guiding conservation policies and priorities.

The closing session ended with vote of thanks offered by Mr. Mahmood Akhtar Cheema, Country Representative, IUCN Pakistan to the chief guest, representative of US Consulate Karachi international and national delegates, representatives of various government and non-government organizations, private sector, media and IUCN.

REPORT ON THE 'SAVING THE ENDANGERED SEA TURTLES IN COASTAL AREAS OF PAKISTAN' PROJECT

SYED GHULAM QADIR SHAH
Mangroves for the Future Programme, IUCN Pakistan.

ghulam.qadir@iucn.org

INTRODUCTION

In Pakistan, sea turtles nest at Hawkesbay and Sandspit beaches in Sindh province, and on a few beaches, including Ormara, Tak, and Daran, in Balochistan. The project 'Saving the Endangered Sea Turtles in Coastal Areas of Pakistan' was sponsored by USAID Small Grants and Ambassador's Fund Program. The project was implemented for the period of one year, between April 2014 to April 2015 and its partners included: Climate Change Division, Government of Pakistan; National Coordinating Body of Mangroves for the Future Programme, Marine Fisheries Department (MFD), Government of Pakistan; Wildlife & Forest Department, Government of Sindh; Wildlife & Forest Department, Government of Balochistan; and, Worldwide Fund for Nature Pakistan.

The proposed project focused on implementing some of the actions suggested in the Strategic Plan for Conservation of Marine Turtles in Pakistan (2010), a plan prepared through a consultative process with technical support provided by Dr. Nicolas J. Pilcher of the Marine Research Foundation, Malaysia. The capacity of the Master Trainers and other fishers was further strengthened through a training conducted by Mr. Jack Forester, Fisheries Gear Specialist, Officer of Marine Conservation US Department of State, Washington, D.C. in the office of Marine Fisheries Department, Karachi.

Significant threats to sea turtles in coastal areas of Pakistan include fishing nets, degradation and encroachment of nesting beaches, and coastal pollution. Because of the highly migratory nature of sea turtles, and the challenges to conducting robust demographic studies, it is difficult to estimate the overall population size of marine turtles in Pakistan. There is, however, evidence that some sea turtle populations have declined dramatically in recent decades. From 1981 to 1983, nearly 6,000 green turtles and 200 olive ridley turtles nested on the beaches of Hawksbay and Sandspit (Kabraji and Firdous,1984). In 1987, 113 olive ridley turtle nests were recorded (Wildlife of Pakistan, 2009), but no olive ridley turtle nesting has been reported in Pakistan since 2003 (Zaheer et.al. 2010). In 2007, 2372 green turtles nested at the Hawksbay and Sandspit but there have been no records for this species since. Considering the apparent declines in sea turtle abundance in Pakistan, there is an urgent need to mitigate the ongoing threats to local populations and increase local awareness about the importance of conservation efforts aimed at recovering the local populations.

The continental shelf of Pakistan is heavily used for commercial and artisanal fishing. The use of turtle excluder devices (TEDs) in fishing nets is mandatory under Pakistan's marine fisheries regulations, and Section 609 of US public law 101-162 prohibits the import of shrimp into the United States of America unless a country's shrimping programme requires shrimp fishing trawlers to use TED's comparable in effectiveness to those used in the USA, and the country has a credible enforcement system

in place. The Provincial Government of Sindh and Federal Government of Pakistan have already notified fisheries about the legislative requirements concerning installation and monitoring of TEDs in shrimp trawl nets employed in territorial waters, as well as in the waters beyond 12 nautical miles in the exclusive economic zone (EEZ) of Pakistan, to ensure safe escapement of sea turtles from the shrimp trawl nets.

Pakistan is also a signatory to a number of global conventions and treaties related to marine resources conservation, including the Memorandum of Understanding (MoU) on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (IOSEA). The IOSEA MoU is an intergovernmental agreement under the auspices of the Convention on the Conservation of Migratory Species of Wild Animals. In addition, Pakistan is signatory to the Convention on Migratory Species (CMS) and Convention on Biological Diversity (CBD). Therefore, this project contributes to the Government of Pakistan's compliance to these international obligations.

PROJECT GOALS AND OBJECTIVES

The project goal was to promote the conservation of sea turtles in Pakistan. Its' main objective was to reduce the mortality of sea turtles during fishing operations along Sindh and Balochistan coasts. The project focused on promoting awareness and capacity building of communities and coastal resources managers in the use of turtle excluder devices (TEDs) in order to reduce mortality of sea turtles in fishing operations, prevent damage to the fishers nets, and create opportunities for nature based ecotourism, education, and livelihood support for the local communities.

ACTIVITIES AND ACHIEVEMENTS

The project was implemented successfully in coastal areas of Sindh and Balochistan. The project, although small in size and duration, contributed greatly to the conservation of sea turtles in Pakistan and on-going efforts of the Pakistan Government to ensure compliance with TED regulations.

The overall impact of the project can be measured by the policy level achievement of the Government of Pakistan in having Pakistan positively certified for shrimp export by the inspection team of US Department of State, which visited Pakistan in November 2014. Although the use of TEDs had previously been a regulatory requirement both under US and Pakistani regulations, there was little effort to encourage its application.

The project's main objective, to reduce the mortality of sea turtles during fishing operations along Sindh and Balochistan coasts, was achieved in several ways. Previously, there was little information available about the mortality of sea turtles in fishing operations in the coastal areas of Pakistan, nor was their data on the use of TEDs in trawl fisheries. Our survey revealed that a large proportion (87%) of fishers reported incidental bycatch of sea turtles in their nets in the past year, and extrapolated data suggested the fishery wide bycatch rate of sea turtles could range from 1817 to 2381 turtles in the last year alone. Most fisherfolk knew what TEDs were and had seen them; a substantial proportion (70%) had used a TED at some point in the past, but only 7% indicated they currently used them. Eight 'Master Trainers' were selected from local communities and trained in installation of TEDs in shrimp trawl nets. The Master Trainers, along with two representatives from MFD and the project staff, participated in at-sea trials to monitor the performance of installed TEDs to further strengthen the participants' understanding of TED implementation and use.

The Master Trainers were further utilized for providing hands on training to other fisherfolk in Sindh and Balochistan in installation of TEDs and in sea turtle conservation. In total, the project trained 126 community members in TED installation and distributed 100 aluminium TEDs for installation. The TEDs were designed with support from international sea turtle experts and modified as per recommendations of the US Inspection Team expert, Mr. Jack Forester, Fisheries Gear Specialist, U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), Washington. The inspection team recommended increasing the TED size from 34" x 41" to 42" x 52" as the trawl nets used in Pakistan were bigger than in other countries. In order to facilitate capacity building in other fisherfolk, an illustrated TED Installation Manual and Rescue Guidelines was

prepared in the local languages; Urdu, Sindhi and Balochi, in collaboration with MFD.

The project also engaged with local communities in Sindh and Balochistan through regular monthly meetings. Under the project, 22 community meetings were held with the target communities at the project sites in Ormara Balochistan (villages: Ball, Taaq, Chandi, Hud/Soomar, Ormara, Takka, Seekone, and Kund Malir) and along the Karachi coast in Sindh province (villages: Kakapir, Baba Bhit, Rehri, Mubarak, Abdur Rehman, Salehabad, Bangla, Shamspir, and Manjhar). During these meetings, 358 community members learned about the importance of sea turtles in coastal ecosystem, and the potential for sea turtle mortality in fishing operations.

In addition to community meetings, the project celebrated World Turtle Day, International Biodiversity Day, and World Wetlands Day with the local communities on Sandspit beach. Approximately 360 children from local schools and community members, representatives of government departments and members of civil society participated, and learned about the ecological importance of sea turtles. A short documentary on sea turtles was also developed, and will continue to be used to raise awareness among local communities beyond the project life.

To promote regional knowledge and experience sharing, a Regional Symposium on Conservation of Sea Turtles in Asia was organized at Karachi on 24–25 March 2015. This was the first meeting of its kind in Pakistan, and is described on page 33-38 in this issue of IOTN.

LESSONS LEARNED AND RECOMMENDATIONS

i. No such project has been previously implemented in Pakistan, and many people, including fisherfolk, were not aware about TEDs. The project addressed many doubts, misconceptions, and conflicting opinions about the usefulness of the TED as a tool to save sea turtles, and the need for regulatory compliance to continue exporting shrimp to the USA. Follow up actions on raising awareness among fisherfolk are required, in addition to research that demonstrates the efficiency and effectiveness of TEDs in saving sea turtles without resulting in financial loss. Further collaboration and capacity building among fisherfolk and officials of Marine Fisheries Department and other monitoring agencies is required to ensure the implementation of TED regulations in Pakistan.

ii. There is a general belief that shrimp trawlers do not operate along the Balochistan coast, as all trawlers are registered with MFD and operate from harbours in Karachi. However, our studies revealed that shrimp trawling was evenly distributed in coastal waters along the Balochistan and Sindh provinces, and some shrimp trawlers operated as far as the border with Iran.

iii. During community meetings it was felt that women were interested in participation in sea turtle conservation initiatives. Future projects should incorporate a gendered perspective in their project design and implementation.

iv. Lengths of used nets were a great concern on nesting beaches and may be the potential cause of adult and post-hatchling sea turtle stranding. Regular beach cleanups are required to remove nets and maintain sea turtle nesting grounds.

v. Construction of beach huts in Sandspit area and encroachment on nesting areas needs to be regulated.

vi. The regional sea turtle conservation symposium promoted knowledge sharing at the national and regional level, and also highlighted the need for regional collaboration in addressing by-catch issues.

vii. The need for preparation of a National Turtle Conservation Strategy of Pakistan, a more comprehensive version of the Strategic Plan for Conservation of Marine Turtles in Pakistan (2010), emerged as one of the key recommendations at the regional symposium.

Literature cited

Kabraji, A.M. & F.F. Asrar, 1984. Conservation of turtles at Sandspit and Hawkes Bay, Pakistan. World Wildlife Fund Project 1451. Unpublished Report, WWF International and Sindh Wildlife Management Board: 52 p.

Wildlife of Pakistan 2009. Olive Ridley Turtle. http://www.wildlifeofpakistan.com/ReptilesofPakistan/

oliveridleyturtle.htm Accessed on 30th July 2015.

Zaheer, M.K., S.A. Ghalib & B. Hussain. 2010. Status and new nesting sites of sea turtles in Pakistan. Chelonian Conservation and Biology 9: 119-123.

REPORT ON 35TH ANNUAL SYMPOSIUM ON SEA TURTLE BIOLOGY AND CONSERVATION, 18-24 APRIL 2015, DALAMAN, MUGLA, TURKEY

YAKUP KASKA

President, International Sea Turtle Society
caretta@pau.edu.tr

The 35th Annual Symposium on Sea Turtle Biology and Conservation was held in Dalaman, Mugla-Turkey on 18-24 of April, 2015. The theme of the symposium was "Hospitality". It was chosen as meeting participants attended from around the world and hospitality reflected Turkey's friendly and inviting culture. Furthermore, Turkey brought everyone together, "bridging the civilizations", bridging Europe, Asia and Africa. This was a great opportunity for the people from these continents to participate in the Symposium, as it was easier for them to travel from their home countries. Besides the regular sessions normally held at past symposia, specific to the meeting in Turkey, we celebrated "World Children Day" on April 23rd with special sessions for children's activities. Without a doubt, today's children are the future sea turtle researchers and conservationists, and so we wanted to ensure that we pass our mission on to the younger generation.

A total of 610 people from 80 countries registered for the Symposium. An additional 250 local students and educators attended particular sessions. The venue for the symposium was the Hilton Hotel-Dalaman, Turkey. The program included 4 regional meetings (Africa, IOSEA, Retomala and East Asia), 9 workshops, 2 special sessions (Mediterranean Turtle Conference and Freshwater Turtle Session), and a Video Night that showed 12 videos. In addition to the regular sessions, we hosted the 5th Mediterranean Conference on Marine Turtles. A total of 135 oral papers and 230 posters were presented.

Workshops: A total of 9 workshops were offered the weekend before the symposium started. These were the Fourth Workshop on Stabile Isotope Techniques in Sea Turtle Research: Lessons Learned and Future Steps, Temperature-dependent Sex Determination, Sea Turtle Rehabilitation and Health, GIS, Tourism and Turtles, Biologging For Sea Turtles, Fisheries Observer Programs: Key to Successful Fisheries Management, Children Activities and New Techniques. The first parts of two of the workshops were held on Thursday, 23rd April 2015. Unfortunately, the Novel Techniques for Environmental Campaigning Workshop was cancelled. The attachment of four satellite devices and releasing of sea turtles within the Biologging for Sea Turtles Workshops II and Children Workshop activities were carried out at DEKAMER Sea Turtle Rescue Center. This event attracted many local people and authorities as well as the children. A 3D printed Jaw was attached to an injured turtle on 23rd of April, attracting many local and international media. These activities overlapped with ISTS' mission that ISTS brings people together to promote the exchange of information that advances the global knowledge of sea turtle biology and conservation.

Pre-symposium Meetings: The 5th Mediterranean Conference on Marine Turtles and the Terrapin, Tortoise & Freshwater Meetings were two main pre-symposium meetings. The regional meetings for Africa, Latin America, East Asia, and Indian Ocean & South East Asia were also held. The Marine Turtle Specialist Group meeting was set