

and Bundala - are still being regularly visited by all the five species of turtles inhabiting Sri Lankan waters and the average number of nesting per month at these sites were 140, 14, 53, 13 and 12 respectively. Around 53% and

43% were green turtles and Olive Ridley turtles while 2%, 1% and 1% were Leatherbacks, Hawksbill and the Loggerheads respectively.

The importance of mangroves on the Orissa coast

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Most of Orissa's 480 kms of coastline used to be covered with mangroves a few decades ago. Immigrants from Bangladesh settled in 1971 in the coastal areas which were thickly forested with mangrove jungles, soon converting the land into paddy fields. Subsequently, prawn farming became popular in the eighties, since these areas are ideal for setting up prawn farms. Paradeep port was set up in 1965 and was responsible for the cutting down of the mangroves of the Mahanadi mouth area. A devastating cyclone hit the coast in 1971 near Paradeep and Mahakalapada and was responsible for the loss of more than 10,000 human lives. Experts agreed upon the need for mangroves and coastal shelter belt and plantations were undertaken in Mahanadi delta and Bhitarkanika areas to plant mangroves. The latest satellite mapping done by Orissa Remote Sensing Applications Centre (ORSAC) in 1989 has estimated a total of 218 sq. km. of mangroves. However, it is now felt that the mangrove cover has fallen to less than 150 sq. km since substantial areas have been cleared in the Mahanadi Delta area for prawn farming. The biodiversity of Bhitarkanika mangroves is rich with 62 species. Currently, mangroves are currently found in Bhitarkanika, Mahanadi Delta; degraded patches are found at Devi river mouth areas as well as the Balasore coast near Subarnarekha and Budha Balanga mouths. Some mangroves are also noticed at the mouth of the Dhamra river in Bhadrak district.

The present cyclone which hit the state on October 29, 1999 has proved the immense

importance of mangrove forests in protecting the coastal areas of the state from tidal inundation and high velocity winds. Ersama and Balikuda blocks of Jagatsinghpur district were the two worst hit blocks where tidal waters came in to at least 20 kms from the coastline. These tidal waves washed away as many as 14 villages completely wiping out their resident population. Besides, at least 35 villages lost about 50 % of their population. The death toll in these areas is at least 20,000. The coastline at Ersama and Balikuda blocks had been completely denuded. Another factor for the continued accumulation of the tidal waters for as many as two weeks in many of these low lying fields and villages were the numerous embankments of the prawn farms. These acted as barriers to the return of the tidal waters and effectively marooned the villages for weeks together. It is noteworthy that the Bhitarkanika areas which still have dense mangroves escaped from serious cyclonic damage. The areas under Rajnagar Block of Kendrapada district had minimum loss to human life and property, while in immediately adjacent areas of Kendrapada district, there was substantial loss of human lives.

It must be realised that only mangroves can survive and flourish in these deltaic coastal tracts where salinity is high both in the soil and water. The tangles of stilt roots helps in sedimentation of particulate matter. Networks of mangroves roots provide firm anchorage to the tidal river and creek banks and also the coastline. It effectively arrests river erosion and coastal erosion and ultimately helps in

controlling flood and tidal wave inundation damage. Detritus (fallen leaves and litter of mangrove trees) is the principal energy source in the mangrove ecosystem and detritivores are food for larger fish. The coastal waters off mangrove forests also benefit through the outwelling of nutrient rich detritus. Mangroves act as shelters for the breeding of crabs, shrimps which though spend their early lives

in mangrove waters. Mangrove ecosystems thus have great economic value through their contribution to the food web in supporting rich estuarine and marine fisheries. It has been estimated that more than one lakh people of the districts of Bhadrak, Kendrapada and Jagatsinghpur depend upon fishing, which can only be sustained if mangroves are present.

An Update on Turtle Conservation Activities in Keralam.

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The Kerala Forest Department launched a project to map the nesting sites and monitor them for a period of 20 months. The project will also interact with the local communities and develop a management plan involving the communities. In addition the project team will assess the illegal trade of turtle meat and turtle mortality. Sri. V.K. Sinha, Chief wildlife Warden and Chief Conservator of Forests (Wildlife) and I are the Principal Investigators. The project was initiated in March 1999 and will cover two breeding seasons. The project is the first effort to develop a conservation plan for sea turtles in Kerala. Three hatcheries have been established to monitor nesting and to involve the community in maintaining them.

THEERAM Nature Conservation Society, Kolavippalam started the turtle conservation effort by fishermen and local people in 1996. The effort was prompted by a news clipping in 'The Hindu' on the marine turtle conservation and also curiosity to know whether they could hatch turtle eggs normally consumed by locals. The result was good and the whole village supported the efforts. The initiative got very good media coverage. The site became well known and the then DFO of Kozhikode developed a plan to involve this effort under the World Bank supported 'Kerala Forestry Project'. Ms. Pragathi Srivasthava, DFO Kozhikode supported the project by helping

the local people to maintain two hatcheries and employing four assistants to maintain them.

Sand mining was resulting in loss of sand bar and coast; in six months about 20 meters of beach was lost. In January, 1999, the local people started an agitation lead by the Shore protection Council. The high court of Keralam banned sand mining and the order was in place for two months. Then the ban was violated and the Council took up the matter with various levels of the government. The result was an attack on the Theeram activists and local people, resulting in a loss of about a lakh worth of fishing equipment

Marine Turtle Conservation Action is launching a fund raising to compensate the loss and also to support future work. This fund should take care of urgent need of community groups who are involved in turtle conservation like support to maintain the hatchery, reimbursements of expenses in collecting the eggs, urgent veterinary support etc. There are about four other groups who are starting similar work inspired by the Theeram initiative with technical support from Theeram and Marine Turtle Conservation Action.

Nesting has started in 1999-2000, but about 25 dead turtles have been reported so far, including eight Green Turtles, two Hawksbills and fifteen Olive Ridges.