTTF) in partnership with the Nairobi Convention; and cooperation on various initiatives with FAO, IOTC, SEAFDEC, SPREP, and WWF. The Secretariat continued to be co-located with the UNEP Regional Office for Asia and the Pacific and he had negotiated a favourable arrangement with UNEP headquarters which had resulted in the recruitment of a full-time Team Assistant.

9. The representative of the United States commended the Secretariat on its coordination with the IOTC and requested that it attempt also to form a partnership with other regional bodies operating in the Pacific region, such as the Western and Central Pacific Fisheries Commission. The latter would be meeting in December 2008 in Busan, Republic of Korea. The Coordinator responded positively to the suggestion of the representative of the United Arab Emirates that the Secretariat coordinate also with ROPME, and he requested details of a personal contact for that programme.

10. Responding to the suggestion of the representative of Jordan that the IOSEA DVD be translated into Arabic, the Coordinator agreed this was a good idea and offered to give details of the production costs to any organisation interested in providing funding. He mentioned that due to copyright issues relating to the original production, further versions of the DVD in different languages would have to be coordinated by the Secretariat itself. Both ROPME and PERSGA were cited as possible avenues to explore for possible financial and technical support.

Agenda item 7: Sub-regional consultations

11. The Chairman referred participants to the addendum to the Annotated Agenda, which provided an outline of discussion points for consideration in sub-regional groups (Annex 4). Working groups were established for each of the four IOSEA sub-regions (South-East Asia +; Northern Indian Ocean; Northwestern Indian Ocean; and Western Indian Ocean). Each of the groups met and reported to the plenary on their deliberations through a rapporteur. Annexes 5a-d contain summaries of each group's discussions in the form in which they were received, with only minor editing.

Agenda item 8 (a): Synthesis of national reports and overview of MoU implementation**Agenda item 8 (b): Site-based information on species, threats, and mitigation measures**

12. The Coordinator introduced a comprehensive overview of IOSEA MoU implementation that was contained in document MT-IOSEA/SS.5/Doc.6 and summarised in an addendum (reproduced in Annex 6). He reported that both implementation and reporting of actions undertaken within the framework of the MoU had improved significantly since the last meeting. Information on fisheries interactions, uses and values of marine turtles, and vital research were among the areas where improvements were observed. Eighteen Signatory States already had or were working towards national action plans. Reporting of exemplary practices across the entire IOSEA region provided

tangible evidence of progress being made. Improvements were still needed in the areas of collaboration and information exchange, identification of resource needs and mobilisation of funds, as well as programme evaluation.

13. The presentation also made reference to the major advances in the Online Reporting Facility, which contained a wealth of information on species, threats and mitigation measures at over 700 sites of importance for marine turtles. Natural threats, incidental capture in fisheries, and egg collection were among the prominent threats identified in the companion document MT-IOSEA/SS.5/Doc.6.1. A new mapping facility had been developed using a GoogleMaps interface, which offered an informative graphical display of the results of database queries. A selection of sample maps was presented to the meeting. The national reports also provided a broad overview of population trends in countries across the region, with examples of both serious declines and stable or increasing populations.

14. Finally, the Coordinator drew attention to the criteria that had been used to evaluate the national reports and to the colour-coded matrix that had been prepared to highlight the Signatory States' implementation progress. The matrix was especially useful for illustrating strengths and weaknesses in implementation across the range of the 24 programmes that made up the IOSEA Conservation and Management Plan. It was now possible to produce the evaluation matrix for any grouping of countries that might be of interest. This had revealed significant sub-regional differences across the range of IOSEA signatories. Signatory States were invited to review their individual ratings and to seek any necessary clarification from the Secretariat bilaterally.

15. The Chair of the Advisory Committee noted that the overview report contained an enormous amount of unique information – thanks to the hard work of the countries in filling out their national reports, together Secretariat's effort to prepare the compilation. He observed that while the report would provide Signatory States with the information they required to conserve marine turtles and their habitats in a regional context, there was a distinct possibility that many of the Signatory States may not appreciate the value of the information and what could be done with it. In that regard, it was suggested that volunteers such as student interns be engaged to explore the database, since more in-depth research of particular issues could reveal some useful observations for decision-making purposes. It was noted also that there was a need to evaluate the quality and completeness of some of the information contained in the national reports.

16. In the plenary discussion that followed, representatives of Signatory States expressed their satisfaction with the Online Reporting Facility. A number were impressed with the different levels of information that could be extracted from the database, such as regional and global trends. The representative of South Africa, speaking also as Chair of the WIO-MTTF remarked that the database had been vital for the formulation of a work plan developed during a 3-day meeting of the Task Force in February 2008. The representative of the United States noted that there were several areas in the matrix that appeared data deficient or lacking actions and inquired whether the Advisory Committee or Secretariat could follow up on these. Several Signatory States remarked that the examples of best practice were helpful and it was agreed these could be discussed in more detail in sub-regional groups. The representative of the United Kingdom requested that the national reports be made available in Word format during the editing process for ease of distribution to other stakeholders.

17. In concluding the discussion, the Coordinator observed that the IOSEA Signatory States had at their disposal the most comprehensive review of implementation of any agreement of its kind. Moreover, thanks to consistency in the reporting template it was now possible to assess relative progress over time by comparing matrices from 2006 and 2008. The sub-regional consultations would give the Signatory States an opportunity to discuss the findings in more depth.

Agenda item 8 (c): Update on preparation of species status reports

18. Invited expert Dr. Mark Hamann introduced MT-IOSEA/SS.5/Doc.7. He recapped the activities that had taken place since the last Signatory State meeting in Oman in 2006, where a draft Leatherback assessment was presented and plans were made to follow up with similar assessments for Loggerhead and Green turtles. The Secretariat had circulated copies of the final Leatherback assessment in mid-2006. Survey forms for the Loggerhead assessment were subsequently sent out to the Signatory States and other technical experts, but little progress was made and the process stalled in mid- to late-2007.

19. The Meeting discussed and agreed on an alternative way forward. It was decided that the Loggerhead study should focus on discrete genetic stocks, since most countries did not have nesting sites. Instead of using survey forms, the IOSEA database would be used to identify gaps in information. Signatory States as well as technical experts would be consulted during the review process, as well as in the formulation of recommendations. The assessment would serve to support conservation and management processes in many countries. It was further agreed that the species assessments should be completed one at a time, starting with the more manageable ones, in order to perfect the assessment procedure before moving on to more complex species such as the Green turtle, for which there may be as many as 30 genetic stocks.

20. The Coordinator confirmed that funding for the Loggerhead assessment was still available for Dr. Hamann to be contracted to complete the study, with support from the Advisory Committee. Signatory States would also be engaged in the process to ensure incorporation of the latest data in the assessment. In that regard, Signatory States were requested to ensure that the country-based information in the IOSEA database relating to Loggerheads was up to date. He noted that the final output was likely to be a much smaller and focused document as compared to the Leatherback assessment. Finally, he pointed out that many of the recommendations from the Leatherback study still need to be followed up and proposed that they be revisited at the next IOSEA meeting when the Loggerhead assessment was reviewed. Concluding the discussion, the Chairman noted that all Signatory States were in agreement that the species assessments were of high priority.

Agenda item 8 (d): National networks/committees

21. The Chairman of the Advisory Committee introduced document MT-IOSEA/SS.5/Doc.8, and referred to Objective 6, Activity 2, of the IOSEA CMP, which specifically called for the creation of national committees. He emphasised the need for Signatory States to harness all the expertise within their countries by using such committees to consult with all parts of society in order to obtain information needed to address threats and management issues as efficiently as possible. He mentioned that national networks or committees had been established under various other conservation agreements and these were accepted as an effective means for coordination of research and conservation activities.

22. A questionnaire had been circulated before the meeting to all Signatory States to solicit feedback on existing initiatives or actions they had taken with regard to the establishment and operation of national networks or committees. Completed questionnaires were received from Australia, Bahrain, Mauritius, Myanmar, Philippines, Seychelles, Thailand and United States. During the meeting, further questionnaire forms were submitted by Bangladesh, Indonesia, Kenya and United Republic of Tanzania. Although there was no time available to review and analyse the questionnaires in detail, the Chairman requested individual States to report on progress in this regard.

23. The representative of Kenya described the extensive coastline over which turtle nesting areas were distributed in that country, and the complex local and cultural values of marine turtles. In order to improve enforcement of legislation, a national committee had been created to engage local communities in their conservation. Turtle conservation groups were established within communities

to monitor nesting sites, protect nests and encourage fishers to release animals when caught. Various NGOs, tour companies, government officials and researchers were invited to serve on the committee to ensure coordinated planning efforts. He noted that there were sometimes conflicting mandates between government departments. For example, the Fisheries Department sought to protect fishers' interests, whereas the Kenya Wildlife Service (KWS) played a conservation enforcement role. The national committee was housed within the KWS for some time, but has now relocated. The committee's resources were accessible only to NGOs. Consequently, Kenya was now looking at converting the committee to a trust in order to attract more funding and provide more autonomy. He noted that ease of data sharing with the government might be problematic in the future should the committee become independent. A solution might be to have a legally-binding agreement to ensure that information was shared among the relevant partners.

24. The representative of South Africa mentioned that there had recently been a review of marine turtle conservation activities in South Africa. One of the obstacles to implementation had been a breakdown of communication between people working on the ground, government and international initiatives. This had been identified as an area that needed to be strengthened.

25. The representative of Thailand reported that there were many government departments and NGOs working on the conservation of marine turtles and their habitats using different strategies. As such, the Department of Marine and Coastal Resources was trying to harmonise various studies and data collection. By 2009 an action plan should be completed which would assist with this process.

26. The representative of the United Republic of Tanzania described how a national committee had been formed in his country immediately after signing the IOSEA MoU to make all sectors aware of the MoU and to ensure implementation of CMP. The meetings used to be held quarterly, but funds ran out and the committee did not meet at all in 2007. The committee comprised 11 members from research institutions, environment, fisheries and wildlife sectors, the Union government and the Zanzibar government. However, NGOs were not represented on the committee and meetings were dependent on the support of relevant donor-funded projects concerning the marine environment.

27. The representative of Seychelles informed that the Turtle Action Group of Seychelles (TAGS) became an association in 2008. The group had actually been created in 2001, but only since its registration as an association in 2008 could it begin to seek funding and improve coordination. TAGS comprised private businesses, researchers and many sectors from the government, such as forestry, policy and beach management. Members had agreed to apply a standard protocol for monitoring, whereas prior to this some 80 projects had been operating all over the country using inconsistent methods.

28. Concluding the discussion, the Secretariat agreed with the suggestion of the representative of Bangladesh representative that the results from the questionnaires be analysed and circulated after the meeting – either as part of the meeting report or separately.

Agenda item 8 (e): Sub-regional coordination mechanisms and project activities

29. Dr. Ronel Nel described the establishment, structure and function of the Western Indian Ocean – Marine Turtle Task Force (WIO-MTTF), which operated under the aegis of the Nairobi Convention and IOSEA. This new initiative had been formally created in November 2007 and met for the first time in February 2008. Dr. Nel was elected Chair for the first 3 years while Stephane Ciccione (Réunion, France) served as Vice-Chair. The Task Force had been allocated space on the IOSEA website for exchange of information and was coordinating with various regional initiatives such as the GEF ASCLME project, SWIOFP and WIO-LaB.

30. Advisory Committee Member Bundit Chokesanguan (SEAFDEC/Training Department) reported on the Stock Enhancement of Sea Turtles in Southeast Asian Country Program Plan (2005-2008), which was supported by a Japanese Trust Fund. Among other things, the project had set up a regional coordination network, organised meetings and distributed tags among member States, and had undertaken genetics and satellite telemetry studies as well as studies examining the efficiency of circle hooks and J-hooks in pelagic and bottom longlines. He outlined four marine research projects that were a focus of attention in the South-East Asia region and informed participants of the availability of various publications and meeting reports. He also mentioned an existing site network in South-East Asia for genetic studies and expressed the wish to coordinate this with IOSEA's proposed site network. He emphasised the importance of focusing on prioritisation of activities since there were many organisations in the region working on sea turtle issues.

Agenda items 9 and 10: Thematic workshops on Coastal Development Issues and Fisheries-Turtle Interactions

31. Two technical workshops were integrated into the programme of the Meeting of Signatory States for the first time on a trial basis. Organised in consultation with the Advisory Committee, each workshop spanned about 2/3 of a day and included a range of informative presentations from invited speakers intended to stimulate discussion among participants. The Chairman of the Advisory Committee prepared observations on both workshops, capturing the general and turtle-specific recommendations that emerged from the discussions (Annexes 7 and 8).

32. One of the complementary by-products of the fisheries-interaction workshop was a draft resolution to promote the use of marine turtle bycatch reduction measures. Drafted and introduced by the delegation of the United States, the resolution urged the implementation of existing FAO guidelines in this respect and the adoption of similar measures in other forums. The contents of the draft resolution stimulated considerable discussion and debate, resulting in a number of substantive additions and amendments. The resolution, as adopted, is reproduced in Annex 9. A second draft resolution on another fisheries-related matter was not considered by the meeting as it had no proponent from among the Signatory States.

33. In the process of dealing with the draft resolutions and in view of the short notice available at the meeting for Signatory States to consider the proposals mentioned above, it became clear that guidance was needed to provide a formal procedure for the submission of draft resolutions. A number of delegations expressed the need to consult with other members of government before being able to provide feedback on draft texts.

34. The following guidelines were proposed and adopted. Any draft resolution must have been submitted by Signatory State for it to be considered by the Meeting; however the draft may originate from another source (such as the Advisory Committee, Secretariat or another interested organisation). The deadline for receipt of any draft resolutions was set at 60 days prior to the Meeting of the Signatory States, followed by its prompt circulation by the Secretariat to all Signatory States and posting on the IOSEA website. Extraordinary submission of a draft resolution to the Secretariat less than 60 days before the meeting would require Signatory States' agreement to make an exception to allow the draft resolution to be considered at the Meeting of the Signatory States. Resolutions would continue to be adopted by consensus.

35. In the course of the discussion on the submission of draft resolutions, the Meeting further agreed that the Secretariat should circulate and request input to the draft agenda for the Meeting of the Signatory States at least three months prior to the scheduled opening date.

Network of sites of importance for marine turtles

36. The Coordinator introduced MT-IOSEA/SS.5/Doc.6.2 which outlined a proposal for a network of sites of importance for marine turtles. The concept had been favourably received at previous meetings, but further development work had to be suspended for lack of capacity. The Advisory Committee had made good progress towards the elaboration of the site selection criteria in its pre-conference meeting.

37. Although there was strong interest in the proposal, there was confusion regarding terminology used as well as the ultimate objective of a 'list' or a 'network' of sites. The Coordinator explained his understanding of the difference between the two concepts. A list would comprise sites of special importance to marine turtles at the regional level, raising their profile and therefore assisting States in seeking higher levels of protection and/or attracting funding. A 'network' would bring similar dividends, but would require financial support to enable exchange of expertise and information between sites and to include a fundamental element of training. He suggested that consideration be given to undertaking a two-step approach, creating a list first and later organising a network when funding became available. In the face of an apparent lack of consensus or clear understanding of the original proposal, it was decided that further development of the concept document was required.

38. The representative of the United Kingdom noted that various existing international and national networks of protected areas were currently in place (e.g., through CBD, Ramsar, World Heritage). She suggested keeping the IOSEA concept simple – identifying sites of critical ecological importance with no initial commitment of funds or obligation for legal protection, and no new reporting requirements. She suggested that an intersessional working group be created to review and develop further the site selection criteria. The IOSEA signatories would then be invited to nominate sites for consideration and selection at the following IOSEA meeting.

39. An intersessional working group was created, comprising of the following Signatory States: Australia, Mauritius, Oman, Pakistan, Philippines, South Africa, United Kingdom and United States; supported by the Advisory Committee and Secretariat.

Agenda item 11: Financial and administrative matters

40. The Coordinator introduced document MT-IOSEA/SS.5/Doc.11 containing information on the status of voluntary contributions, expenditures, and budget estimates for 2008-2010. He explained that IOSEA had continued to receive generous support towards the operation and implementation of the MoU from Australia, South Africa, United Kingdom and United States. UNEP also continued to provide free office space and covered basic operating costs of the Secretariat. The Coordinator had been able to hire a full-time assistant in September 2007 out of UNEP overheads, which had helped significantly to alleviate his workload.

41. Notwithstanding the consistent support received from the major donor countries, including a new pledge announced by Australia subsequent to the preparation of the meeting paper, it was estimated that the available funds were sufficient to maintain the secretariat operations only into the first quarter of 2009. Despite operating with frugality, expenditures on some budget lines – expressed in United States dollars – were higher than anticipated on account of the significant depreciation of the dollar since the budget was drawn up in 2006. One consequence of the tight financial situation was that the organisation of the present meeting had to be deferred later than planned: confirmation of funding for the meeting was received only in May 2008, which had had ramifications for planning and logistics. The Coordinator pointed out the necessary trade-off between continuing programmatic activities whilst allocating time to fundraising.

42. Existing donors were requested to confirm additional voluntary contributions, if possible before 2009. There was a need to identify new contributions, particularly from Signatory States that had not contributed voluntary funding to date, as well as other sources. Representatives of the major donor countries, while supportive of the continuation of the IOSEA programme, noted that it remained difficult to allocate specific funding in advance on account of the way domestic budget processes worked.

43. The Coordinator described the United Nations scale of assessment, devised by the UN General Assembly, as a means for determining contributions of signatories to international agreements. While there was no intention of departing from the voluntary nature of contributions to IOSEA, the UN scale could provide guidance as to the appropriate level of those contributions. He noted that about half of the IOSEA membership were developing countries, rated relatively low on the UN scale. In the context of IOSEA, the voluntary contributions of these countries would be in the tens of dollars, raising doubt as to the cost-effectiveness of collecting such small amounts. However, about ten IOSEA Signatory States figured higher on the UN scale and a number of them were no longer considered 'developing' in the strict sense.

44. Some of these delegations observed that priority had to be given to funding domestic turtle conservation programmes. However, it was pointed out they were already contributing financially to other intergovernmental programmes and were providing bi-lateral assistance to other countries, therefore it was considered not unreasonable to approach them for some support. By way of example, many South-East Asian countries made annual contributions of USD 10-20,000 to the East Asia Regional Seas Programme. A modest voluntary contribution of a few thousand dollars to help support IOSEA coordination would not be out of the question.

45. The Secretariat introduced, for illustration purposes, indicative tables of voluntary contributions under two regimes, assuming an annual budget of about USD 300,000: one based on an unmodified UN scale and another maintaining the historical contributions of major donors while factoring in enhanced voluntary contributions from the so-called "Group of 10". The latter table was further refined in a conference room paper (CRP.1) that was developed and circulated on 23 August at the request of the Meeting, taking account of the following discussion.

46. The Meeting recognised the need for continued resources to sustain all aspects of the MoU's operations, for which the basic functions had been costed at about USD 300,000 per annum for the 2008-2010 trienniums. It was agreed that the Secretariat should address a generic letter to Signatory States that had yet to contribute to IOSEA, with a view to seeking their voluntary financial support. After some discussion, it was agreed that no letter would be sent to existing donors; however the Secretariat would continue to solicit additional voluntary funds from these countries as it had always done in the past.

47. The Secretariat requested general guidance from meeting participants as to how voluntary contributions might be distributed equitably among the member States. A number of least-developed countries expressed a wish not to have their indicative voluntary contribution set at zero, as had been initially proposed, but rather to set a minimum amount for their indicative contribution. It was agreed that a voluntary contribution of USD 500 be suggested for the least-developed Signatory States that had yet to contribute. With respect to the other ten Signatory States mentioned above, the Meeting agreed that the Secretariat should suggest a voluntary contribution based on the values indicated in the CRP.1. It was further agreed that the letter should give recognition to funds mobilised for domestic implementation; and should describe the number of countries involved in sharing the MoU's operational costs as well as the proportion of countries that had assumed the financial responsibility to date. In concluding this aspect of the discussion, the Meeting recognised that any and all contributions to the MoU had always been and remained strictly voluntary, without linkage to any obligatory scale of assessment.

48. The Coordinator suggested that consideration be given also to the expenditure side of the equation. He explained that under a long-standing arrangement, 80% of his time was spent on IOSEA business, while 20% was devoted to general CMS work in his capacity as Senior CMS Advisor. CMS made a comparable contribution to his salary in exchange for these services. This arrangement would be reviewed in December 2008 when the CMS Conference of the Parties would adopt a new budget.

49. He drew the Meeting's attention to a generous offer that the Environment Agency – Abu Dhabi (EAD) had made to host a secretariat for the recently concluded CMS Dugong MoU. The offer also provided for the possible creation of a sub-regional coordination unit for the IOSEA MoU, to address the absence of such a mechanism in the sub-region. One option under consideration was for part of the Coordinator's time to be allocated to establishing the dugong/turtle secretariat in Abu Dhabi, with a portion of his salary paid by EAD. Discussions about the proposal – which would have implications for the IOSEA operations in Bangkok – were continuing.

50. The Executive Secretary of CMS, Mr. Robert Hepworth, congratulated Indonesia for having hosted the present meeting and all Signatory States for their work on this pioneering agreement. He noted the remarkable achievements made by IOSEA to date, in particular its rigorous assessments and scientific underpinning, the 2006 Year of the Turtle, and the regularity of its meetings of Signatory States. He considered IOSEA as a model for the means by which the whole Convention on Migratory Species was moving forwards.

51. He appealed to States to make the initiative more sustainable in the light of the fact that financial constraints threatened its continuance through 2009, referring in particular to the group of 10 countries which should be in a position to make a moderate contribution. He urged all Signatory States to articulate their support for IOSEA at the CMS Conference of Parties in Rome in December 2008, as 16 Parties to CMS were also IOSEA signatories. He remarked that the offer from the Environment Agency – Abu Dhabi was extremely important and represented an unprecedented level of support in the history of CMS; however this would not in itself resolve all of the financial issues. CMS aimed to continue contributing up to 20% of the Coordinator's salary and had responded positively to his request for support to hold a strategic planning session. Finally, the Executive Secretary mentioned a proposal under consideration to recruit a junior level programme officer to the Bangkok office primarily to assist in carrying out the CMS role in the Asia region as a whole. If agreed by the CMS COP, this would provide further capacity for the IOSEA MoU.

52. The Chairman concluded the discussion on financial and administrative matters, noting the important consensus that had been reached on the circulation of a letter inviting additional voluntary contributions from Signatory States.

Agenda item 12: Advisory Committee

53. The Chairman of the Advisory Committee, Dr. Jack Frazier, updated the meeting on the extensive range of activities that each of the members had been involved in since March 2006, including those who were absent from the meeting. The Committee had met for two full days immediately prior to the conference. Among other things, it had reviewed the Secretariat's overview paper on IOSEA implementation, had discussed extensively the concept paper for a list or network of critical sites, including the selection criteria, and had recommended a way forward for the preparation of future species status reports.

54. It was proposed that, in future, the update of members' activities be circulated as an information paper rather than be included in the presentation by the Chair. Clarification was sought from Dr. Frazier regarding the Advisory Committee's role in policy-making. It was pointed out that the Advisory Committee had proposed and/or had provided input to the targeted workshops planned within the programme of the present meeting, which aimed to identify key issues and promote

discussion of policy. However, while the Advisory Committee could make recommendations and offer advice, it was the role of Signatory States to develop and agree on policies related to the MoU.

55. The representative of Jordan sought confirmation regarding the level of communication between the Advisory Committee and the coordinators of the sub-regional groups. Dr. Frazier explained that at least one member of the Advisory Committee would be present at each sub-regional discussion group to help guide and assist them. He confirmed that all Advisory Committee members were available to provide technical advice to the Signatory States at any time.

56. On this point, the Coordinator elaborated further that there had also been intersessional coordination involving the Advisory Committee. For instance, the Chairman had been personally involved in the Western Indian Ocean – Marine Turtle Task Force meeting, and the Task Force Chair had been invited to participate in the Advisory Committee meeting. Integration of sub-regional observers in the work of the Advisory Committee had been less successful, however, and that was an issue that could be taken up in the sub-regional groups.

57. The Meeting established a working group – comprised of the representatives of India, Indonesia, South Africa, and United Arab Emirates – to review the nominations to the Advisory Committee that had been made by the Signatory States. The Working Group Chair, Dr. Ronel Nel, presented its findings and recommendations to the Meeting. It was emphasised that the collective expertise of members of the Advisory Committee should cover all regions of the IOSEA agreement, rather than the nationalities of the appointed members themselves necessarily being representative of the regions.

58. The Meeting agreed that the 60-day deadline for nominations be waived in the case of one serving member, Dr. Colin Limpus, so that his re-nomination to the Advisory Committee could be considered. Thanks were offered to the outgoing members, Dr. George Hughes, Dr. Jeanne Mortimer and Dr. Nyawira Muthiga for their helpful contributions while serving on the Committee. The Meeting noted that Ali Al-Kiyumi and Bundit Chokesanguan would continue for the balance of their terms; and endorsed the nominations of the following six experts, bring the total membership to eight: Dr. Jack Frazier (re-nomination), Dr. Mark Hamann, Dr. Valerie Lilette, Dr. Colin Limpus (re-nomination), Dr. Jeff Miller, and Dr. Kartik Shanker.

59. On the basis of discussions that took place in the sub-regional consultations, the following States were confirmed as sub-regional observers to the Advisory Committee: Comoros (for Western Indian Ocean), India (for Northern Indian Ocean), Indonesia (for South-East Asia +) and United Arab Emirates (for Northwestern Indian Ocean).

Agenda item 13: Opportunities for IOSEA input and synergy

60. Participants informed the meeting of various events of relevance to IOSEA in the coming months as well as other opportunities for synergy with other programmes. These included:

- IOTC Working Party on Ecosystems and Bycatch – Bangkok, October 2008

The Secretariat planned to attend the workshop and to convey relevant information arising from the present meeting.

- Coral Triangle Initiative – Manila, 21-24 October 2008

Involving Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands and Timor-Leste; discussions will cover coral reefs, fisheries and food security.

- Technical Workshop on Minimizing Sea Turtle Interactions in Fisheries – Thailand*, January 2009

The Secretariat was a member of the organising committee, along with the Western Pacific Regional Fishery Management Council, IUCN, NOAA and SEAFDEC. The Coordinator circulated a flyer with details of the meeting and encouraged Focal Points to liaise with their fisheries counterparts with a view to identifying appropriate individuals to attend. The workshop was expected to have significant participation from countries of the Pacific, and it was important for the Indian Ocean to be well-represented also. (*Venue subsequently changed to Honolulu, Hawaii).

- International Sea Turtle Symposium – Brisbane, February 2009

Dr. Colin Limpus gave an outline of the symposium and encouraged Signatory States to send participants and submit oral and poster presentations by 15 September 2008. A number of travel grants were available to students and participants from developing countries.

- FAO Committee on Fisheries – Rome, February 2009

The Coordinator reported that the next biennial COFI meeting would take place in February 2009, and IOSEA would likely participate in order to provide an overview of progress made in the IOSEA region towards implementation of the FAO guidelines on reducing turtle bycatch.

- South West Indian Ocean Fisheries Project (SWIOFP)

Jerome Bourgea described a project covered under section 5 of the SWIOFP ‘Interactions of sea turtles with open sea fisheries’ initiative. The objective was to identify areas of risk related to longline and purse seine fisheries. Data on the biology of sea turtles based on tagging programmes would be used in conjunction with data from IOTC, IOSEA and local knowledge on bycatch rates. Australian researchers would be involved in modeling the data and there was potential for the protocol to be applied to other regions. An update on progress would be provided to the next meeting.

- Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA)

The representative of Jordan provided an overview of PERSGA activities which were relevant to IOSEA and encouraged greater interaction between the two programmes. He reported that a representative of PERSGA had hoped to attend the present meeting but had been unable due to other commitments.

Agenda item 14: Current use and further development of implementation tools

61. In the limited time available, the Coordinator briefly described the intensive work that had gone into upgrading the content and interface of the IOSEA website (www.ioseaturtles.org) over the past two years. The site continued to host monthly profiles of relevant projects, feature articles and over 700 news articles captured from the international media. The website’s search engine had been improved, allowing for more versatile searches and retrieval of useful information. The Secretariat made use of free software known as “Google Analytics” to monitor usage of the site, including Signatory State efforts to update their national reports.

Agenda item 15: Any other business**(a) Date and venue of the Sixth Meeting of the Signatory States**

62. The Coordinator observed that whereas meetings of the Signatory States had formerly been held annually, the interval between the previous and present meetings was about 2 years and 5 months. He suggested this was somewhat too long a gap from the standpoint of maintaining momentum. Participants generally expressed a preference for the Signatory State meetings to be held every two years. It was suggested that, in future, potential synergies with meetings of the related CMS Dugong MoU might also be explored. Signatories to the Dugong MoU were expected to meet one year hence, possibly in Abu Dhabi, if the dugong secretariat were established by that time. It was suggested that it might be better for that meeting of the Dugong MoU to be organised separately in 2009, but that consideration be given to holding the IOSEA and Dugong meetings back-to-back in 2010. While no venue was proposed, Signatory States with a possible interest in hosting the meeting were referred to document MT-IOSEA/SS.5/Inf.9 which outlined the basic requirements.

(b) Timetable for possible amendment of the legal character of the MoU

63. The Coordinator summarised responses to two questions in the national reports seeking views about possibly transforming the Memorandum of Understanding into a legally-binding instrument in the short term or over a longer time horizon – a standing item for discussion on the meeting agenda. The results were largely inclusive, with views in the short term evenly divided between “yes”, “no” or “no view”. Over the longer-term, responses were: 26% “yes”, 11% “no”, 26% “no view” and 37% “no response”. It was proposed that the issue be revisited at the next meeting, after Signatory States took advantage of the opportunity to update their national reports in relation to this point.

64. Responding to a query about the possible benefits of making the MoU a legally-binding instrument, the Coordinator explained that while IOSEA had proven that significant progress could be made with a non-binding instrument, a legally-binding agreement could bring added financial stability. The representative of the United States added that there were broader implications, beyond the financial aspects. It was agreed that the issue warranted further consideration at the next meeting, with more in-depth analysis and reflection made ahead of time.

(c) Proposal for a strategic planning session

65. The Coordinator announced that the Secretariat had secured Euro 10,000 (about USD 14,000) from CMS to organise a small brainstorming session on the future direction of the IOSEA MoU. A similar exercise had been undertaken for the parent Convention with informative outputs. He proposed that it be arranged in conjunction with the International Sea Turtle Symposium in Brisbane in February 2009. The representatives of Australia and the United States expressed interest in playing a role in this activity.

(d) Feedback on *modus operandi*

66. Delegates were canvassed for their views on the inclusion of workshops in the programme of the meeting. Most participants thought that the workshops were useful, but that the length should be limited to one day, with fewer targeted presentations to allow more time for discussion. Moreover, it was suggested that more time should be allocated to sub-regional discussions as these were found to have been particularly useful. The Coordinator noted that while cost was always a factor, more attention needed to be paid at future meetings to ensure that the breakout groups had appropriate meeting rooms that were more conducive to interactive discussion. The representative of the United States proposed that the Secretariat circulate a feedback form so that more detailed input could be provided after the meeting.

Agenda item 16: Closure of the meeting

67. The Coordinator thanked all of the participants for their contributions during the meeting and the Advisory Committee members who had provided voluntary support intersessionally. Special appreciation was extended to the Advisory Committee Chairman, Dr. Frazier, and to Dr. Hughes who would be standing down at this meeting. Finally, he expressed his personal thanks to all of the Indonesian counterparts who had worked so hard on the preparations for the meeting.

68. Following a customary exchange of courtesies, including an invitation to participants to visit the wonderful island of Bali, the Chairman closed the meeting at 1700 on 23 August 2008.

ANNEX 1: LIST OF PARTICIPANTS

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ANNEX 2: OPENING ADDRESSES

ADDRESS OF MR. YAYA MULYANA, HEAD OF ORGANISING COMMITTEE, AND DIRECTOR OF CONSERVATION AND MARINE NATIONAL PARKS, ON THE OCCASION OF THE OPENING CEREMONY

Minister of Marine Affairs and Fisheries, the Republic of Indonesia, H.E. Mr. Freddy Numberi,

On behalf of The Honorable Governor of Bali Province, The Director General Marine, Coasts and Small Islands, Dr. Syamsul Maarif,

IOSEA Secretariat, Mr. Douglas Hykle,

Distinguish delegates and guests,

Ladies and Gentlemen,

First of all, before this meeting is opened formally, let me as the head of the organising committee welcome all of you to Bali, Indonesia for the Fifth Meeting of the Signatory States to the *Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia* (IOSEA Marine Turtle MoU).

Secondly, I would like to report that this meeting is the collaboration of many stakeholders. The main organisers are Ministry of Marine Affairs and Fisheries, the IOSEA Secretariat and WWF-Indonesia. Support and cooperation also have been delivered by the Ministry of Forestry as the focal point for the IOSEA MoU on the management and conservation of marine turtle in Indonesia.

Thirdly, I do hope that all of you arrived in Bali in a smooth process and we can implement all of the agenda so far as planned. This smooth process would not have been possible without the support from other several colleagues, namely the Consular Directorate, Ministry of Foreign Affairs; Directorate General of Immigration, Ministry of Law and Human Rights; Centre for Fish Quarantine-MMAF; Main Regional Office of Fish Quarantine, Soekarno Hatta International Office-Jakarta and Ngurah Rai International Airport, Bali; Fisheries and Marine Bali Provincial Office and Natural Resources Conservation Bali Provincial Office. For those efforts, I would like to say thank you for all of your support.

These efforts should be rewarded with the friendship and cooperative atmosphere here at the God's Island – Bali, Indonesia.

Distinguish delegates and guests,

Ladies and Gentlemen,

Tonight, His Excellency Minister of Marine Affairs and Fisheries is very pleased to invite you all to welcome reception dinner that will be held today at 7.30 pm at this room. This welcome reception dinner serves also as an occasion to promote the World Ocean Conference 2009, which will be held in Manado, Indonesia in May 2009.

Totally there are 93 persons so far gathered in this room to attend the Meeting: 48 participants from 26 Signatory States, six representatives of non-Signatory States, 20 NGO observers from 8 countries, three delegates from intergovernmental organisations, and 10 Advisory Committee members and resource persons.

We do hope that with your active contributions, together we could enrich and make your attendance and time worthy.

Finally, the organising committee would like to thank to all people that have contributed to prepare and organise this meeting and serve you to make your stay unforgettable. We are sorry for any inconvenience or mistakes during the preparation or communications of the meeting I would like to request The Honorable Minister of Marine Affairs and Fisheries, Mr. Freddy Numberi, to give the keynote address and formally open the meeting.

Thank you and I wish you a very productive and constructive meeting.

* * *

ADDRESS OF MR. FREDDY NUMBERI, MINISTER OF MARINE AFFAIRS
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Distinguished Guests, Ladies and Gentlemen

Let me first of all express how delightful I am to welcome you all delegates here at Bali, Indonesia to participate in this IOSEA meeting.

Many of you have traveled a great distance from different places to this very culture-rich Island. It demonstrates the importance you give to the furtherance of a stronger partnership and collaboration in conserving marine resources in the region. It is also a testament of our shared belief in the spirit and principles of cooperation of Indian Ocean and South East Asia countries in conserving marine turtle.

Let me also extend my sincere appreciation, on behalf of the government of Indonesia to IOSEA Secretariat for its support and collaboration with Government of Indonesia and World Wide Fund for Nature (WWF) in making this IOSEA meeting a reality. I should not forget to express our special gratitude to the Government of Bali Province for the hospitality and support extended to us in conducting this meeting.

Distinguished Guests, Ladies and Gentlemen

As all of us aware that marine and coastal resources has been playing a major role in the development and socio-economic life of million of people in this region. Fisheries, transportation, and marine tourism, are among sectors that have been serving as significant contributor to our economy.

However, many findings show that the degradation of marine and coastal resources has been prevailing in all areas of world. This degradation leads to further problem for marine species in term of less suitable habitat, more stress, and other related eco-physiological problems. In this regards, marine turtle is one of those affected marine species.

Just two centuries ago, marine turtles roamed the oceans in millions of number, visiting thousands of our beaches each year for nesting. Yet over the last 100 years their numbers have decreased dramatically, and some populations have simply disappeared. The nesting sites in some major areas are also in trend of decreasing. Today, according to scientific finding, six out of the seven species are either Critically Endangered or Endangered. Meanwhile, the status of the seventh species remains unknown due to insufficient information. Six of the world's seven marine turtle species are found in the Asia Pacific Region – making this region a critical set of habitats for the survival of these charismatic species.

Throughout their life cycle, marine turtles play an important role in the ecology and well being of coastal and open ocean environments. For example marine turtles may maintain the health of coral reef systems by grazing on sponges and seagrasses. Because of this, researchers believe that declining numbers of marine turtles may be a factor in the inability of reefs to resist increasing pressures from pollution, algal overgrowth, overfishing and climate change. Their grazing on sea grasses increases the healthiness and growth rate of seagrass beds. They also control the population of jellyfish that in fact are the predator for fish larvae that important for commercial fisheries.

If we look at Indian Ocean region, the green turtle and the hawksbill turtle have wide range distribution and the most abundant turtle species found in the region. Among the six turtles species found in Indonesian waters, three species seem to be prominent, i.e., the green, hawksbill, and the leatherback turtles. Indonesia play an important role for migration of marine turtle along Indian and Pacific Ocean.

Indonesia has been placing a strong programme in marine turtle in Indonesia. It dates back to 80's and 90's through the Ministry of Forestry programme by initiating the development of marine protected areas. These efforts are more strengthening after the establishment of Ministry of Marine Affairs and Fisheries in 1999. Both ministries are hand in hand in improving the conservation of marine turtle in Indonesia.

Considering that marine turtle conservation has to address many aspects from legal, institutional, social, and economy Indonesia has been working on conservation that cover many aspects such as: legal protection for all marine turtle and prohibition of commercial trade in marine turtles, education and awareness programmes for various levels of audiences, law enforcement, rehabilitation and protection of critical nesting beaches, and encourage, facilitate, and support community-based turtle conservation through implementation of turtle based eco-tourism.

Many onsite programmes could be found now in all around of Indonesia beach. To mention some are Derawan Islands at East Kalimantan, Meru Betiri National Park at East Java, Padang West Sumatra, Sukabumi West Java, and Bengkulu. In Bali Island we have a nesting site at Kuta and Perancak Beach. I would like also to inform you that Bali is a unique example for marine turtle conservation in Indonesia. Balinese people use turtle for their traditional and cultural practices. In the other hand, Bali beaches also serve as important nesting sites. In responding to this condition, since 1990 the Governor of Bali has been regulating the hunting and protection of wildlife and turtle use.

To address the mortality from fishing activities, we have facilitated on board programme, the use of turtle excluder device (TED) and circle hook fishing in collaboration with World Wild Fund (WWF) Indonesia. The trial result during 2006 to 2007 shows that the marine life bycatch in reduced without affecting tuna catch.

Distinguished Guests, Ladies and Gentlemen

We also realise that existing and individual programme could not address the large-scale threats on marine turtle. The conservation of marine turtle should be done in regional approach to cover all habitats, nesting, foraging, and migrating areas. In this regards, Indonesia has been proactive in participating and supporting regional cooperation on marine conservation.

We decided to sign the MoU on marine turtle conservation in Indian Ocean by 2005. We consider that the MoU puts in place a framework for working together to conserve and replenish depleted marine turtle populations for which they share responsibility. This objective will be achieved through the collective implementation of an associated Conservation and Management Plan. We hope this MoU would improve and strengthen our conservation programme.

This MoU would be a complement to similar regional cooperation that Indonesia is participating now in marine resources conservation. Those are Sulu-Sulawesi Marine Ecoregion (SSME) between Indonesia, Malaysia, and the Philippine, and Bismarck Solomon Sea Ecoregion (BSSE) between Indonesia, Papua New Guinea, and Solomon Island. BSSE will be a major initiative in conservation of the Western Pacific leatherback turtle. Marine turtle is one of the major focuses for that cooperation which is supported by establishment of Marine Protected Areas network. And the latest one is Coral Triangle Initiative (CTI) that would address the coral reef, fisheries, and food security for six countries Indonesia, Malaysia, the Philippine, Timor Leste, Papua New Guinea, and Solomon Island.

Coral Triangle Initiative (CTI) has five high level objectives. Two objectives of the CTI are establishment of marine protected area (MPA) and MPA networks, and improvement of threatened species status. Those initiatives are related and have similar common objectives in the regards of marine turtle and general marine threatened species.

The efforts need to be integrated and the result would be very significant in term of geographical coverage and number of participant countries. Our initiatives are contributing to existing regional and global commitment include the Pacific Regional Environment Programme (SPREP), Western Pacific Regional Fisheries Management Council (WPRFMC), Convention on Migratory Species (CMS) and the Convention on Biological Diversity (CBD), and of course Indian Ocean – South-East Asian Marine Turtle Memorandum (IOSEA).

It is expected that this meeting would help all parties to produce a national implementation framework and a regional and international coordination and collaboration framework to support the marine turtle conservation in Indian and South East Asia. IOSEA Secretariat has invited all signing countries and related experts to attend this meeting. This will bring to the meeting all experiences, practices, lesson learned and scientific views on marine turtle conservation. A site visit to marine turtle conservation programme in Serangan, Bali, I believe will add more substance and impression to you.

It is therefore, my hope that we could take the full benefit of plentiful expertise, knowledge and experiences available around us, and actively participate in this meeting. I also encourage you to spend sometimes to explore this God's Island to see many beautiful sites and beaches. Bring with you good memories and fine products as memory for your families, friends, and yourself.

Thank you and have a nice meeting.

* * *

ADDRESS OF MR. DOUGLAS HYKLE, IOSEA MARINE TURTLE MoU COORDINATOR,
ON THE OCCASION OF THE OPENING CEREMONY

Your Excellency Freddy Numberi, Minister of Marine Affairs and Fisheries, Distinguished Guests, Ladies and Gentlemen

Minister, allow me to begin by thanking you personally for having taken time from your schedule to be with us here in Bali today. I say that with the utmost sincerity, recognising that for a maritime country the size of Indonesia your Ministerial portfolio must make you a very busy man indeed.

It is very fitting that we hold our Fifth Meeting of the Signatory States here in Indonesia this week. I can say this, not only because of the regional significance of the turtle populations found in Indonesian waters and on its shores, but also because of the exemplary efforts that Indonesian colleagues have made to implement many areas of our Memorandum of Understanding.

I am especially pleased that the workshop that we have built into our programme will provide both governmental and non-governmental specialists a chance to showcase the advances they have been making to identify and mitigate fisheries bycatch, and which serve as examples for other countries to follow.

The organisation of this meeting has been a unique collaboration among many partners, and I am genuinely impressed by the way it has come together so well. I would draw the analogy of making a favourite drink in a blender. As I recall, the inspiration for this gathering actually came from the Ministry of Forestry over a year ago. Your Ministry of Marine Affairs and Fisheries has provided the machinery to make it happen, our friends in WWF-Indonesia have added the ingredients (and a little spice), and the IOSEA Secretariat has kept a firm grip on the “on” button to blend everything to the right consistency. I would like to thank all of the helpers “in the kitchen”, especially the army of volunteers who have been toiling behind the scenes to make all of this happen. More seriously, I would also like to acknowledge the Governments of Australia and the United States, which have made substantial financial contributions to allow us to realise this event.

Our last meeting, held in the Sultanate of Oman two years ago, was always going to be a hard act to improve upon, but I am confident that by the end of this week we will have done just that.

We have changed the format of our meeting quite radically to be able to focus attention on two broad areas of concern – coastal development and fisheries interactions with turtles. It is a sign of maturity of our agreement that we can examine these two issues in-depth, using specific case studies from within our membership – not in order to point fingers and make recriminations, but with a view to learning important lessons from experiences elsewhere.

Already, the IOSEA Advisory Committee has been hard at work these past two days under the able leadership of Dr. Jack Frazier, and I believe that the Committee’s imprint on many aspects of our discussions will become apparent as the week progresses.

Many participants to this gathering will have attended also a related meeting on a “sister” agreement for Dugong, also concluded under the umbrella of the Convention on Migratory Species. The prospects for synergies between these two instruments holds out the promise of the whole being greater than the sum of its individual parts.

Before concluding my remarks, I would like to share with you a short film that I hope you will agree is a good depiction of what brings us here this week. I am delighted to report to you that, to coincide

with our conference, this message is currently being transmitted by over 20 television networks in 13 countries across our vast region, through the auspices of the Asia-Pacific Broadcast Union.

Your Excellency, Distinguished Guests, Ladies and Gentlemen

I am aware that 2008 has been designated “Visit Indonesia” year, and I am sure that many of us will take the opportunity to explore this wonderful island of Bali as a reward for our efforts during this week. But we have a lot of hard work and discussion ahead of us. Let us take full advantage of the unique assemblage of expertise in this room to bring us one step closer to realising our goal of conserving marine turtles and their habitats in perpetuity.

ANNEX 3: AGENDA OF THE FIFTH MEETING OF THE SIGNATORY STATES

1. Welcoming remarks
2. Signature of the Memorandum of Understanding by additional States
3. Election of officers
4. Adoption of the agenda and schedule
5. Opening statements
6. Report of the Secretariat
7. Sub-regional consultations
8. Review of implementation progress of the Memorandum of Understanding, including the Conservation and Management Plan
 - (a) Synthesis of national reports and overview of MoU implementation
 - (b) Site-based information on species, threats and mitigation measures
 - (c) Update on preparation of species status reports
 - (d) National networks/committees
 - (e) Sub-regional coordination mechanisms/project activities
9. Thematic Workshop I: Coastal Development Issues and Mitigation Options
 - (a) Habitat destruction and disturbance – Overview and Case Studies
 - (b) Role of terrestrial and marine protected areas – Overview and Case Studies
 - (c) Network of sites of importance for marine turtles
10. Thematic Workshop II: Fisheries-Turtle Interactions and Mitigation Options
 - (a) Evaluation of bycatch reduction measures in the IOSEA region: lessons learned, future plans and opportunities for collaboration
 - (b) Ghost nets, gear disposal, and advances in net identification
 - (c) Directed take of turtles (and eggs)
 - (d) Illegal international trade
11. Financial and administrative matters
 - (a) Review of expenditure and status of voluntary contributions
 - (b) Work programme and indicative budget for 2009-2010
 - (c) Additional sources of funding and support for coordination and implementation

12. Advisory Committee

- (a) Nomination of members and sub-regional observers
- (b) Identification of tasks for the coming biennium
- (c) Any other matters

13. Opportunities for IOSEA input and synergy

- (a) Other alliances and complementary activities (IGO, NGO)
- (b) Potential IOSEA contributions to global initiatives
- (c) Forthcoming meetings and events of relevance to IOSEA

14. Current use and further development of implementation tools

15. Any other business

- (a) Date and venue of the Sixth Meeting of the Signatory States
- (b) Timetable for possible amendment of the legal character of the MoU
- (c) Other issues

16. Closure of the meeting

ANNEX 4: OUTLINE FOR SUB-REGIONAL CONSULTATIONS

Much of the first afternoon of Wednesday, 20 August, is reserved for consultations in smaller sub-regional groups¹, to provide for exchange of ideas and experiences among countries with a certain geographic affinity. Each session would allow for short presentations from countries on significant developments since the last meeting of Signatory States in March 2006; and for more in-depth discussion of issues that may arise in the plenary session of the meeting. It is expected that a rapporteur will be appointed from each group to prepare and present a summary in plenary of the key points arising from each group.

The following common structure is proposed for each sub-regional consultation; however groups are free to add additional agenda points as necessary.

1. **Brief (up to 5-minute) country presentations highlighting key activities undertaken since 2006**
e.g., interesting research findings, genetic/satellite tracking results, new protected areas, new conservation centres, innovative community-based conservation programmes, recently introduced management guidelines, significant enforcement problems/actions, etc.
2. **Overview of fisheries interacting with marine turtles**
e.g., any new information available on the nature of the fisheries; any results from new studies on fishery-turtle interactions; any new mitigation measures successfully introduced?
3. **Overview of coastal development issues**
– major development projects initiated or planned, with potential impacts on turtles?
4. **Future (national) planned activities of interest to, and possibly benefiting from collaboration with, other countries of the sub-region** (e.g., in relation to satellite tracking or genetics studies, bycatch mitigation trials etc.)
5. **Use of, and possible contributions to, various IOSEA Online Tools:**
Reporting Facility, Useful Contacts, Genetics Directory, Projects Database, Discussion Forum etc.
6. **Details of planned meetings, workshops of possible relevance to other countries**
7. **Identification of broader opportunities for sub-regional exchanges, or other financial or technical support**
e.g., personnel exchanges for training purposes, collaboration on satellite tracking, joint development and/or distribution of public awareness materials etc.
8. **Reporting on developments of interest regarding marine turtle conservation activities of other relevant sub-regional/regional organisations** (e.g., PERSGA, ROPME, IOTC, WIOMSA, SAARC, SEAFDEC etc.)
9. **Review of proposed nominations to the Advisory Committee**
10. **Confirmation of sub-regional observer to the Advisory Committee**
11. **Any other business** (e.g., advanced discussion of Agenda point 8d: national networks/committees)

¹ IOSEA sub-regional designations: **South-East Asia +:** Brunei Darussalam, Cambodia, Indonesia, Malaysia, Myanmar, Papua New Guinea, Philippines, Singapore, Thailand, Timor-Leste, Viet Nam + Australia, China, Japan, Republic of Korea, United States; **Northern Indian Ocean:** Bangladesh, India, Maldives, Pakistan, Sri Lanka; **Northwestern Indian Ocean:** Bahrain, Djibouti, Egypt, Eritrea, Islamic Republic of Iran, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Sudan, United Arab Emirates, Yemen; **Western Indian Ocean:** Comoros, France, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa, United Kingdom, United Republic of Tanzania.

ANNEX 5A: SUMMARY OF THE WESTERN INDIAN OCEAN (WIO) WORKING GROUP DISCUSSIONS

(as submitted by the Working Group rapporteur, with only minor editing)

Present: Comoros (COM – Chair); United Kingdom (GBR); Mauritius (MUS); Madagascar (MDG); Tanzania (TZA); Kenya (KEN); Seychelles (SYC); South Africa (ZAF); Advisory Committee Member – Dr George Hughes; Observer – Ms Patricia Davis.

Outline of the most interesting issues presented to the meeting by the rapporteur (Ronel Nel)

- **Protected areas** – TZA (Status change), [MOZ], MUS (Ramsar designation)
- **Habitat Rehabilitation** – COM (Nairobi Convention project: rehabilitation; beach clean-up & education programme)
- **Education Programme** – MDG (UNESCO: Man & Biosphere)
- **Observation Centres:** Kélonia & Moheli
- **Community Conservation** (programme reorganisation):
KEN: KESCOM to become a trust (BoT) USAID support;
SYC: TAGS independent society
- **Action Plans** – 2 Countries (MUS+ MDG)
- **Fisheries** – 2 FAO Workshops; TZA – Shrimp trawling banned since October 2007; permit conditions for others; KEN – 5 nm moratorium;
- **Research:** Satellite tagging; genetic research; Chagos expedition (SYC/REU/COM/KEN)
- **Problems:**
KEN: “Commercialisation of tourism” (Hatchlings kept at hotels)
SYC: St. Anne (Protected Area) – but coastal development
MUS: Mariculture developments (but contained)
Oil & Gas Exploration (TZA – WWF Mapping sensitive habitat)
- **Collaboration:** WIO-MTTF; SWIOFP, WIOLab, ASCLME

1. Detailed overview

- (a) **COM:** Moheli Marine Park – Nairobi Convention Project/Conserving Habitat; Beach clean-ups; Awareness – Still high traditional take of turtles; National Turtle Day; Government provides boat support to NGOs to enhance their work; Observation Centre (on island facing the nesting beach – Itsamia); Current interaction with Réunion (REU) through scientific and technical support; (and planning to expand interaction with SYC); Eco-tourism ventures important in the area. Tagging of turtles: MOZ & SYC tagged turtles noticed on beaches of COM.
- (b) **GBR:** 2006 Second research expedition to Chagos Islands; surveyed a range of habitats, including turtles & their habitats; First re-survey since 1996; *Cm* – “increased” numbers (but only snap-shot) & occurrence of *Ei* nesting; Genetics from both species; 2007 started first index monitoring on 2 sites; Trends observed: year round for *Cm* but peak around October. *Ei* strictly seasonal; Turtle Cove *Ei* mark-recapture study – high recovery); Rat eradication project initiated – should also reduce predation of nests.

- (c) **MUS:** St. Brandon + nesting – virtually no nesting on MUS proper. However, on MUS, one incident of nesting in 2007: only 4 hatchlings of *Cm* produced. Rodriguez – 4 reserves; 1 MPA. 2008 RAMSAR site proclaimed. New demonstration project on land-based site; water resource management/watershed project. Coastal Zone Management receiving much attention because of excessive development pressure & dependence on tourism: legislation good; Mariculture expanded in lagoons (which are currently over-exploited). New fish culture ventures (south of MUS). National Action Plan for strandings including mammals & turtles (involves multiple institutes). SWIOFP project: coordinator for Biodiversity project.
- (d) **MDG:** SW of MDG (Toliare) collaborative project in MPA (WWF + 2 Universities) Conservation and research includes genetic studies on same site; WCS + other NGOs to enhance conservation on nesting sites; Education programmes – Man & Biosphere Programme (UNESCO); Development of mining & petroleum industry: the protection of marine turtles + other species a primary requirement. Online report – Gaps in information – but will get task force/national committee to update the report. National Strategic Plan to be adopted. TED implementation been relatively successful – industry driven.
- (e) **TZA:** Conservation projects not turtle-specific but focussing on marine living resources as a whole; Two existing MPAs. Intention (in progress) to “upgrade” 5 small islands in Dar es Salaam Bay that are currently Marine Reserves: i.e., to be upgraded to Parks = Zonation (June 2009); Destructive gears (e.g., beach seine) are prohibited, but ring-nests are allowed – but these have recently been used destructively – government thus issuing restrictions/guidelines/regulations on their use. Oil and Gas exploration taking place – WWF project initiated to map possible areas to be affected. Active programme to increase total area in MPAs; working towards a target of 22%. Sea Sense (NGO) continuing to do great community-based conservation and monitoring.
- (f) **SYC:** Formal registration of TAGS – working group for turtle conservation – as independent society; has representatives from wide range of organisations; aim is *inter alia* standardisation of methods + independent, coordinated database. Regional cooperation – lots of activities especially with Réunion (bilateral agreement). SWIOFP project involvement investigating biodiversity-fisheries interactions (MUS coordination) including impact of fisheries on turtles; Coastal Development increasing pressure – e.g., St. Anne island (Marine Park); 3 major nesting sites. Moyenne – an adjacent island proclaimed as reserve to stop it from the same potential threat. Tourism-related pressures continuously escalating (economic importance vs conservation); even with strict regulations these issues are still causing disturbance. Private sector responsible for much of the long-term monitoring – these are still continuing. 2 Satellite tags deployed (1 turtle got poached); the other now used for awareness raising.
- (g) **KEN:** KESCOM to change into a Trust (concern – local community less “power”; managed by Board of Trustees); previously under KWS (now to move?; reporting/responsibilities/organisation to be clarified). Trend towards “commercialisation” of turtle conservation = poached hatchlings reared in hotels (hatcheries) as attraction for tourists. Extend to buy & sell eggs. Now KWS formalising turtle conservation so that it has structured reporting. USAID funding received to facilitate activities; 3 sites under KWS to use this money (USAID) to initiate turtle projects; KWS strong role – national turtle task force. KEN contributed genetic material to Réunion – results received (but not yet reviewed). 6 MPAs (including reserves) in total under KWS – isolated one on Somali boarder with WWF to promote conservation; new satellite tag on turtle. SWIOFP coordinating office hosted in Mombasa.
- (h) **ZAF:** Long-term conservation monitoring continuing; Nesting studies (3 – post-graduate projects), Drum line experiments, Longline PhD completed, Satellite tagging studies on-going, WIO-MTTF; strandings/rehabilitation on-going – released about 15 turtles nationally/but no idea on survival (nor used as an education opportunity).

- (i) [MOZ – not present]: Primeras & Secundas (hopefully) to be proclaimed as a marine park.
- (j) WIOMSA: 3 Oral presentations; 5 poster presentations (MOZ, REU, SYC) on turtle monitoring & research. Will develop this as a regional opportunity for WIO-MTTF.

Note 1: Need to regulate/advise/enforce against taking of eggs – as a broader issue.

Note 2: Need to standardise (or at least specify) terminology on protected areas/reserves. Has contradicting meaning in different countries.

2. Overview of Fisheries Interactions

- FAO Workshops (2) in the region; one on general fisheries interactions and the other on shrimp trawling (Reports to be made available??)
- ZAF: PhD Project (Impacts of longlining on non-target species) completed.
- TZA: temporary ban on prawn trawling (low shrimp catches but with high impact on habitat & diversity); Oct 2007 (only local fishermen allowed to continue); 23 trawlers on their initiative dropped licences to 10 of which only 8 are operating. May stay closed *ad infinitum*. Trawling for fin-fish in not allowed at all.
- KEN: 5 licences to trawl close to the shore; now banned shallow inshore trawling (<5 nm).
- SYC: SFA observer programme to be implemented in 2009 (longlining).

3. Overview of Coastal Development Issues

- SYC – (St. Anne) impact on 3 major *Ei* nesting sites (mentioned earlier).
- Irresponsible development (all-round a problem) but KEN bringing in policy + legislation. Beach walls applied indiscriminately to protect property.
- MUS: opposite response; Government removing sea walls.
- Climate change & sea level rise not huge consideration across the region. REU: recent meeting bringing representatives/experts on climate change for island nations.
- KEN: Pollution (solid plastics) is expanding and is significantly killing turtles. (Often the cause in strandings).

4. Future/Planned Activities

- SWIOFP – Satellite tracking project proposed (by REU) involving many countries (islands + mainland).
- ASCLME – Large marine ecosystem programme just kicking off (involving almost all countries) but sea turtles not on agenda (lost opportunity??)

5. Online Reporting & Tools

- In-depth analysis should be done by signatory states; it is not the responsibility of the Advisory Committee (AC Member – GH).
- GBR: Very useful documents provided to the meeting; the matrix could be misinterpreted since it reduces activities to imply/assume similar priorities.

6. Details of planned meetings & workshops

- SYC/REU: *Ei* Hawksbill training workshops (training for genetic sampling & nest monitoring; handling turtles etc.).
- WIO-MTTF – 2 Planned workshops but still seeking funding. Regional training for monitoring programmes; evaluation of socio-cultural value and interaction.
- Global Biodiversity Meeting (GBF) – TZA (October 2008).
- International Sea Turtle Symposium: Brisbane 2009.

7. Opportunities for sub-regional exchange

- Number of large programmes involving many countries: SWIOFPS, WIOLaB, WIO-MTTF.
- ASCLME – Potential but not active engagement.

8. Regional Initiatives (WIOMSA/IOTC etc.)

As per above.

9. Review of proposed nominations to the AC

Working group considered it inappropriate to have the discussion here. It is a country basis (choice). It was pointed out that AC representatives should be nominated for their field of expertise and not for their country/region.

10. Confirmation of sub-regional observer to AC

The group had a brief discussion as to the role of this position. It is felt that it is important to have active participation in the work of the Advisory Committee. Comoros was again nominated as the regional observer, by unanimous decision.

11. Any other business

- Evaluation of meeting format: Made it clear that countries should be aware that they will be asked to evaluate format by the IOSEA Secretariat through some form of questionnaire.
- Evaluation of the regional meeting: ran out of time without an effective discussion of this point.
- GH informed the representatives that they would be approached to provide information on a letter to be sent to their governments. They would have the opportunity to provide input.

ANNEX 5B: SUMMARY OF THE NORTHERN INDIAN OCEAN (NIO) WORKING GROUP DISCUSSIONS

(as submitted by the Working Group rapporteur, with only minor editing)

Consisted of the participants from the following countries:

BANGLADESH

Md. Jafar SIDDIQUE
Zahurul ISLAM

INDIA

R.B. LAL
B.C. CHOUDHRY
K.K. DARAD

PAKISTAN

Channa Ghulam RASSOL

SRI LANKA

Sisira DE SILVA

Jack FRAZIER, IOSEA Advisory Committee
Colin LIMPUS, IOSEA Advisory Committee
Clevo WILSON, Invited Expert
Sudarshan RODRIGUEZ, Invited Expert

Brief national presentations

The focal points of countries made brief presentations of activities undertaken since 2006. Salient features of the same mentioned are mentioned below:

1. Bangladesh

Bangladesh implements its marine turtle conservation through national project mode, being implemented in four declared important ecologically critical areas (ECAs) of which 3 areas are sea turtle nesting sites.

In addition to nest transplantation and hatchery programmes, considerable efforts are directed on the nesting site protection through community participation with 5 NGO partners and involving coastal villages. Villages are organised in village conservation groups (VCG) who have engaged marine turtle protection guards. Other activities include guarding of 51 km of beach nesting area and stabilisation of 65 km of sand dunes.

They are monitoring the possible success and hope to replicate and scale up, based on this experience in other areas.

Following problems have been identified: fisheries interface; future port development.

2. India

Following activities have been taken up in the respective turtle areas in India:

- Andaman & Nicobar – Post-tsunami assessment of nesting beaches of leatherback turtles by A&N Wildlife Officials and other institutions, Satellite telemetry study on leatherback proposed to be initiated this year by IISc Bangalore/ATREE.
- Lakshadweep – Assessment of hawksbill and green sea turtle foraging habit and nesting habitat by Wildlife Institute of India (WII).
- Orissa – (i) Orissa Forest & Wildlife Department continues to monitor the arribada and fisheries-turtle interface, Indian Navy and Coast Guard continues to be involved in patrolling and protecting offshore turtle congregation (ii) Tracking the migratory routes and offshore congregation patterns of olive ridley turtles in the Bay of Bengal through satellite telemetry by WII.
- In addition, the following studies have been undertaken:
 - i. Genetic study – WII project with CCMB: the study report is being finalised.
 - ii. Habitat and threat assessment for all species – by WII, GUIDE, BNHS, IISc, and NGOs viz. ATREE, TREE, Centre for Wildlife Studies, WWF-India, Wildlife Society of Orissa and select coast-based universities.
 - iii. New Protected Area – Rushikulya arribada site being considered to be declared as a Conservation/Community Reserve.
 - iv. Innovative Community-based Conservation Programmes – The Community Reserve concept by MoEF has been amended and is likely to be implemented in some sea turtle areas such as Orissa, Kerala, Goa, Lakshadweep and Gujarat.
 - v. Management Guidelines – The GOI-UNDP Project manuals continue to be distributed for activities related to sea turtle management by coastal states.
 - vi. Species recovery plans for leatherbacks and hawksbill turtles.
 - vii. Publications and documentation: Sea Turtles of the Indian Sub-continent and best practice manuals.

The problems identified were: habitat degradation, containing illegal marine fishing in prohibited sea turtle habitats. Some of the actions proposed were:

- 1) Conservation Management Initiatives by the concerned state and Forest & Wildlife Depts.
- 2) Involvement of Indian Navy & Coast Guard, voluntary NGOs (viz. WWF) & CBOs and coast based wildlife agencies.
- 3) MoEF has initiated dialogues with Ministry of Agriculture to involve marine fisheries organisations in sea turtle protection in the marine environment.
- 4) Involvement of Ministry of Petroleum in sea turtle conservation & research activities.

Other activities/points:

- *Dermochelys* and *Eretmochelys* are considered special species.
- Marine Products Development Agency – distributes TEDs free of cost.
- CIFT (Central Institute of Fisheries Technology) have indigenised the Georgia Jumper TED.
- States with mandatory TED use: West Bengal, Orissa, Andhra Pradesh.

- Satellite tracking studies – sponsored by Directorate General of Hydrocarbon of Ministry of Petroleum.

3. Pakistan

- Turtle programme begun in 1972.
- Legal protection in Sindh vide a provincial ordinance.
- Cooperation by key agencies for TED use.
- Flipper tagged 7,000 turtles.
- 2.15 millions eggs protected.
- 0.71 million hatchlings released.
- 635 tag recoveries, country of origin of recoveries include India, Africa, Iran.
- 4 PTT transmitters.
- Marine Turtle Research Laboratory established.
- Year of the Turtle celebrated in 2006.
- 800-1,000 turtles nest monitoring.
- National Sea Turtle Management would be developed in line with National Biodiversity Action Plan and National Conservation Strategy.
- Habitat restoration programme by WWF and IUCN Pakistan, providing alternate livelihoods through mangrove plantation.
- Import-Export Ban.
- Turtles declared protection under the law.

Commonly perceived threats: Sand mining, recreational huts on beaches.

4. Sri Lanka

- 56 nesting sites in south Sri Lanka documented.
- 1 Protected Area for marine turtles declared Gudwaya.
- In addition to previous Pas: Bundala, Yala and Kumana.
- PTTs on 10 green sea turtles with NGOs: TCP and MCS.
- Involvement of villages in beach patrolling and coastal eco-tourism.
- Problems: sand mining and uncontrolled hatchery development.
- Many awareness programmes conducted.

Common concerns in the sub-region

- 1) Fisheries interactions with marine turtles.
- 2) Demonstration and use of TEDs.
- 3) India: Coastal Development issues: Port development, (Dhamra is concern of conservationists and NGOs which MoEF is aware of and taking appropriate measures to deal with in India).

Pakistan: Desalination Plant (Sonadi Island).

Sri Lanka: EIA clearance for harbour in Hambantota has been obtained.

4) Future planned activities.

Bangladesh – satellite tracking and genetic studies by Marine Life (NGO) with support of Govt. of Bangladesh.

India – satellite tracking (Orissa and Nicobar), collaboration with Sri Lanka, regional training workshop, WII, Analysis of genetic samples.

ATREE – Social survey: community perception studies, awareness of laws, conflict.

WWF – bycatch mitigation, product certification promotion as an incentive for TED use.

5) Use of and possible contribution to IOSEA online tools.

All countries agreed to use and contribute proactively to the above.

6) Details of planned meetings.

India – satellite tracking, collaboration with Sri Lanka, regional training workshop where countries will be invited.

7) Broader opportunities for sub-regional exchange.

All countries agree to explore synergies with SAARC, SACEP and other such bodies after examining their mandates was agreed to by all countries of the region.

8) Reporting on developments of interest- as above.

9) Review of proposed nominations to Advisory Committee.

All countries for more and details of the nominations.

10) Confirmation of sub-regional observer to the Advisory Committee. Countries agreed for India to be the observer. Specific name to be provided by the Indian Focal Point.

ANNEX 5C: SUMMARY OF THE NORTHWESTERN INDIAN OCEAN (NWIO) WORKING GROUP DISCUSSIONS

(as submitted by the Working Group rapporteur, with only minor editing)

Overview of sea turtle population status and conservation in Egypt, Saudi Arabia, and Yemen

Egypt

Population and habitat status:

- Four species (Green, Hawksbill, Leatherback & Loggerhead).
- Three nesting species (Green, Hawksbill and Loggerhead).
- Nesting mainly on islands and some on coastal mainland.
- Extensive coral reef and seagrass beds.
- Five species of seagrass; main species: *Thalassia donderon*.

Conservation:

- No specific law for turtle protection; common law for Ecological conservation; Law on protected areas.
- Protected Areas: Six.
- Public Awareness: seminars with stakeholders (local communities, fishermen and tourists); brochures, posters and school programmes.

Saudi Arabia

Population and habitat status:

- 5 species (Green, Hawksbill, Loggerhead, Leatherback, Olive Ridley).
- 2 nesting species (Hawksbill and Green) on mainland and Islands.
- Extensive coral and seagrass habitats.
- Seagrass: seven species; dominant *Halodule uninervis*.

Conservation:

- Full protection of sea turtles by law.
- Protected Areas: Two (one in the Red Sea; other in the ROPME sea area).
- Public Awareness: School programmes.

Yemen

Population and habitat status:

- Five species (Green, Hawksbill, Loggerhead, Leatherback & Olive Ridley).
- 4 nesting species (Green, Hawksbill, Loggerhead and Olive Ridley).
- Nesting on mainland coast of Arabian Sea and Red Sea and Socotra.
- Widespread coral and seagrass habitats.
- 9 seagrass species; dominant *Halophila stipulacea*.

Conservation:

- General protection of endangered species by law.
- New Signatory to IOSEA Marine Turtle MoU (2008).
- Completed National Action plan for sea turtles with PERSGA assistance.
- Protected Areas: Four MPAs with management plans.
- Public awareness.
- Workshops with stakeholders on PA management plan formulation.

1. Highlights of key in-country activities

- Completion of plans to establish two island protected areas (Eritrea).
- Eco-clubs (students) for turtle conservation (Jordan).
- Preliminary study of sea turtle population abundance and distribution in coastal areas in 2007 (Jordan).
- Aquarium exhibition of sea turtles as education and awareness tool (Jordan).
- Establishment of a field programme to monitor sea turtle mortality – September 2007 (Bahrain).
- Satellite tracking of 4 turtle species (Oman).
- Record of Olive Ridley venturing into Gulf waters; record of loggerhead movement into Yemen, entrance of the Red Sea and deep into the Gulf (Kuwait); report of significant concentration of loggerheads at Yemen-Oman border area; satellite tracking of Greens; one moved to Pakistan.
- Satellite tracking of post-nesting sea turtles (UAE).
- Collaborative work with Oman and Pakistan on satellite tracking (UAE).
- Development and implementation of CMP (2006) (UAE).
- Assessment of status and mapping of turtle nesting and foraging habitats (UAE).
- Establishment of Marawah Protected Area as Marine Biosphere Reserve (UAE).
- Banning the use of encircling gill nets locally known as Al Halaq (UAE).

2. Fisheries Interactions with Marine Turtles

Documentation of significant mortality due to fishing activities in Bahrain and Eritrea:

Bahrain

- 107 dead turtles in 2007; 78 dead in 2008 (until July); record of 43 dead within 15 days of commencement of Shrimp trawl fishery in July 2008.
- Proposed two mitigation programmes:
 - Placement of observers on board shrimp trawlers.
 - Studying possibility of gear modifications.

Eritrea

- Documented 3,340 dead sea turtles linked to industrial trawling.
- Proposed mitigation measures.
 - Placement of observers on board trawlers.
 - Turtle mortality monitoring programmes including log book documentation.

Others (most countries)

- Incidental mortality due to gillnets including driftnets, longline, Gargour trap (juvenile turtles).

Special initiatives:

- Total ban on fishing and relocating traditional fishermen to other occupations (Jordan).
- Introduction of Gargour trap escape panel and banning of driftnets and encircling nets (UAE).

3. Coastal Development Issues

Impacts:

- Coastal dredging and reclamation are major causes of habitat degradation and loss particularly in the Gulf States (UAE, Bahrain, Qatar, Saudi Arabia and Kuwait) and Egypt and a potential problem in Oman, Yemen and Eritrea.
- Urbanisation and urban sprawl through out the region.

Mitigation Measures:

- Consideration of adoption of ICZM approaches as part of coastal planning and development (UAE, Eritrea and Oman).
- Adoption of Environmental Impact Assessment in all developmental projects (UAE, Egypt, Bahrain).
- Establishment of protected areas.

4. Future planned activities, bilateral and sub-regional collaboration

- Planned Protected Area primarily for sea turtles in Hadramut (Yemen).
- Consideration regarding adoption of Integrated Coastal Zone Management options.
- Introduction of more specific regulations for sea turtle protection (Egypt, Yemen).
- Study on gear modification to mitigate turtle mortality caused by fishing gears (Bahrain).
- Plan to work with NOAA and US Fish and Wildlife Department to develop a methodology for reliable estimates of nesting turtles given the high number of nesting sites (Oman).
- Expressed readiness by UAE's Environment Agency – Abu Dhabi to send one of its experts to assist Eritrea to establish a survey to estimate abundance of foraging turtles.

5. Use of and contribution to IOSEA online tools

Propose to carry information on literature and publications on sea turtles and related issues periodically.

6. Planned Meetings and Workshops

- Proposed ROPME-spearheaded meeting on sea turtles in the ROPME sea area projected for October 2008.
- Marine Biodiversity Conference in October 2008 Jordan.

7. Identification of broader opportunities for regional exchanges and technical support

- Request for IOSEA Secretariat auspices and good offices to initiate efforts to undertake a study on the foraging loggerhead population occurring between Oman and Yemen in the light of recent findings of the satellite tracking programme in Oman.
- Encourage better coordination and exchange of information and expertise, including sharing of information on national initiatives with widespread potential application across the sub-region.

8. Reporting on developments of interest regarding sea turtle activities of other relevant regional organisations

- Production of National Action Plans by Red Sea countries under the technical guidance and support of PERSGA.
- Emirates Wildlife Society and WWF-UAE public awareness work on sea turtle conservation in UAE and sponsorship of a regional meeting on sea turtles in Abu Dhabi in 2007.

9. Review of proposed nominations to the Advisory Committee

The working group supports the continued involvement of Ali Al Kiyumi in the Advisory Committee and accordingly proposes to reconfirm his nomination.

10. Confirmation of sub-regional observer to the Advisory Committee

Recognising the need and desirous to make sub-regional coordination in the Northwest Indian Ocean area more proactive, the working group is proposing to appoint Thabit Zahran Al Abdessalaam (United Arab Emirates) as the new coordinator for the area and also to serve as sub-regional observer to the Advisory Committee.

ANNEX 5D: SUMMARY OF THE SOUTH-EAST ASIA (SEA+) WORKING GROUP DISCUSSIONS

(as submitted by the Working Group rapporteur, with only minor editing)

Outline of the main issues presented to the meeting by the rapporteur (Renato Cruz)

1. Country's major highlights

- ASEAN Countries – Common activities were Tagging, Satellite and Genetic Studies on Green and Hawksbill nesting turtles. These are mostly in coordination with SEAFDEC/MFRDMD.
- Other activities – please refer to the country reports below.

2. Overview of fisheries interacting with marine turtles

- For ASEAN: Demonstration trainings of TEDs and circle hooks in collaboration with SEAFDEC.
- Gill net is the fishing gear that impacts marine turtle most.
- United States: looking at TEDs on the following fisheries: non-shrimp trawl fisheries; demersal fisheries and fly net fisheries; scallop trawl fishery.

3. Overview of coastal development issues

- United States: Potential impact in the near future – development of water turbines as an alternative source of energy that may impact on migratory fishes as well as marine turtles.
- Indonesia: have a 2007 Act on coastal development.
- Cambodia: development of more than 1,000 ha of mangrove and seagrass beds.
- Viet Nam: Marine Turtle Community-based programme in a local area.
- Proposal to the Advisory Committee for possible drafting of guidelines on coastal development in relation to marine turtle conservation. Guidelines could be based on existing references from workshop proceedings, country development plans and other guidelines etc.

4. Future national planned activities of interest to, and possibly benefiting from collaboration with other countries of the sub-region

- ASEAN: Genetic study of marine turtles in foraging areas.
- Circle hook and fishery studies, such as On-Board research.
- Meetings: Sulu Sulawesi Marine Ecoregion meetings, World Congress 2009, Coral Triangle Initiative.

5. Review of Proposed Nomination to the Advisory Committee

- Indonesia is the new Advisory Committee observer of the South East Asia + Group.
- In view of Dr. Hughes and Dr. Mortimer standing down from the Advisory Committee, the re-nomination of Dr. Limpus, and the United States' withdrawal of Dr. Tiwari as a candidate, the SEA+ Working Group has no objection to the membership totalling 10, maximum allowed number of members of the Committee.

DETAILED OVERVIEW OF SEA+ SUBREGIONAL CONSULTATION

Present – 8 Signatory States (Australia, Cambodia, Indonesia, Myanmar, Philippines, Thailand, United States, Viet Nam) and 1 Advisory Committee observer; Secretariat also present part-time; Chair – Philippines.

Agenda Item 1 – Brief country presentations highlighting key activities undertaken since 2006

Australia

- 1) Supported a regional marine turtle workshop in conjunction with WWF in September 2007 – participants included Indonesia, PNG, Timor Leste, Solomon Islands, New Caledonia. Report is just being finalised. This report will add more information and may help out with some of the country reports for those countries.
- 2) Assisted the South Pacific Regional Environment Programme in the revision of their Regional Marine Species Action Plans which includes cetaceans, dugongs and turtles. As part of the implementation of this Action Plan, Australia has brought over some Pacific Islanders to assist Col Limpus with some projects. This has happened twice so far.
- 3) Have invested \$1.4 million for Torres Strait to develop Community-Based Management Plans. Now finalised and put forward for funding at the moment. Addressing indigenous harvest. Also talking with PNG (western province) looking at supporting PNG in relation to the management of their turtle and dugong take on their side of the Torres Strait.
- 4) Have been revising the National Turtle Recovery Plan. This is a multi-species recovery plan. Under the national *Environment Protection and Biodiversity Conservation Act 1999*, plans must be reviewed every 5 years. Hopefully this will be done for turtles by the end of this year (2008).

Cambodia

Cambodia's coastline is around 43,500 km long, covering 4 provinces. Population of turtles declined in past years. Threats – trawlers, nets, hookline fishing. Trying to protect these species by establishing the Fisheries Marine Conservation Centre – only established this year, 2008. Other plans are under way.

Indonesia

- 1) Management and conservation: Indonesia has set up more than 7 million ha of MPAs out of 10 million ha. MPAs cover national and district areas.

Most turtles aggregate in the northern part of the country (Derawan Islands), so have more information from this part of the country.

- 2) Study on genetics – NGO already completed study. Also, collaborated with SEAFDEC/MFRDMD for Greens. Some of the turtles foraging in Derawan are from Sabah and Philippines.
- 3) Have conducted a study on fisheries activities and interactions. Found that turtles are caught by tuna longlines and trawlers, especially in the Arafura Sea. Indonesia's National Action Plan on Turtles programme includes mitigation of fisheries turtle interaction.

- 4) For Sulu Sulawesi Marine Ecoregion, Indonesia, Malaysia and Philippines have been meeting in Jakarta and Manila to discuss the common programmes. Would like to discuss implementation of actions in this region in future. Have also developed a Coral Triangle Initiative that covers 8 countries.
- 5) Have undertaken awareness-raising for crew of longliners. Undertook comparison trials for circle hook to ascertain whether there is any advantage between using these and J-Hooks.
- 6) Working to encourage fishermen to use circle hooks. Using this hook is an advantage. Fishermen are happy to use it but problem is how to provide this hook. Some fishermen are concerned will have to give additional capital.

Myanmar

- 1) Dept of Fisheries is undertaking monitoring and surveillance of turtle nesting sites and conducting hatching and hatchling release programmes both in natural and man-made nests.

Despite having many islands and beaches, only 4 beaches at present are targeted for tagging activities. Marine Fisheries Development and Management Department provided applicators and tags to Dept of Fisheries in 2001. These were sent to Sea Turtle Conservation Centres where tagging activities were carried out for nesting turtles which were returned to the sea in December 2001. Tagged sea turtles travelled to remote islands and beaches out of reach for Fisheries Dept. Consequently, pamphlets and tag-wanted notifications have been distributed to fishermen living in coastal regions asking them to immediately inform the nearest Dept of Fisheries office with complete records of the turtles with tags. Dept of Fisheries has also asked the media to assist with this.

Have tagged 316 Green turtles, 263 Olive Ridleys, and 12 Hawksbills. Were unable to tag all nesting females. Due to insufficient night patrolling and long beaches, data on tags cannot be completely collected. There were 109 tagged turtles and 141 turtle frequencies were recovered. Dept of Fisheries has distributed pamphlets and a wall poster regarding tag recovery. Tagging in the country is in its' infant stage. At least 5 more years' worth of data is needed.

Platform Transmitter Terminals (PTTs) were attached to Olive Ridley turtles on 1 January 2007, tagged with help of the Japanese Trust Fund. At the same time, training was conducted on turtle conservation and installation of PTTs. One signal was lost on 14 January.

- 2) Tissue samples from 30 Green turtles from Coco Island and Thameehla Island were obtained and sent to SEAFDEC/MFRDMD for DNA analysis. Currently are collecting tissue samples from Hawksbills in Tin Pann (Oyster), Coco and Long Lon Bok Islands.
- 3) Conducted public awareness programme at Coco Island in April 2006. Also conducted training course on marine turtle conservation and management at Coco Island in October 2007 with 46 participants including police, local authorities, local people and fishers.
- 4) Conducted environment and endangered aquatic animal conservation and management training in February 2008 at Kadongalay Island with 24 participants from Dept of Fisheries, Dept of Forestry, and universities.

Philippines

- 1) The Pawikan Conservation Project, Protected Areas and Wildlife Bureau, Dept of Environment and Natural Resources (DENR) have collaborated with SEAFDEC/MFRDMD on the collection of tissue samples for genetic studies. This study is part of the Research for Stock Enhancement of Sea Turtles,

under the Japanese Trust Fund programme. The study started from 2005-2006 for nesting Green turtles and 2006-2007 for nesting Hawksbills. Results will be presented at 3rd Technical Consultation Meeting on Research for Stock Enhancement of Sea Turtles in Malaysia in October this year.

2) Workshops and trainings: 9th meeting of the Philippines-Malaysia Joint Management Committee for the Turtle Islands Heritage Protected Area was held in Philippines. Reviewed the Joint Management Plan for 2000-2005. Review identified priority management activities for 2007-2009 including: Control of collection of eggs and trade of eggs and turtle products; ensuring safe passage of turtles at all life stages; eco-tourism development; capacity building for staff and stakeholders; networking and information sharing; and development of website.

The 10th JMC-TIHPA meeting should be hosted by Malaysia this year.

3) Workshop in Bangkok in March 2007, on assessing the relative importance of sea turtle mortality due to fisheries in SE Asia, which 2 representatives from the Philippines attended.

Sulu Sulawesi Marine Eco-region, subcommittee meetings (Philippines, Indonesia and Malaysia).

Sea turtles are a key species for the region.

Tri-national training held in Malaysia in 2007. Participants were from Malaysia, Philippines, Indonesia, funded by Conservation International. Training focused on habitat survey of marine turtles.

4) "Phase In – Phase Out the Collection of turtle eggs in Turtle Islands Wildlife Sanctuary". Drafted an MoU plan regarding collection of turtle eggs in the Turtle Islands. Series of consultations of stakeholders and agencies in these islands between 2003-2007. Provisions of MoU include phasing out of egg collection and phasing in of alternative livelihood options. Draft was finally agreed and hopefully will be signed end of this month (August 2008) in Turtle Islands.

5) In September 2007, apprehended 19 Chinese fishers in the Turtle Islands Wildlife Sanctuary. They were caught in possession of live and dead turtles. Estimated that 176 green turtles (mostly sub-adults and nesters) were affected. Case was filed against them. After 8 months in detention, they were able to escape. A process of an investigation is going on.

6) Drafting and finalisation of the Management Plan of Turtle Islands Wildlife Sanctuary, a protected area under the *Republic Act No. 7586* or the *National Integrated Protected Area System Act of 1992*. Held a series of consultation meetings in 2007 and early 2008. In May 2008, Management Plan was approved by stakeholders in the islands and endorsed by authorities. Important issue was the collection of eggs and trawl fishing coming from Malaysia. Will be properly addressed during a series of meetings with the stakeholders in the area.

7) Currently continuing to establish formalised agreements between DENR and Local Governments regarding implementation of marine turtle conservation activities within their political jurisdictions. One such MoU was recently signed this month (Aug 2008).

8) Raising local awareness – in March 2008, an umbrella body for regional radio and TV media launched a project. It will regularly air turtle conservation messages on TV and radio. Raising awareness on marine turtles is one of the major conservation initiatives being undertaken on a regular basis by the DENR throughout the Philippines.

Thailand

- 1) Satellite tracking studies have been performed since 1995. Recently, more than 54 PTTs have been deployed on 5 species of sea turtles covering adults to juveniles. Found that female green turtles from the Gulf of Thailand have a major feeding rookery at Sulu Sea, while the one from the western coast of Thailand migrated to Andaman Islands. Three small PTTs were fixed to 1-year old head-started green turtles. The result revealed that all of them tend to stay near to the shore.
- 2) Compared two nesting populations of Green turtles, between the Gulf of Thailand and the Andaman Sea, by sequencing mitochondria DNA at a control region. Results showed no significant difference between the two populations. This year we are trying to differentiate the two populations using microsatellite markers. Multiple paternities have been detected in Green turtles employing fingerprinting technique. Population genetic structure research has been conducted in cooperation with ASEAN countries via SEAFDEC Malaysia and Kyoto University, Japan. We should get the big picture of population genetic structure in this region within next year.
- 3) Sex ratio has been estimated dating back to 1955 using the pivotal temperature and air temperature recorded at the two major nesting sites. We found that the proportion of female increased from 35% in 1955 (mean air temperature = $28.5 \pm 0.7^\circ\text{C}$ S.D.) to 80% in 2007 (mean air temperature = $28.6.0 \pm 0.4^\circ\text{C}$ S.D.). Since 2004, temperature data loggers have been deployed to the major nesting sites. The pivotal temperature for Green turtle was reported.
- 4) Artificial insemination programme has been developed. Sperm was collected from sea turtles by electro-ejaculation technique. On-going project is to find out the cryo-preservative protocol to keep the spermatozoa prior to future artificial insemination activity.
- 5) Stranded records over 15-years period have been analysed. Coastal fishery was defined as a major cause of mortality in sea turtles. Analysis of 177 stranded sea turtles caused by fishing gears found that 58% of turtles stranded because of gill nets. The rest comprised (arranged from high to low): fish trawl, set net, hook and line, squid trap, purse seine, bottom longline, ghost net and push net. Found that 19% of sea turtles encountering gill nets would survive, while nearly all sea turtles trapped in trawls would die. To secure the survival of these sea turtles, strategies such as modification of fishing gears and methods, as well as declaration of marine protected areas should be considered.
- 6) Intensive nest monitoring has been conducted since 1995. At Huyong Island (Andaman Sea), the beach has been patrolled nightly all year round. Every single nester can be traced back. The nesting history can be traced from mothers to hatchlings.
- 7) National Plan of Action to conserve sea turtles has been initiated since 2006 with the participation of both government and NGOs. Two strategies – hatchery management and nesting beach management – were highlighted. Sea turtle MPAs for nesting sites have been proposed in a meeting.
- 8) Education to school students occurs throughout the coastal provinces. More than 50 schools were educated yearly.
- 9) Lastly, international cooperative programmes for regional research and conservation management have been developed through SEAFDEC.

United States

Major issues: under the US *Endangered Species Protection Act*, the United States government has been petitioned by 2 NGOs to change the status of North Pacific Loggerheads from threatened to endangered and to designate critical habitat for Pacific Leatherbacks:

- 1) The final determinations of these petitions will be made in the next 18 months. These determinations will have implications for fisheries management, as well as other uses of coastal and ocean resources.
- 2) North Pacific Loggerheads – currently threatened in U.S. Have been petitioned to uplist to endangered. In addition, the U.S. government is undertaking a global status review of Loggerheads to determine if application of the distinct population segment policy under the *Endangered Species Protection Act* is warranted. If so, there may be regulatory changes to the protection of Loggerhead sea turtles under U.S. law.
- 3) Major protected areas – 2006 NW Hawaiian Islands – National Marine Monument – largest ever declared. Major turtle nesting, as well as seals and seabirds. Potential before the end of year for more areas to be set aside for marine conservation.
- 4) Research – several genetic studies, e.g., with Dr. Dutton. Working with Australia and others.
- 5) Satellite – some tracking for Leatherbacks. Won't be setting any more in the near future. Need to refine technology before doing that.
- 6) West coast of U.S. – study on how Leatherbacks are using waters off west coast for foraging and to better understand this.

Viet Nam

Follow-up on 2006 IOSEA Year of the Turtle and follow up on National Action Plan for Viet Nam. Viet Nam is implementing some programmes in terms of conservation and management.

- 1) Collected Green turtle and Hawksbill samples and sent them to SEAFDEC/MFRDMD to identify whether this is a sub-population.
- 2) Also organised 3 national workshops on bycatch – longline and gill nets. More than 160 fishermen attended the workshops. This was a pilot which can now be implemented throughout Viet Nam.
- 3) Also attached tags to 10 female turtles to do satellite tracking to ascertain foraging area for these turtles.
- 4) Incentives for local people in marine parks and sea turtle nesting areas: offering them some aquaculture incentives such as low interest loans.
- 5) In 2006 and 2007 tagged 2 female turtles in the southern part of Viet Nam and released more than 50 babies, mostly Green turtles.
- 6) Collaborated with WWF and IUCN to implement some training for local people and school children as a follow up to the Year of the Turtle.

Agenda Item 2 – Overview of fisheries interacting with marine turtles

Philippines

In a particular area, most turtles (sub-adults) are caught in “Ota-shi-ami” and fish corrals. These devices can catch 2-7 turtles in one day. Fortunately, the fishermen let turtles escape by lowering the buoys and nets. These devices also catch dugongs.

Trawl fishing is not allowed in municipal waters (15 km from high tide mark) so use of turtle exclusion devices (TED) is not applicable. However, many owners of these trawling vessels still fish in these waters.

Thailand

Found that gill nets are having a major impact on sea turtles. We think this is common in other countries (i.e., impact of gill nets being significant). Perhaps we can ask participants to help find solutions to this disturbing gill net trend. Can be drifting or bottom set (shallow waters, not deep). In January 2009, a meeting regarding the impacts of gill nets on turtles will be organised with SEAFDEC support (among others, including IOSEA).

Viet Nam

SEAFDEC recently provided 5,000 Circle hooks for tuna longline fishermen. Most of them now don't like this because they are targeting different size fishes. How do we modify these hooks for our region? Current size is not convenient for fishermen, who claim they cannot get any fish. Fishers are requesting the scientific evidence. In our region tuna species are muddy species so need convenient size of hook for this. Better and cheaper circle hooks originate from Korea. Vietnamese fishermen sometimes modify the hooks themselves, more cheaply.

United States

Looking at TEDs in non-shrimp trawl fisheries. Working to modify TEDs for demersal and fly net fisheries. One is a scallop trawl fishery. Utilising some of the technology developed in Australia for scallop trawl. Also fish trawl fishery and quantity for catch. These are able to catch more than 500 kg per minute so it is somewhat challenging to modify them for TEDs.

Investigating reduction of gill net take in fisheries in Trinidad. Making the net shallower can reduce Leatherback takes by 30-40%. Targeting mackerel fisheries. Expanding TED in fisheries that previously weren't required to use them, such as Skimmer Trawls.

Trying to collect data on gill net and sea turtle interactions. Have been approached by IUCN and Western Pacific Fisheries Council to organise a workshop on sea turtle and net fishery proposed to be in Bangkok in January 2009. But venue may change to some other country.

SEAFDEC

Bundit Chokesanguan reported on regional promotion of circle hooks to fishermen and encouragement of member countries of SEAFDEC: e.g., Philippines, Malaysia, Indonesia (Bali) and Viet Nam (2 times). During the demonstrations also provided the circle hook to each Dept of Fisheries).

Circle hooks are imported from Taiwan and Japan with Japanese Trust fund support. Problem of providing these circle hooks – some countries do not yet have them and need support for this. Made a comparison of J-hook and Circle hooks. Found not much difference in catching of fish. Also analysed position of the hooking (on fish). Circle hook mainly hooked near the mouth of fish and not deeper. We consider that this possibly leads to reduction of mortality of sea turtle, even though we did not catch turtles during the comparisons. On-going assistance to Indonesia with demonstrations; and also some African and Middle Eastern countries.

DNA studies, turtle tagging, head starting, fisheries interaction studies continuing under SEAFDEC project in cooperation with member countries.

Agenda Item 3 – Overview of Coastal Development Issues

Cambodia

Due to economics etc., of the country's development, the Government is trying to develop along the coast, now pressing ahead with infrastructure. Of particular concern is in Kapong Province where a special Exclusive Economic Zone is to be developed, including a port. There are plans to have a resort, tourist place etc. Mangroves and seagrass beds will be filled by land. With over 1,000 ha of seagrass beds, we recognise this as a threat to habitat especially for sea turtles. EIA in Cambodia is very complicated. It depends on the Government and who is involved.

Indonesia

There are no serious coastal developments that may affect nesting sea turtles. There is only sporadic activity by coastal people. Act No. 23, 1992, concerning EIA, has to be considered. There is a new Act No. 22, 2007, concerning coastal development and small islands.

Myanmar – coastal development is not presently an issue.

Philippines

If an area is identified as nesting beach, the developer is required to consult with the DENR on mitigation measures to complement marine turtle characteristics. This is required in an EIA. Responsible developers follow this requirement. Suggests having guidelines on minimum requirements for coastal development.

United States

Working on the long-standing issue of setting of hotels and buildings. We try to work through best practice etc. Another issue emerging is water turbines as an alternative form of energy. Turbine will be placed off the coast of Oregon and perhaps Florida to catch energy from waves. Setting of this new technology is often in prime fishing grounds, and may be areas where turtles are migrating through or even off nesting beaches. Now contending with how to deal with these potential impacts, not only on turtles but all protected species. All of these issues are considered under the environmental impact assessment (EIA) process, but it's a priority issue as new energy sources emerge.

Thailand

In Thailand, many big hotels and resorts are thinking of turtle protection, because they see potential income from wildlife species. They especially want to help sea turtles because nesting is one of the highlights for people to come and see.

Viet Nam

In 2007 conducted community-based survey to encourage local people to join marine turtle conservation activities. Some have been done in local villages. Training workshops included inshore fishing concerns. More than 50 fishermen and military personnel got involved. Current project between Government and WWF and others to support nesting beaches in central Viet Nam. Activities include recording of tag returns (very few beaches remain), community-based conservation to identify and enhance marine biodiversity in local communities and increase conservation knowledge and monitoring techniques.

Discussion: Indonesia and Thailand supported the Philippines' proposal calling for the drafting of guidelines on coastal development, with possible assistance from the Advisory Committee. The United States noted that a significant amount of literature and information already existed on this subject. The Advisory Committee observer pointed out that sea turtles alone would not likely affect government policy to develop coastal areas; it was important to consider the wider context. Concluding the discussion, the Chair reiterated that the South-East Asia + group would recommend to the Advisory Committee the possible drafting of guidelines on coastal development in relation to the conservation of sea turtles, based on existing references, proceedings from workshops/meetings on coastal development and marine turtle conservation.

Agenda Item 4 – Future national planned activities of interest to, and possibly benefiting from collaboration with other countries of the sub-region

Indonesia

Plans to conduct genetic studies in foraging areas in collaboration with SEAFDEC (under Phase 5 of the Japanese Trust Fund project). The idea is to conduct this work in the southern part of Indonesia (e.g., West Java etc.) because there is less information there. Will also try and do satellite tracking in this area. Indonesia will also continue to encourage fishermen to use circle hook; and will try to encourage a local manufacturer to make a suitable circle hook.

Thailand

Satellite tracking has been useful, but now it was important to apply the results and findings practically in order to conserve the areas used by turtles. Also wants to use genetics for forensic identification of populations, which has not been done until now. With this tool, it would be possible to track turtles and match them to particular areas. In the last two years, at least 5 Loggerheads have come to Thailand but we don't know why. In the past, one such turtle was released and tracked with satellite straight to the top of Western Australia.

Viet Nam

Planned activities include: tagging and satellite tracking; looking for scientific evidence to justify use of circle hook for fishers; implementation of the observer programme supported by NOAA; organising some training and workshops for local people and officers to identify interactions between fisheries and turtles; continue completing a manual for school children on sea turtle management in Viet Nam; and development of a Master Plan for Viet Nam to reduce the number of fishing boats (with a view to reducing bycatch).

Discussion: Various tools were available to help elucidate where turtles live when they are not on a given nesting beach: (1) satellite telemetry; (2) flipper tags; (3) genetic sampling of turtles in their feeding areas (such as animals caught in nets etc) to work out which genetic stocks are in an area.

The SEA+ group noted the considerable effort already made to deploy satellite tags in the region. It would be useful if the Secretariat could compile the resulting satellite tracks on a website (such as IOSEA's Interactive Mapping System – IMapS) so that everyone could learn from it. The scientific, education and management community would find a collective dataset very useful for planning purposes. Other countries, such as Japan, had provided much support of the years and could contribute without necessarily being an IOSEA signatory. Similarly, SEAFDEC had much consolidated information on flipper tags which might be requested.

Agenda Item 5 – Use of, and possible contribution to, various IOSEA Online Tools

The Secretariat drew attention to a new directory of genetics expertise/projects that had been created on the IOSEA website. Philippines noted that the results of SEAFDEC's Green and Hawksbill genetics work would be presented in October 2008, and suggested that SEAFDEC might be requested to provide information to IOSEA.

Agenda Items 6, 7 and 8 were either dealt with under other items or were not discussed in detail, on account of a lack of time.

Agenda Item 9 – Review of Proposed Nominations to the Advisory Committee

The Secretariat provided background to the nomination process for membership of the Advisory Committee, noting that there were more candidates than available places. The United States elected to withdraw its nomination of one candidate in the interest of having Dr. Colin Limpus renominated for another term; and this was agreed.

Agenda Item 10 – Confirmation of sub-regional observer to the Advisory Committee

The SEA+ group decided that Indonesia would serve as its sub-regional observer to the Advisory Committee, with the name of an individual to be confirmed later.

Agenda Item 11 – Other business

None.

ANNEX 6: OVERVIEW OF IOSEA MoU IMPLEMENTATION PROGRESS

(Prepared by the Secretariat, on the basis of IOSEA National Report content, as of July 2008)

1. Implementation and/or reporting of actions undertaken within the framework of the IOSEA MoU have improved significantly since March 2006, with almost all Signatory States having submitted national reports through the online facility.
2. We now have a better understanding of the fisheries that are interacting with turtles and of the range of measures that Signatory States are applying to try to reduce and mitigate turtle bycatch. For example, set gill nets are reported by half of the Signatories to have “moderate to relatively high” impacts on turtles. Bycatch in shrimp trawls has been identified as a problem, yet less than a third of the members have effective systems in place to address it. Signatories have started to document the nature of the harmful illegal fisheries occurring in their waters, including what appears to be a resurgence of destructive fishing methods.
3. We now have a better appreciation of the uses and values of marine turtles across the IOSEA membership, and can observe that traditional consumption of meat and eggs still occurs in three-quarters of the Signatory States. We are beginning to get a sense of the extent of socio-economic studies carried out to examine the complex relationships between coastal communities and marine resources and of programmes to identify alternative livelihoods.
4. We are more aware of the vital research that is – and is not yet – being conducted by the member States. Australia, Oman, Seychelles and South Africa are among the countries have been monitoring their turtle populations literally for decades; and several more countries have programmes of longer than 10 years duration.
5. Through information contained the national reports, we have a good record of the rather comprehensive legislation and management programmes that have been put in place. Eight Signatory States already have national Action Plans focussing on turtle conservation, while another 10 are working towards these national plans – a laudable achievement over the space of a few years.
6. Signatory States have done well to identify what they consider to be their highest conservation and management priorities, among them: targeted research, habitat conservation, enhanced education/awareness, capacity-building and reducing incidental mortality in fisheries.
7. Interesting examples of best practice (or exemplary approaches) can be found across the entire IOSEA region: To mention but a few:
 - Australia’s multi-million dollar programmes to support the development of community-driven approaches to turtle conservation and to find solutions to the problem of ghost nets;
 - Bahrain’s identification of shrimp trawling as the primary cause of turtle mortality in its waters, suggesting a need for fishermen training in appropriate handling techniques;
 - Comoros’ successful involvement of communities in nesting beach monitoring and protection;
 - India’s recent satellite tracking programme aimed at elucidating migration routes of Olive ridley turtles nesting on its shores;
 - Indonesia’s advanced research to identify fisheries-turtle interactions and to work with industry to develop suitable mitigation measures;

- Oman's soon-to-be-completed visitor orientation and research centre at Ras al Jinz, a first-class facility to complement one of the world's most important areas for Green turtle nesting;
- Seychelles' innovative approaches to fully integrate and involve the private sector in practical conservation measures; and
- South Africa's decades-long monitoring and research programme along its Atlantic coast.

The Online Reporting Facility now contains information on more than 700 discrete sites of importance for marine turtles throughout the Indian Ocean and South-East Asia. Users can query this system to obtain a truly phenomenal amount of information on the occurrence of species, the threats they face at a given site, the mitigation measures that are being implemented, as well as the research activities being carried out. A new mapping interface, taking full advantage of the satellite imagery offered by GoogleMaps and Google Earth, is now in place to provide unprecedented visual presentations of informative data.

8. From this system, we find that Signatory States identified natural threats, such as predation, as the most common threat, followed closely by incidental capture in coastal fisheries. Both threats are reported to occur with "moderate to strong" intensity at about 35% of the sites surveyed, covering about 18 countries. Moderate to strong threat of egg collection came third in the ranking, being problematic at 20% of the sites in 14 countries.

9. The Signatory States have begun to provide assessments of their turtle populations, giving rise to concern in some places and cautious optimism in others. For example:

- the Eastern Australian population of Loggerhead turtles is reported to be in serious decline, a situation mirrored in Madagascar. Yet South Africa's nesting population of Loggerheads has increased markedly, with annual nests increasing from 250 to 1,750 over the past four decades in an 8 km index area.
- Olive ridley turtles which nest in the thousands in India are reported to be declining, prompting efforts to curb fisheries-related mortality, to monitor population trends more closely and to safeguard critical habitats. In Thailand, numbers of Olive ridley turtles are critically low, thought to represent only about five percent of historical levels.
- Leatherback turtles in Indonesia, home to the region's most abundant populations of this species, are said to be threatened by habitat destruction. Numbers of Leatherbacks in Thailand are also critically low; while in South Africa the population appears to be stable despite large annual fluctuations in nesting.
- Green turtles, still very abundant in Oman, are declining in Indonesia and Philippines due to unsustainable egg collection and poaching. The same mixed message holds true for Hawksbill turtles, which are increasing on some islands of Seychelles, but declining on others.

This 'broad brush' portrait only scratches the surface of the kinds of analyses that could and should be made based on comprehensive information provided by the Signatory States.

10. There, is course, considerable room for improvement in the MoU's implementation. We have learned that not enough truly collaborative work and information exchange is taking place. Even here, some notable exceptions can be mentioned, such as in South-East Asia with its sub-regional research programme under SEAFDEC and in the Western Indian Ocean with its nascent Marine Turtle Task Force.

11. We observe that Signatories have yet to clearly articulate their resource needs and to mobilise sufficient funding for domestic implementation; and only a few are carrying the burden of supporting international coordination efforts.
12. Signatory States have put in place fairly comprehensive beach management programmes, but there appears to be insufficient attention given to periodically evaluating their effectiveness. Most Signatories are engaged in monitoring and recovery of coral reefs and mangroves, but rather limited work is being done on sea grass habitat. Finally, there is insufficient information available to judge whether tagging, satellite tracking, and genetic sampling have helped to elucidate migration routes.
13. The IOSEA Marine Turtle MoU has the most sophisticated information management system of any multilateral environmental agreement for assessing implementation progress. Overall, very good progress is being made and it is very likely that improvements in reporting will reveal that the Signatory States have already accomplished much more than they are credited with to date.

ANNEX 7: SUMMARY OF COASTAL DEVELOPMENT WORKSHOP

(Based on the original notes of Advisory Committee Chairman, Dr. Jack Frazier)

General observations

1. Habitat conservation is a major component of the IOSEA MoU and its Conservation and Management Plan.
2. Coastal environments are critical for both human societies and marine turtles. High concentrations of human populations live along the coast.
3. Marine turtles are highly migratory and, therefore, shared resources. Hence, one coastal state can impact the resources of other coastal states.
4. The condition of coastal environments is subject to human and non-human impacts.
5. Coastal development is complex and includes many diverse activities.
6. The complex life history of marine turtles means that coastal conservation must consider diverse ecological, spatial and temporal factors, namely: nesting beach, inter-nesting habitat adjacent to the nesting beach, pelagic, and coastal.
7. There are important unknowns; and cumulative effects are usually not addressed.
8. There is often thorough legislation to protect coastal environments and regulate coastal development, but implementation may not be adequate. Adequate legislation is not the same as adequate implementation.
9. It takes many years to learn and implement adequate policies.
10. Coastal tourism is an enormous economic, social, and political force, annually involving hundreds of thousands of people and valued at hundreds of millions of US dollars. Wildlife and nature – including marine turtles – are major attractions for tourism. The quality and income from tourism depends on quality of coastal environments.
11. Tourism can provide many benefits to conservation: social, educational, economic, and political.
12. Tourism can also be a major threat to coastal environments and marine turtles.
13. Coastal development is a double-edged sword.
14. The economic and political size of so-called “mega-projects” often overwhelms regulatory systems.
15. International instruments are invaluable sources of support for coastal conservation and management.

General recommendations

1. Coastal development must integrate conservation and development needs.
2. One must plan ahead: foresight is much better than mitigating after the problem arises.
3. Adequate coastal conservation requires long-term planning.
4. Conservation and protection measures must be designed on the basis of biological realities.
5. Public awareness is essential.

6. Community benefits must be clear and equitably shared.
7. Careful long-term planning should embrace the need to develop and implement tourism policy (i.e., mandatory integration of coastal ecosystem and wildlife protection in tourist operations); and the establishment of guidelines for coastal and turtle tourism.
8. There need to be adequate technical assessments of coastal processes (e.g., sedimentation, currents); biological and ecological components; economic considerations; and social cultural and traditional considerations.
9. It is important to establish unequivocal procedures, authority and accountability for the coordination of all planning, development, resource management and activities in the coastal zone, and for implementation of the coastal zone management.
10. One must plan for other contingencies, such as sea-level rise, major oil spills in sensitive areas, tropical storms etc.
11. It is important to identify especially sensitive environments and afford special environments in future development planning to safeguard the ecological roles and social and economic values.
12. One must ensure that valuable resources and existing and potential uses of the coast are not destroyed by poorly planned developments, pollution or existing activities.
13. Turtle conservation needs to be specifically addressed within large regional development projects.

Turtle-specific recommendations

1. The majority of the important habitats should be managed/protected. It is suggested that these areas should represent >70% of the total turtle population.
2. Protection of multiple rookeries should account for >70% of nesting.
3. Mortality of turtles aggregated in inter-nesting habitat within 5 km of nesting beaches should be eliminated.
4. A darkness zone of 1.5 km radius surrounding nesting beaches should be established, with wider darkness zones near townships and industrial complexes.
5. Multiple large areas of foraging habitat need to be protected/managed.
6. Catchment run-off water quality requires management.

Final conclusions

The issue of coastal development is very complex: there are no simple solutions, but there are important successes.

There have been major advances and contributions in integrated coastal management in the IOSEA region.

IOSEA must make use of existing initiatives and tools to enhance communication and cooperation with other organisations, government agencies, etc.

ANNEX 8: SUMMARY OF FISHERIES INTERACTIONS WORKSHOP

(Based on the original notes of Advisory Committee Chairman, Dr. Jack Frazier)

General observations

1. Fisheries – even traditional fisheries – are dynamic.
2. There is a direct relationship between fishing effort and bycatch. Hence, reduced stocks of target species often mean increased bycatch.
3. We lack fundamental information on bycatch. We are racing to catch up to mitigate problems that we only poorly understand. Hence there is constant learning and adaptation.
4. There is a need for well-documented studies of “real life” fishing operations to be able to develop effective mitigation measures, which implies direct and active involvement of fishers and fishing industry.
5. Changes to fishing practices and mitigation measures affect people’s lives. So, we need convincing incentives for change – not just rules. There is a need to find mitigation measures that are inherently attractive to the fishers (e.g., better quality of product, less cost in fishing, etc.)
7. Even the best efforts at mitigating bycatch are fragmented because turtles are migratory species. Because turtles are highly migratory, work in the Pacific and Atlantic Oceans may be directly relevant to the IOSEA region.
8. Many stakeholders in different countries are involved: we need multiple stakeholder coordination for even small changes.
9. The problem of bycatch encompasses many variables in time and space: biological, ecological, social, political, economic – there is not one simple, single solution.
10. Local solutions are essential, but there needs to be balance between general guidelines detailed local solutions.

The FAO Code of Conduct for Responsible Fisheries (Article 6 – General Principles) states in part:

“6.1 States and users of living aquatic resources should conserve aquatic eco-systems. The right to fish carries with it the obligation to do so in a responsible manner so as to ensure effective conservation and management of living aquatic resources.”

Our overarching goal should be to make bycatch economically and socially unacceptable, bearing in mind that: (1) no one wants to catch turtles; (2) no one wants to put fishermen out of business; (3) there is a need to integrate solutions with markets and with economic considerations.

SUMMARY OF VARIOUS FISHERIES

I. Trawls

Bottom Trawls

Tropical “shrimp” trawls, but they often target multiple species, hence the term “shrimp trawl” is often misleading. Turtle excluder devices: commonly known as TEDs, but perhaps better described as “Trawling Efficiency Devices”.

Their purpose is to exclude turtles and large debris, as well as other non-target species (e.g., juvenile fishes); and to retain target species such as shrimp/prawns, scallops or other bivalves, fish etc.

TED development began more than 30 years ago and technology transfer is an on-going process.

NOAA's Pascagoula Laboratory works on technology transfer: e.g., technical workshops, dockside assistance, onboard vessel demonstrations, follow-up assistance, enforcement training, manuals, videos. To date, the programme has covered 13 countries in the IOSEA region.

For more information, interested participants may contact: Dan Foster, NOAA Fisheries, Harvesting Systems and Engineering Branch. E-mail: Daniel.G.Foster@noaa.gov.

SEAFDEC has also been involved in TED technology transfer and training in the form of: workshops, technical consultations, and promotional materials (videos, pamphlets, posters, etc.); and helped to develop the Thai Turtle Free Device (TTFD). SEAFDEC has worked in 8 ASEAN Countries (Cambodia, Brunei, Indonesia, Malaysia, Myanmar, Philippines, Thailand, Viet Nam).

The TED initiative started in relation to a US embargo on shrimp imports, which caused much sensitivity. Today, the perception of TEDs varies among ASEAN countries. Many fishermen say that TEDs reduce catch and increase fuel costs, but studies suggest otherwise.

The FAO Project: "Reducing Bycatch and Change of Management in Tropical Shrimp Fisheries" (REBYC) dealt only with TEDs, but with wider bycatch reduction measures (e.g., fish-eye and mesh modification). It has involved 12 countries globally, including two from the IOSEA region: Indonesia and Philippines.

The results include: reduced catch of juvenile fishes, better product quality, decreased labour and fuel costs, greater collaboration between government and industry, increased cooperation between countries, biodiversity conservation, and ecosystem management.

A second phase of the FAO REBYC will include at least 11 IOSEA countries: Bahrain, Cambodia, Indonesia, Iran, Kenya, Madagascar, Mozambique, Philippines, Tanzania, Thailand, Viet Nam (and perhaps also Malaysia, Myanmar, Papua New Guinea, and Timor-Leste).

For more information, interested participants may contact: Mr. Bundit Chokesanguan, SEAFDEC Training Department. E-mail: bundit@seafdec.org.

General considerations on trawls:

TEDs, Bycatch Reduction Devices (BRDs) and other gear modifications need to be properly installed – otherwise they will not work correctly.

"Shrimp trawls" are very specialised bottom trawls, and are not the general rule. Bycatch in mixed stock trawls is much more complicated to understand and mitigate.

Bycatch reduction can directly benefit trawlers by reduced time and risks in sorting catch; reduced fuel costs; increased product value; and enhanced fishery stocks for non-target fisheries.

There were fierce conflicts with the introduction of trawls in several countries (e.g., Malaysia, Venezuela). In former times, the term "trawlerman" in England was used to describe an illegal fisher.

TEDs in Northern and Eastern Australia are recognised as a success story. Indonesia was one of the first countries to try to adopt TEDs, some 30 years ago, long before US PL 101-163 Section 609 was ever contemplated. It would be useful to hear about the fisheries management decisions that led

Indonesia to invite the United States to help them include TEDs in their fisheries, long before this became such a very complicated political issue.

It would be useful also to hear from places like Baluchistan (Pakistan) and United Arab Emirates where they have simply banned bottom trawling.

II. Pelagic Longlines

With respect to target species, the objective is to maintain catch rate and enhance product quality. Variables include: regional differences, fish species targeted; and bait type.

With respect to non-target species, the objective is to reduce hooking, damage from hooking, and mortality, while increasing survival of target species.

Many studies recommend the use of circle hooks instead of traditional J-hooks. Hook size and style, and turtle species and size must be considered. For turtle bycatch reduction, the larger the circle hook the better. Bait type (using whole fish instead of squid) can also reduce turtle bycatch.

Reducing mortality after hooking, can be achieved with release and de-hooking equipment and proper procedures. However, it is important to note that release is not necessarily the same as survival (cf. study by CRAM: Foundation for the Conservation and Recovery of Marine Life).

The national bycatch action plan in Indonesia includes various stakeholders from the fishing industry. Despite initial lack of confidence in circle hook, trials have shown better results (greater catch rate, greater quality, and greater size), so many fishers have now voluntarily adopted large circle hooks.

Since 2006, SEAFDEC has also undertaken major research covering a large area in South-east Asia (Andaman Sea, Celebes Sea, Indian Ocean: Brunei Darussalam, Indonesia, Malaysia, Philippines, Thailand, Viet Nam). Many information packages and materials have been produced.

General results of the trials:

- Hook rates of target species: circle hook fared equal or better.
- Hook rates of non-target species: using circle hooks, rate was less for most common bycatch species.
- Hooking position – circle hook is more selective (hooking more frequently in the mouth), thus leading to better product.

General recommendations include: reducing the soak time (time in water), especially during daylight; keeping all hooks as deep as possible (using sufficient weights); and following careful procedures for release of captured turtles.

There have been a number of public presentations in the past few years, indicating that just replacing J-hooks with circle hooks is an effective way to save turtles, but it is often not that simple. It is important to evaluate the complexities of circle hooks, with different offsets, baits, set characteristics, etc.

III. Gill nets

There are many different names and types of nets. So there are many variables, and lots of confusion!

Some examples include:

- Narrow (shallow) nets as opposed to deep nets (e.g., Trinidad);
- Bottom set, large mesh gill nets (“ray nets”) used in the shark fishery (particularly in the Arafura Sea). These nets are a major source of mortality for marine turtles and they are banned in some countries of the IOSEA region.
- Artisanal fishing – e.g., Comoros (there is great variability even within the same country).

General considerations with respect to gill nets:

“Real world” fishing practices should cause us to ask: when is “bycatch” really opportunistic intentional catch?

Much more attention needs to be paid to the effects of nets on turtle bycatch, and to innovative measures to mitigate these problems.

One should be aware of the existence of turtle nets – specifically manufactured and set to catch turtles.

Project GloBAL is undertaking a major global study of bycatch: <<http://bycatch.env.duke.edu/>>

Consideration should be given to banning monofilament net, in view of the harm caused to turtles.

Fish Aggregating Devices (FADs) are also implicated in marine turtle bycatch, and represent another source of marine turtle mortality.

IV. Marine Debris

Ghost net is the expression used to describe nets that continue to catch fish and kill after they have been discarded. They are a major source of mortality for marine turtles. What is observed and recorded is an underestimate of total mortality.

Often, nearby fishers are incorrectly blamed for ghost netting, when in fact the nets come from far away.

The presentation by Damian White suggests that addressing the problem of marine debris and ghost nets involves several elements:

- Much basic information is needed on the extent of the problem;
- A coding and identification system (e.g., net tagging, use of “rogues yarn”, etc.) is needed;
- Disposal facilities on-board and in ports are required;
- MARPOL 73/78 Annex V should be enforced;
- One should recognise good work by fishers.
- In the end, the problem of marine debris comes down to fisher accountability.

General considerations and final conclusions

The IOSEA Online Reporting Facility <www.ioseaturtles.org/report.php> provides a unique source of information and tool for summarising, compiling and interrogating fisheries-related information from the IOSEA national reports. Anyone is free to make use of this valuable tool.

Bycatch mitigation efforts are often of value to other fisheries (e.g., in reducing finfish destruction by shrimp trawls for the finfish fishery). There are emerging market incentives for more selective fisheries (e.g., turtle friendly/XXX Product).

Just telling (or regulating) fishers to stop catching turtles is unlikely to be effective: market incentives stand a greater chance of success.

We need good information on reducing bycatch of non-target species (i.e., turtles and other marine wildlife) as well as increasing or maintaining catch of target species.

The issue of mortality after release needs to be addressed in view of the damage caused by the capture and handling of turtles.

ANNEX 9: RESOLUTION TO PROMOTE THE USE OF MARINE TURTLE BYCATCH REDUCTION MEASURES BY IOSEA SIGNATORY STATES

Adopted by the Fifth Meeting of the Signatory States (Bali, Indonesia, 23 August 2008)

Acknowledging that some fishing operations carried out in the Indian Ocean and South-East Asia (IOSEA) region can adversely impact marine turtles;

Noting recent technology developments, ongoing efforts to improve technologies in modified gear and fishing practices to reduce marine turtle bycatch, and further noting an increased understanding of the importance of turtle-safe handling measures;

Commending the efforts of many IOSEA Signatory States to test and adopt technologies to reduce interactions with, and impact of fishing gear on, marine turtles;

Recognising the need to develop and further refine bycatch and mortality reduction measures, and recognising the relevance of the Food and Agriculture Organization (FAO) Code of Conduct for Responsible Fisheries in this regard;

Further recognising the vital role that fishers and fisheries play in the communities and economies of IOSEA Signatory States;

Considering the 2007 UN General Assembly Resolution 62/177 requesting that States and regional fisheries management organisations and arrangements urgently implement, as appropriate, the measures recommended in the 2004 FAO *Guidelines to Reduce Sea Turtle Mortality in Fishing Operations*, in order to prevent the decline of marine turtle populations by reducing bycatch and increasing post-release survival in their fisheries;

Noting that the IOSEA Online Reporting Facility serves as an effective tool for monitoring implementation of the above-mentioned FAO Guidelines, through its synthesis of national reports submitted by Signatory States; and

Recalling IOSEA Resolution 3.1 (Bangkok, 2005), which requested member nations of the Indian Ocean Tuna Commission to develop and implement appropriate gear and fishing methodologies to minimise bycatch and incidental mortality of marine turtles;

The Fifth Meeting of the Signatory States to the IOSEA Marine Turtle Memorandum of Understanding

1. *Urges* all IOSEA Signatory States to adopt and implement the 2004 Food and Agriculture Organization *Guidelines to Reduce Sea Turtle Mortality in Fishing Operations*, which call for the use of bycatch reduction measures demonstrated to reduce the interactions and severity of interactions with marine turtles. Such measures might include turtle excluder devices in trawls (e.g., shrimp, fish, and invertebrate trawls), appropriate combinations of hook design, type of bait, depth, gear specifications and fishing practices, as well as all other appropriate bycatch reduction measures for gillnets, traps/pots, purse seines and other gear known to interact with marine turtles;
2. *Urges* all IOSEA Signatory States to adopt and implement safe marine turtle handling measures for longline fisheries, which include bringing turtles safely aboard vessels using dipnets, using appropriate de-hooking equipment to remove gear prior to release, and employing resuscitation techniques for comatose turtles;

3. *Invites* all IOSEA Signatory States to pay particular attention to completing and periodically updating their national reports in relation to fisheries-turtle interactions and bycatch mitigation measures, and requests the Secretariat to communicate such information to the FAO Committee on Fisheries and other bodies as appropriate, as a collective contribution from IOSEA towards monitoring implementation of the FAO Guidelines in the Indian Ocean and South-East Asia region;
4. *Urges* the Indian Ocean Tuna Commission (IOTC) and the Western and Central Pacific Fisheries Commission (WCPFC) to adopt measures requiring the use of appropriate fishing practices to reduce interactions with, and incidental mortality of, marine turtles; and urges all IOSEA Signatory States who are members of, cooperating non-members of, or whose vessels fish in the areas of competency of, these organisations to actively promote the adoption and implementation of such measures; and
5. *Requests* the IOSEA Secretariat to transmit this resolution to the Director General of FAO and to the Secretary and Executive Director of the IOTC and WCPFC, respectively.

ANNEX 10: REPORT OF THE FIFTH MEETING OF THE ADVISORY COMMITTEE, 18-19 AUGUST 2008 (and Addendum)

Present: Five (of seven) members of the Advisory Committee: Jack Frazier (Chair), Ali Al-Kiyumi, Bundit Chokesanguan, George Hughes, Colin Limpus.

Invited experts (part-time): Patricia Davis, Mark Hamann, Ronel Nel, Sudarshan Rodriguez, Clevo Wilson. **Observers** (part-time): Signatory States – Donna Kwan, Franco Alvarez (Australia); Abdullah Hamod Abo Al-Fotooh (Yemen); Alexis Gutierrez (United States); Robert Hepworth (UNEP/CMS Secretariat). **Secretariat** (part-time): Douglas Hykle.

Agenda item 1: Welcoming remarks

1. Opening the meeting, Dr. Frazier welcomed the members of the Advisory Committee (AC), as well as the invited experts and Signatory State observers, and expressed apologies on behalf of Jeanne Mortimer and Nyawira Muthiga.

Agenda item 2: Adoption of agenda and schedule

2. The agenda (Annex 1) was adopted without amendment; however adjustments to the schedule were introduced to accommodate the length of some of the discussions.

Agenda item 3: Secretariat overview of arrangements for the Fifth Meeting of Signatory States

3. The Coordinator, Douglas Hykle, provided an overview of arrangements for the Signatory State meeting, noting that all Signatories except the Islamic Republic of Iran were expected to attend. The Secretariat had worked closely with the Indonesian Ministry of Marine Affairs and Fisheries and WWF-Indonesia on the logistical arrangements. For the first time, the meeting would incorporate two thematic workshops, to allow for focussed discussions on coastal development and fisheries interactions – both identified as priority issues in the IOSEA region. Also, more time for sub-regional consultations had been built into the schedule. The Coordinator advised the meeting on prospects for signature of additional Signatory States, of which there were several, including Yemen, which was expected to sign the MoU at the present meeting.

Agenda item 4: Summary of Committee members' marine turtle activities since SS4

4. The Chairman had consulted with each of the AC members prior to the meeting in order to compile an extensive list of turtle conservation-related activities, publications and presentations undertaken by members individually since the Fourth Meeting (on file with the Secretariat).

Agenda item 5: Discussion of SS5 agenda items requiring AC advice/intervention

Sub-regional consultations

5. The meeting reviewed the outline that the Secretariat had circulated in advance to inform participants of what to expect in the sub-regional consultations scheduled for the afternoon of 20 August. Members were briefed on their roles as group facilitators.

Overview of IOSEA MoU implementation

6. The Coordinator presented the main findings from the comprehensive review of implementation prepared by the Secretariat prior to the meeting (document MT-IOSEA/SS.5/Doc.6), which were summarised in a two-page Executive Summary. It was evident that the IOSEA Online Reporting Facility already contained enormous amounts of information from member States. A lengthy discussion followed on how best to make use of this information for practical conservation purposes. A number of points emerged from the discussion:

- 1) There was a need to enhance appreciation of the value of the reporting process: in particular, the value of the information and the usefulness of the IOSEA reporting system for organising, compiling, and analysing information. It was agreed that the Advisory Committee had a role to play in promoting the value of this work.
- 2) It was important for the system to incorporate information from diverse sources (e.g., research, conservation, education, etc., activities by universities, NGOs, etc.).
- 3) One of the system's greatest strengths was its ability to provide a unique regional perspective, moving beyond the more limited viewpoint of individual countries.
- 4) Standardisation of information, data protocols, etc., was important in order to facilitate regional comparisons.
- 5) Increasingly, as more data became available, the system should be used to evaluate trends over time.
- 6) The current reporting template was largely silent on the issue of climate change, and consideration should be given to addressing this weakness by adding a few well-formulated questions.
- 7) It was proposed that students/interns might be tasked with analysing the information from each question even more thoroughly, to maximise the value of contents of the national reports.

IOSEA Site Network concept

7. The Coordinator introduced MT-IOSEA/SS.5/Doc.6.2 which outlined a proposal for a network of sites of importance for marine turtles. The basic concept was to encourage governments to give formal recognition to important sites for turtles that might not otherwise receive national or regional attention. The committee debated at length the nature and purpose of such a "network" or "list" of sites, and explored also the possibility of according recognition to regionally important turtle populations as well as special contributions towards marine turtle conservation. After some discussion, it was agreed that the latter would best be dealt with through a letter of appreciation, which Dr. Hughes undertook to draft in consultation with the delegations present.

8. The Committee agreed that the primary objective of the site network or IOSEA list was to: ***'promote the long-term conservation and protection of sites of regional value for the conservation of marine turtles and their habitats'***. This goal would be achieved through formal recognition of particular sites, with a view to building political and public support for their protection; capacity-building and technical support (e.g., through information exchange with other sites, and possibly joint activities/personnel exchanges); and new sources of financial support, which a collective initiative might hope to bring.

9. The Committee also developed a provisional list of criteria which would form the basis for inclusion of sites in the IOSEA list. It was proposed that sites be required to meet a certain minimum threshold or number of criteria for listing. The details of the Committee's deliberations are reflected in Annex 2, which the Secretariat proposed to circulate to the Meeting of the Signatory States for further consideration.

Species Assessments update – Loggerhead and Green turtle reports

10. Dr. Hamann explained the lack of progress made on the preparation of the Loggerhead status assessment, on account of a poor response rate from questionnaire recipients. The Committee agreed that it was still important to undertake the assessments for Loggerheads and Green turtles, sequentially, and agreed an alternative way forward making use of national report information contained the IOSEA data base, supplemented by other sources.

Coastal development and fisheries interactions workshops

11. The Committee reviewed the presentations of invited experts Clevo Wilson and Sudarshan Rodriguez which had been requested for the two separate workshops planned for 21 and 22 August.

The Committee also considered the texts of draft resolutions that might be introduced to highlight some of the key issues identified at the workshops.

Agenda item 6: Enhancing intersessional communications of the Advisory Committee

Agenda item 7: Future activities and priorities of the Advisory Committee

12. In view of the length of time spent discussing a number of the other important agenda items, the Committee did not address these issues separately, however they were partly covered in the course of other discussions.

Agenda item 8: Oral report of the Chair to the Meeting of Signatory States

13. It was noted that the Chairman would be invited on 20 August to report to the Meeting of the Signatory States on the activities of the Advisory Committee since the last meeting, including its deliberations at the present meeting.

Agenda item 9: Other business

14. There being no other items of business, the Chairman thanked participants for their contributions and adjourned the meeting.

* * *

ADDENDUM

1. By tradition, the Advisory Committee convenes briefly following the close of the Meeting of the Signatory States, primarily to discuss arrangements for the chairmanship. A number of existing, outgoing and new members did meet informally on 24 August 2008, however their number was insufficient to form a quorum.

2. The current chair, Dr. Frazier, indicated that he would be willing to continue as Chair, if requested and endorsed by his peers. It was therefore agreed that the Secretariat should write to the Committee to indicate Dr. Frazier's willingness to continue to serve, while giving other members an opportunity to express an interest within a defined time frame (30 September 2008).

3. In accordance with this procedure, Dr. Frazier was duly re-confirmed as Chair of the Advisory Committee for another term.

Annex 1

**FIFTH MEETING OF THE ADVISORY COMMITTEE
Bali, Indonesia, 18-19 August 2008****PROVISIONAL AGENDA and SCHEDULE****Monday, 18 August: Morning session**

1. Welcoming remarks
2. Admission of observers and adoption of the agenda
3. Secretariat overview of arrangements for the Fifth Meeting of the Signatory States (SS5)
4. Committee members to summarise their regional marine turtle activities undertaken since SS4 (updates to provide basis for Chair's report to the SS5 plenary)
5. Discussion of SS5 agenda items that may require Advisory Committee advice/intervention
 - (a) Sub-regional consultations: suggestions for enhancing outputs and follow-through
 - (b) Capacity building in the IOSEA region

Monday, 18 August: Afternoon session

- (c) Overview of IOSEA MoU implementation (Doc.6) and site-based information (Doc.6.1)
- (d) IOSEA Site Network concept (Doc.6.2)

Tuesday, 19 August: Morning session

- (e) Species Assessments update – Loggerhead and Green turtle reports (Mark Hamamn)
 - general discussion on the way forward
- (f) Coastal development workshop
 - brief summary of keynote presentation (Clevo Wilson)
 - brief summary of presentations concerning projects in India (Sudarshan Rodriguez)
 - general discussion on the workshop, with suggestions on enhancing output and follow-through
 - review of draft resolution(s)
- (g) Fisheries-interactions/mitigation workshop
 - overview of the workshop programme (Secretariat)
 - general discussion on the workshop, with suggestions on enhancing output and follow-through
 - review of draft resolution(s)

Tuesday, 19 August: Afternoon session

6. Comments on enhancing intersessional communications of the Advisory Committee
7. Future activities and priorities of the Advisory Committee
8. Oral report of the Chair to the Meeting of Signatory States
9. Other business

Annex 2**IOSEA Advisory Committee considerations in relation to the Proposal for a Network of Sites of Importance for Marine Turtles (Doc.MT-IOSEA/SS.5/Doc.6.2)**

The Third Meeting of the Signatory States broadly supported the idea of a network of sites of importance for marine turtles. Advice was sought from the Advisory Committee regarding the development of criteria for the selection of sites. For various reasons, it has not been possible to revisit this issue until the meeting of the Advisory Committee held immediately prior to the Fifth Meeting of Signatory States.

Although tasked primarily with the elaboration of the site selection criteria, the Advisory Committee also discussed at length the basic concept of the “network”, reviewing possible alternative connotations, such as an “award” or “recognition” or “certification” scheme. After exhaustive discussion, the Advisory Committee proposed a neutral title for the scheme, along the lines of “IOSEA list of sites of critical importance to marine turtle conservation”; and proposed a complementary (additional) recognition scheme to acknowledge other special efforts or activities among the IOSEA membership. The latter will be covered in a separate note.

The Advisory Committee defined the objective of the “IOSEA List” as follows:

To promote the long-term conservation and protection of sites (areas, spatial units) of regional value/importance for the conservation of marine turtles and their habitats (where such areas need not be limited to nesting beaches, but could also include foraging and other areas).

The following benefits would be expected to flow from a site listing:

- Enhanced recognition among decision-makers and other stakeholders;
- Direct financial and logistic support from new sources of external funds;
- Increased opportunities for international collaboration, including technical assistance, training and capacity-building.

As explained in the original site network proposal, site nominations would be formally submitted by the Government of an IOSEA Signatory State. The Advisory Committee has recommended that qualification for listing be based on a site meeting a certain number (but not necessarily all) of the agreed listing criteria. This would mean that sites meeting only two or three criteria would not be eligible for listing (thus achieving a certain degree of exclusivity or special status for listed sites); but meaning also that a site could qualify for listing without necessarily fulfilling all criteria. (The precise threshold has not yet been defined.)

Maintenance in the list would imply a minimum level of compliance with the original selection criteria. Listing a site would not imply any legal obligations, unless the Signatory State specifically wished to endorse it within its own legal structures.

Provisional list of criteria for site listing (as developed by the Advisory Committee, with further elaboration of details still needed):

Regional value of a given site (i.e., geographic location, area, spatial unit) is defined by a combination of a certain number (not necessarily all) of the following criteria. In other words, sites would be evaluated on the basis of the following characteristics:

- A. Ecological and biological significance of the site:
 - 1. Presence of management units (species/populations/genetic stocks) of critical importance;
 - 2. Number (or proportion, in terms of genetic stock) of:
 - a. species (management units);
 - b. clutches/hatchlings/recruits per unit of time;
 - c. turtles;
 - d. life stages.
- B. Current protection and management status:
 - 1. Legal protection for the site and for the species present;
 - 2. Management and conservation effort for the sites and for the species present.
- C. Research and monitoring significance of the site:
 - 1. Index beach/site;
 - 2. Number of years of available data;
 - 3. Availability of population trends.
- D. Socio-political importance:
 - Social aspects:
 - a. cultural and traditional importance of the site;
 - b. economic (development) activities, human impacts and risk;
 - c. educational value;
 - d. national importance;
 - e. relevant history.
- E. Relevance/significance of the site to overall conservation goal of IOSEA.

The Advisory Committee concluded that while details of some aspects of the proposal have yet to be elaborated, it would not be desirable to defer its further development to the next meeting. The Committee also discussed the issue of the level within Government at which the overall site listing proposal should be endorsed; with some members holding the view that it need not be endorsed at Ministerial level.

The *Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia* (known as the IOSEA Marine Turtle MoU) puts in place a framework through which States of the Indian Ocean and South-East Asia region, as well as other concerned States and partners, can work together to conserve and replenish depleted marine turtle populations for which they share responsibility.

Signatories States meet regularly to discuss progress towards implementation of a comprehensive Conservation and Management Plan. The 2008 gathering was held in Bali, Indonesia. Nearly 100 participants from 30 countries attended the meeting, sharing their knowledge and experience and discussing the pressing issues facing marine turtle conservation in the region.

For more information visit:

www.ioseaturtles.org



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