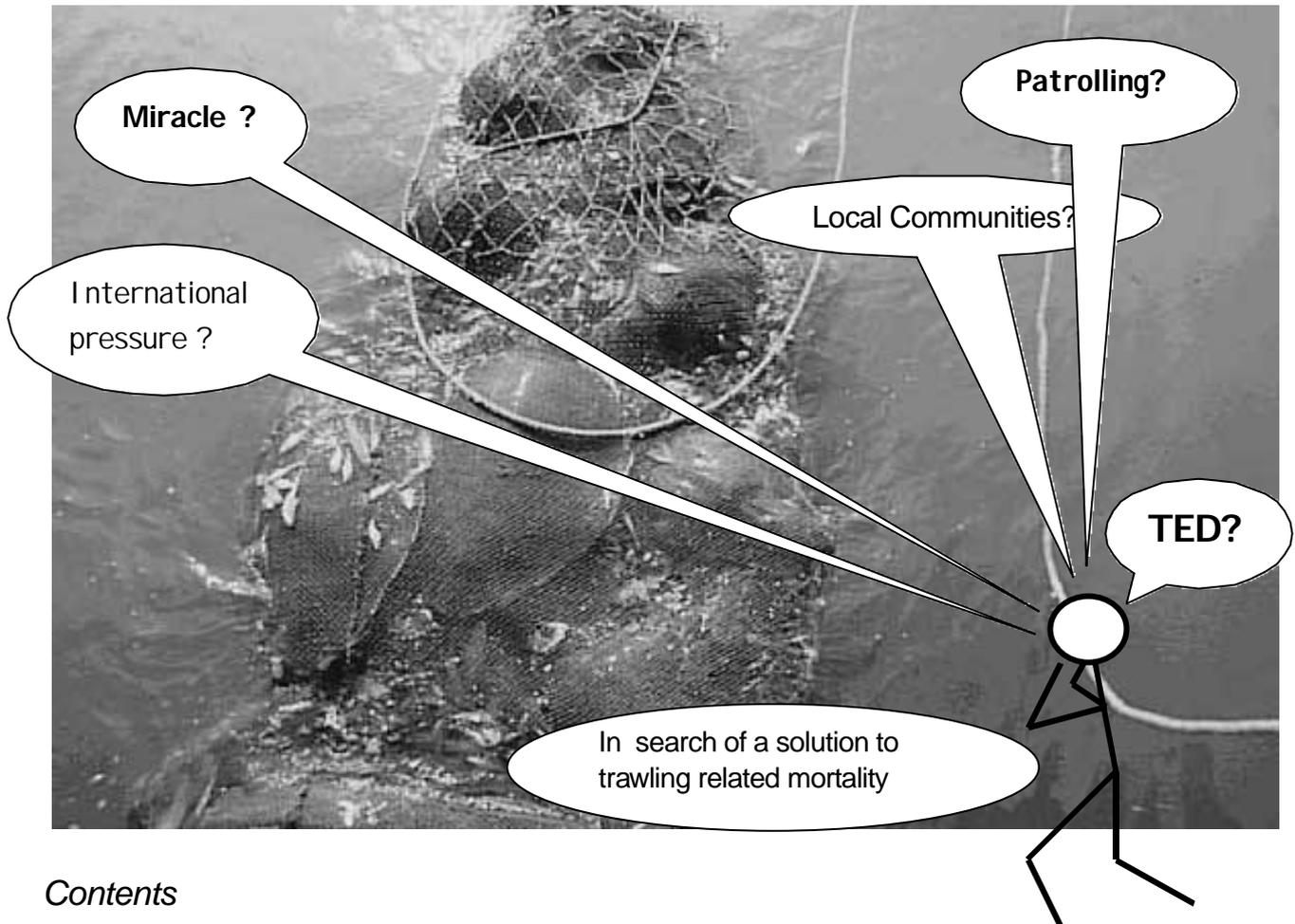




Kachhapa

A newsletter for the Indian subcontinent on sea turtle conservation and management



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***Issue No. 4
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HELP US WITH OUR MAILING LIST

Since this newsletter hopes to serve as a link for coastal and marine conservation, the more people we can reach, the more effective it will be. You can help by passing the newsletter around to people and organizations who are interested, and by helping us build up our mailing list. Please send us names and addresses of individuals, NGOs, research institutions, schools and colleges and anyone else who would be interested in receiving Kachhapa.

CALL FOR ARTICLES

Kachhapa, the newsletter, was initiated to provide a forum for exchange of information on sea turtle biology and conservation, management and education and awareness activities in the Indian subcontinent. The newsletter also intends to cover related aspects such as fisheries and marine biology. In the first issue, Kachhapa provided a compilation of organisations working on sea turtles in the subcontinent. From the second issue on, Kachhapa has included articles on the above subjects. While the Editors have done all the 'editing' thus far, we hope to initiate a review process for articles in upcoming issues. For the moment, Kachhapa will come out twice a year, sometime at the beginning and sometime at the end. We request all our contributors to continue sending us information from their part of the subcontinent, including notes, letters and announcements. We welcome casual notes, anecdotal accounts and snippets of information.

OPINION

We are introducing a new section in the newsletter from this issue. In addition to information and articles, we now invite your opinion on subjects related to turtles, their habitats and conservation.

BIBLIOGRAPHY

We plan to publish a complete bibliography of literature on sea turtles in the Indian subcontinent in our next issue. Meanwhile, the bibliography will be available at our website. We would welcome any additional references that we have missed and copies of articles, papers or reports that are absent from the bibliography.

ALL MATERIAL SHOULD BE SENT TO:

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A1/4/4, 3rd Main Road, Besant Nagar, Chennai 600090. India.

Or by email to:

editors@kachhapa.org

Email attachments should be sent as text files or Word 2000 documents (or any older version of Word).

The opinions expressed in this publications are those of the individual authors and are not necessarily shared by the Editors, members of the Editorial Board, the Wildlife Protection Society of India, or any individuals or organisations providing financial support.

In This Issue:

As a strong proponent of the community based conservation paradigm, I am delighted to publish in this issue, a guest editorial on turtle conservation in Brazil, by Maria Angela 'Neca' Marcovaldi, president of Pro Tamar and former Chairperson of the IUCN/SSC Marine Turtle Specialist Group. I first met Neca at the Northern Indian Ocean Sea Turtle Workshop in Bhubaneswar in 1997, and since then, have been full of admiration of her groups efforts in Brazil. If we could have half the success in India, we would be doing pretty well. This issue also spontaneously became a special issue on Andhra Pradesh, the state with the second longest coastline in India. This was mostly due to the

efforts of Basudev Tripathy, a young field biologist who has been carrying out a survey for the GOI UNDP sea turtle project in the state. Apart from his surveys of nesting and mortality, he has gone some way to achieving the second (and perhaps more important) objective of creating a network with organisations working on social, economic and ecological issues along the coast. We bring to you a profile of these organisations and hope to publish more such information on NGOs from other states in the future.

Kartik Shanker, Editor
Wildlife Institute of India, Dehradun

ANNOUNCING THE ARRIVAL OF:

<http://kachhapa.org>

The site is still under construction, but several features are already up and running and the rest should be available soon.

Our new website will have:

- Updated news stories and articles
- Kachhapa newsletters - with table of contents and downloadable PDF files
- Database of sea turtle literature in the Indian subcontinent / northern Indian ocean
- Database of sea turtle biologists and conservationists in the Indian subcontinent / northern Indian ocean
- Database of coastal conservation organisations in the Indian subcontinent / northern Indian ocean
- All databases will be searchable
- Information on sea turtles of India (and the world)
- Other stuff (as it occurs to us) - **suggestions are invited** (online)

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Guest Editorial: Sustaining Sea Turtle Conservation Programs: Sharing The Experience Of Projeto Tamar, Brazil

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If conservation programs are struggling to survive and operate in rich countries, it will be even more difficult in the developing world to overcome obstacles and to implement and operate such programs. This is mainly due to the low socio-economic conditions in project areas. For such reasons, the success of any conservation program demands extensive work, dedication, and creativity. It is not enough to only have knowledge and technical and scientific capacities.

During the first steps of a national survey that was developed to create and install the Brazilian Sea Turtle Conservation Program: Projeto TAMAR-IBAMA, one of the major and most complex challenges for sea turtle conservation was realized. This involved changing the habits of the coastal communities where natural resources were still the main source of income. After 20 years of work, the team that participated in the first years of TAMAR has learned that for protecting threatened species, it is necessary to guarantee the survival of local communities. It is necessary to change the paradigm that conservation is a barrier to human survival and socio-economic development. Local residents that depend on these animals as a way of survival must be integrated into the conservation and research programs. With time these conservation programs need to generate objective benefits, both direct and indirect, for these communities. This is the only way to consolidate interests without provoking negative impacts on the socio-economic and cultural realities of these people.

To establish a conservation program, it is fundamental to evaluate every socio-economic and cultural aspect. To establish viable economic alternatives it is essential to know, understand,

and learn about life in these communities and their basic needs, and evaluating the importance of natural resources in family income. To promote successful conservation of the marine ecosystem as a whole, it is essential to find activities that are ecologically suitable and that have also been adjusted to each community's characteristics. Alternatives can be identified when the participants and coordinators live in the community. The participation in day-by-day activities, formally and informally, sharing the same problems, increases integration and the confidence of the local people in the conservation programs. It is also a way to identify different groups and leadership in the communities, without whom concrete results will not be achieved. The information transferred by community leaders, based on their individual experiences, are valuable to defining the practical actions needed to compensate the loss created by forbidding the exploitation of natural resource that need to be protected.

Community involvement can also be supported by major organizations and representatives of this population, together with financial agencies, non-governmental organizations, and diverse levels of government. Such support can make it easier for the establishment of social projects such as with health, education, and consequently, environmental conservation. Besides which, to stimulate community organization, conservation programs must support organizations already in existence and amplify the collective benefits. It is also important to participate actively with local, state and federal government agencies involved with environmentally related issues.

Sustainable Economic Alternatives

It is currently known that the activities of a conservation program can increase community involvement if the local circumstances are considered. Ecological marketing and local production inspired by the attraction of threatened species have been demonstrated to be an effective financial source for conservation programs.

Projeto TAMAR-IBAMA maintains 20 stations for research and conservation of sea turtles covering 8 states of the country. Five species of sea turtles occurring in Brazil are protected (namely *Caretta caretta*, *Chelonia mydas*, *Eretmochelys imbricata*, *Lepidochelys olivacea*, and *Dermochelys coriacea*), in nesting and feeding areas. The program manages approximately 1000 km of the coast and is responsible for directly sustaining 400 coastal residents and their families through direct employment.

Fishermen were hired to develop sea turtle management and protection activities, not only on the beach. It was a way to create a new economic alternative, as well as to provide training on a conservation program. The inclusion of the local community in fieldwork amplified their conscience as it relates to the environment where they live. Beyond sea turtles, keeping the coastal community informed and trained about more efficient and non-predatory fisheries improves the quality of life and avoids the decline of the fish stocks. Another ecologically viable solution includes a change in the fisheries, to non-traditional activities such as oyster culture.

With this goal in mind, the establishment of small production centers (for example, paper recycling and t-shirt manufacturing) must be stimulated with the aim of benefiting local people. Integrated activities optimize the involvement of different sub-groups of the communities, increasing the benefits and amplifying the educational feature of the program. For example, to operate a recycling paper workshop (used to package the t-shirts) it is essential to initiate

selective collection of garbage, which in turn will involve the entire community. However, it is necessary to plan for financial support to subsidize the beginning of these production centers, until they become self-sufficient. There are different channels to find financial support for such social programs, including financial agencies, such as development banks, NGOs, and governmental agencies.

Permanent visitor centers located in areas where the conservation programs are developed make it possible to establish a direct connection between local people, visitors, and the turtle's world. In addition, they are important tools for fund raising and creating jobs for local people. These centers contain museums, stores, salt-water tanks, and aquariums, with different life stages of marine organisms from the region. They also contain videos and posters about the biology of the sea turtles and are important tools for education and spreading information about TAMAR. These centers can also be used for other community activities.

Training and Internship Programs

Conservation programs such as Projeto TAMAR can provide students practical experience for the formation of future conservationists and managers of natural resources. The training has to include not only specific aspects of biology, but also the participation in day-to-day activities and challenges of a conservation program. Normally, an academic course does not provide practical aspects of community participation, fund raising, institutional representation, and other priority aspects for the development of the conservationist activities. Besides that, applied research activities for conservation is a priority, which can be enhanced through programs of technical cooperation with international and national universities.

Changing Concepts: Publicity and the Media

To establish a conservation program it is essential to identify the target groups. The understanding of the environmental cause by society produces

essential gains that can make conservation programs viable. The majority of the conservation programs are developed in remote places where the access is difficult and accommodation is limited. It is therefore necessary to carry the programs to the big cities so as to call attention to the conservation objectives among the diverse sectors of society, and this is only possible through the media.

It is essential to use all communication tools to promote and develop conservation programs, such as marketing, mass-media, and other resources. It is also essential to attract the participation of the leadership from political, private, and commercial arenas, and other representatives of society. Making possible field experiences for such leadership is essential as well. These activities are important because the media increasingly influences public support.

Fundraising activities are easier when sponsors are interested in financing and linking their logos or products with programs with mass-information potential, and political institutional and financial credibility. Incorporating images of nature and concepts of conservation in campaigns, events and so on, is stimulating. This attracts the interests of the society and benefits the local community in their own production initiatives.

For these purposes, institutional videos can be used as tools capable of presenting the conservation program and sensitizing different public groups (communities, private companies, government agencies, and NGOs). A good photo-library is also essential to organize

exhibitions, lectures, production of educational materials and mass-information.

Self-Sustainability: A Permanent Goal

As with everything in life, there is no ideal formula for making conservation programs a success. TAMAR found its own way based on specific characteristics in its path, thus making it a respected and accepted entity among different sectors.

TAMAR learned that community involvement is essential along with the enforcement of environmental laws. It also learned the importance of involving government and influential political people in the decisions related to the environmental cause and share with them the positive results. Conservation programs isolated from public support often become fragile and vulnerable. The chance of having consistent results in the long term, increase considerably with the support of diverse sectors of society, from ministers to fishermen.

Today Projeto TAMAR benefits from the financial support of one official sponsor, Petrobras (national oil company), the Ministry of the Environment--IBAMA, state and municipal agents, financial banks, donations, and private companies. The selling of products with the TAMAR trademark guarantees approximately one-third of the operational costs. But there are still enormous difficulties, and the goal is to increase self-sustainability, diminish financial instability, and keep following the main objective of sea turtle conservation in Brazil.

Rushikulya Sea Turtle Rookery - A Status Report

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Olive ridley sea turtles (*Lepidochelys olivacea*) are well known for their huge nesting aggregations. During the breeding season, thousands of olive ridleys congregate in favourable coastal waters and synchronised nesting involving thousands of individuals take place in suitable nesting beaches. At present there are very few sites left in the world where olive ridleys congregate in such large numbers for nesting. Of the six known major mass nesting sites of olive ridleys, three are located in India and all these three mass nesting beaches are located along Orissa coast. The world's largest known rookeries of olive ridleys are at Gahirmatha along the northern Orissa coast (Bustard, 1976; Dash and Kar, 1990), the rookery near the mouth of river Devi which is located 100 km south of Gahirmatha (Kar, 1982) and the rookery near mouth of river Rushikulya, located 320 km south of Gahirmatha (Pandav et al., 1994a). Although nesting of olive ridley has been reported from the sea beach near mouth of river Rushikulya (Panigrahy et al., 1990), the mass nesting of ridleys at this rookery came to the knowledge of the conservation community as recently as 1994. A survey of sea turtle nesting habitats along Orissa coast carried out by the Wildlife Institute of India in collaboration with the Orissa Forest Department (wildlife wing) led to the discovery of the Rushikulya rookery in March 1994 (Pandav et al., 1994b). After its discovery, the Wildlife Institute of India initiated a tagging and monitoring program at this rookery in 1995.

Location of the nesting beach

The rookery is located on the mouth of river Rushikulya and is only one km east of the Madras-Calcutta National Highway No. 5 and the South Eastern Railway line near Ganjam town

along the southern Orissa coast. The nesting beach at Rushikulya spreads over six km., from the village Purunabandha (one km north of Rushikulya River mouth) to Kantiagada village. The entire stretch between Purunabandha and Kantiagada witnesses heavy sea turtle nesting during January to May every year. The nesting beach along this stretch is more or less flat with scattered sand dunes of 1-2 m high. The average beach width is 80 m above the high tide line, though at some places the extent of beach is more than 100 m. Natural beach vegetation include *Ipomea pescaprae* and *Spinifex littoreus*. The nesting beach along this stretch lacks the extensive Casuarina plantation which is otherwise a common feature along most part of Orissa coast. The backwater of river Rushikulya extends 2km northwards along the nesting beach. The Palur canal which connects the Chilka Lake with Bay of Bengal through the estuary near Rushikulya river mouth runs parallel to the nesting beach for 8 km. There are two permanent fishermen settlements on the nesting beach - Gokharkuda and Kantiagada.

Intensity of nesting at Rushikulya rookery

Sporadic nesting of sea turtles at Rushikulya begins by January and continues till end of April every year. The turtles at Rushkulya exhibit a distinct temporal pattern of nesting with most of the nesting taking place during neap tidal nights. Maximum nesting concentration at this rookery is observed on a four km stretch between Kantiagada and Gokharkuda villages and on a one km stretch from Gokharkuda village to the mouth of river Rushikulya. Mass nesting of olive ridleys at this rookery was documented for the first time in March 1994. Although the guestimate during March 1994 projected a nesting figure to be around 200,000 (Pandav et al.

1994), the actual number of nesting females could have been much less than this projected figure. Mass nesting of olive ridleys have been documented since 1995 and a detailed account of nesting figure is given in Table 1.

Table 1. Details of olive ridley mass nesting at Rushikulya rookery from 1995 to 1998.

Year	Date of mass nesting	Estimated number
1995	20 - 21 March	50,000
1996	21 - 25 February	55,000
1997	01 - 03 February	35,000
1998	21 - 24 March	25,000

Unlike previous years (1994 - 1998), no mass nesting was observed at Rushikulya rookery in 1999. Nearly 2, 000 turtles were documented to have nested at this rookery during March and April 1999.

Incubation success at Rushikulya

Incubation success for the sea turtle eggs laid at this rookery was calculated for four nesting seasons (1995 to 1998). Normally a week after the hatching of sea turtle eggs, the nests were excavated at this rookery every year and the nest contents were examined to calculate incubation success at Rushikulya. Compared to the other rookeries in Orissa (Gahirmatha and Devi), Rushikulya showed an extremely high incubation success. A total of 77,208 eggs were counted to determine the incubation success. The average (Mean \pm Standard Deviation) clutch size at Rushikulya was 127.9 ± 19.2 (range = 66 to 199, n = 600). The overall hatching success of turtle eggs at Rushikulya during 1995 to 1998 was 95.01 ± 7.03 (range = 39.7 to 100, n = 600 nests). Compared to the Gahirmatha rookery the emergence success of the turtle hatchlings at Rushikulya was also considerably higher. The overall emergence success during 1995 to 1998 was 92 ± 10.9 (range = 18.2 to 100, n = 600 nests).

In comparison to Gahirmatha (Dash and Kar, 1990; Pandav, 2000), the incubation success at Rushikulya is extremely high. The beach at Rushikulya is wide, turtle nests are spread out and moreover its three-tier structure (low, medium and high beach) is free of tidal inundation. The ideal condition of egg development at Rushikulya is reflected in terms of low embryonic mortality. Only 1.7% embryonic mortality was recorded from the 77,208 eggs counted during the study. Although Rushikulya receives smaller number of nesting turtles in comparison to Gahirmatha, its potential in terms of a stable and more productive beach can not be overstated.

Tagging study at Rushikulya

Tagging of olive ridleys was initiated at Rushikulya in 1997. Over three breeding seasons (1997 to 1999) 3,084 nesting olive ridleys have been double tagged at this rookery with monel metal tags. Turtles recaptured at this rookery during subsequent nesting seasons showed a higher degree of nesting site fixity during the present study. Forty four of the 519 turtles tagged during February 1997 arribada at Rushikulya rookery were recaptured in the March 1998 arribada at the same rookery. Ridleys generally re-laid their nests within 100 to 300 m of their previous nests with a range of 0 to 1,000 m. However, turtles tagged at Rushikulya were recorded to shift their nesting beaches during the same breeding season. Two of the turtles tagged during the arribada at Rushikulya rookery on 2 and 3 February 1997 (Tag No. WR25417, WR25418 and WR25793, WR25794) were recaptured while nesting in another arribada at Robert Island near Devi River mouth on 17 March 1997. Similarly one of the turtles tagged near Chilka mouth (WG20020 and WG20021) on 30 March 1997 shifted its nesting beach and was recaptured while nesting at Rushikulya rookery during the arribada on 23 March 1998.

Besides these movement of nesting turtles between Rushikulya and other nesting beaches, several of the turtles tagged at Rushikulya were found washed ashore the Devi, Paradeep and Gahirmatha coast. Till January 2000, 13 of the

3084 nesting females tagged at Rushikulya rookery were found dead in Orissa. Of the 13 tagged turtles, one was found washed ashore near Satbhaya village along the Gahirmatha coast and the remaining 12 were found in the coastal stretch between Paradeep and Devi River mouth. The distance between the place of tagging and the place of recovery of dead turtles varied from 200 to 320 km. Recovery of dead turtles away from their place of tagging strengthens the view that there exists certain degree of movement of sea turtles in the coastal waters off the mass nesting beaches in Orissa. The same turtles that are using the Rushikulya rookery for nesting are also frequenting the coastal waters off Devi River mouth, Paradeep and Gahirmatha. This is again substantiated by the fact that ridleys in Orissa are using more than one beach for nesting (Pandav, 2000). Although mortality of sea turtles near Rushikulya is minimal, turtles tagged at the same rookery have been recovered dead near Devi River mouth, Paradeep and Gahirmatha. The coastal waters in these areas are subjected to heavy commercial fishing activities and densities of dead turtles washed ashore in these areas are extremely high. Therefore providing adequate protection to sea turtles in the coastal waters off Gahirmatha and Devi is not only crucial for the turtles nesting in these areas but also for the turtles using the Rushikulya rookery.

So far, nine of the turtles tagged at Rushikulya have been recaptured away from Orissa. Of the nine recaptures, one is from Kanyakumari, one is from Gulf of Mannar and the remaining seven are from Sri Lanka. These recaptures show that the ridleys nesting at Rushikulya show a distinct migration pattern and are most probably using the coastal waters of Sri Lanka as well as the Gulf of Mannar as foraging areas.

Conservation significance of Rushikulya rookery

Gahirmatha undoubtedly supports huge nesting congregation of olive ridleys in Orissa. However, the importance of smaller rookeries like Rushikulya can not be ignored. As the incubation success data of this study indicates, eggs laid at

Rushikulya have a significantly higher incubation success compared to that of Gahirmatha. Keeping in view the rapid fragmentation of nesting habitat at Gahirmatha and the resulting lower incubation success, Rushikulya emerges as an important rookery that can help in sustaining a stable population of ridleys in the long run.

As the result of this tagging study indicates, turtles using Rushikulya rookery for nesting are also frequenting the coastal waters off Devi and Gahirmatha. Therefore the possibility that the turtles nesting at Devi and Gahirmatha are also using Rushikulya can not be ruled out. The tag recoveries indicate that turtles nesting at Rushikulya are not a distinct population. Rather, they are part of a larger population that is visiting Orissa coast every winter. Any harm to the nesting beach or to the nesting turtles at Rushikulya can have adverse impact on the turtles visiting the Orissa coast that could well be a single population.

References

- DASH, M.C., & C.S. KAR (1990). The Turtle Paradise - Gahirmatha. Interprint, New Delhi. 295p.
- KAR, C. S. (1982). Discovery of second mass nesting ground of the Pacific olive ridley sea turtle (*Lepidochelys olivacea*) in Orissa. *Tiger Paper* 9: 6-7.
- PANIGRAHY, R. C., R. GOUDA, S. MISHRA & L. NAYAK (1990). Availability of marine turtle eggs near Rushikulya river mouth, East coast of India. *Indian Forester* 116: 515-516.
- PANDAV, B. (2000). *Conservation and management of olive ridley sea turtle (Lepidochelys olivacea) population along the Orissa coast*. Unpublished Ph.D. thesis submitted to Utkal University, Bhubaneswar.
- PANDAV, B., B. C. CHOUDHURY & C. S. KAR (1994a). Discovery of a new sea turtle rookery along Orissa coast. *Marine Turtle Newsletter* 67:15-16.
- PANDAV, B., B.C. CHOUDHURY & C.S. KAR (1994b). *Olive Ridley Sea Turtle (Lepidochelys olivacea) and its nesting habitats along the Orissa coast, India - A status survey*. Wildlife Institute of India, July 1994.

An Update On Turtle Conservation Activities In Orissa

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OPERATION KACHHAPA ACTIVITIES FOR 2000-2001 TURTLE SEASON

Support to Government Enforcement

A 32-foot patrol trawler has been constructed by the Forest Department and will be ready for use within the Gahirmatha Marine Sanctuary by the end of the year 2000. It is hoped that the presence of this trawler will make a substantial impact in decreasing illegal trawling activity. The Forest Department has informed Operation Kachhapa that its staff will conduct three night patrols per week, using the new boat, during the 2000-2001 turtle season. In order to encourage these critical nighttime patrols, Operation Kachhapa will be providing financial incentives to the forest staff that volunteer for this duty. Further incentives "prizes" (such as jackets, rucksacks, etc.) will be considered for staff who carry out a large number of patrols, and for those who assist in seizures.

Operation Kachhapa will continue to hire a trawler to patrol the coastal areas outside the Marine Sanctuary. A patrol trawler will be provided within the Marine Sanctuary if and when requested by the Forest Department. It was decided that the Project Co-ordinator should initiate resolute discussions with the Coast Guard in an attempt to persuade them to start shallow water patrols with "Charlie" boats.

Interactions with Central & State Governments

The Project Coordinator is scheduled to have regular meetings with the Coast Guard to discuss joint efforts in monitoring trawler activity, to encourage shallow water patrols, and the enforcement of fisheries laws. The cooperation of

the Coast Guard in the past has been extremely beneficial to the conservation of sea turtles.

Now that they are taking an active interest in the nesting islands of Ekakulanasi I and II and Babubhali, it is expected that Operation Kachhapa will develop stronger ties with the DRDO this season. However, project personnel must be sensitive to the now strained relations between the Forest Department and DRDO, due to jurisdictional conflict over these areas.

Legal pressure regarding the Bhitarkanika PIL (including the construction of Dhamra Port) and the crude oil terminal near the Rushikulya turtle nesting site, will continue throughout the 2000-2001 season.

Monitoring

In order to provide communication between the Operation Kachhapa patrol trawler, the Devi River mouth camp and the Puri Forest Division, two Motorola wireless handsets have been purchased and given to the forest staff. The handsets will be used on the Department's radio frequency, and with the Division's existing base station.

It is extremely important that Operation Kachhapa maintains a presence in the field. This includes information on turtle mortality, nesting activity, disturbances along the beaches, and trawler activity out at sea. Two field stations were established at the start of the 2000-2001 turtle season. One is on the mainland near the Devi River mouth, and the other at Rushikulya. Regular monitoring will be carried out using

these two camps as field bases. The camps will be staffed with three people each, and will operate from December 2000 to the end of May 2001.

Fishing Community Awareness

Building on the positive relationship that has developed between Operation Kachhapa and the local fishing communities, brochures and posters will be produced illustrating marine fishing laws. These laws protect the rights of the traditional fishermen. The aim is to provide information on the communities' legal rights to protect the area within 20 kilometres from the shore from illegal fishing by large, mechanised trawlers.

The local fishing communities, who are still recovering from the effects of the cyclone, have been badly affected by a decrease in their fishing catch due to extensive illegal operations by mechanised trawlers. While the fishermen grow increasingly frustrated by the situation, their knowledge of the laws that protect their traditional rights and prohibit trawling close to the coast line, is limited. Operation Kachhapa proposes to "level the playing field" and empower the local fishermen with the knowledge they need to stand up for their rights and protect their way of life.

Fishing Community Relief Work

Using the remaining amount from the Operation Kachhapa cyclone relief fund, modest community-based projects, such as health and water quality improvement, will be developed and supported in fishing villages which have special needs. For example, the village of Sahana has a high incidence of children with polio, which would greatly benefit from the assistance of Operation Kachhapa.

Wandering Minstrels

Using traditional methods of communicating information through song, dance and story telling, Operation Kachhapa is spreading modern

conservation awareness of the olive ridley sea turtle to villages along the coast. Operation Kachhapa has hired two entertainers to travel to over 100 villages with a large scroll depicting the story of the sea turtle that is sung and told by an actor while being accompanied by traditional music.

The tour, which began in early January, has had a very positive response and the performances have been well attended and are proving very popular. In addition to learning about the plight of the olive ridley, the shows help to initiate discussions about the illegal trawling and the deaths of the turtles. In some cases these conversations have resulted in action by the traditional fishers.

Turtle Interpretation Centre at Bhubaneswar

Creating awareness of the plight of the olive ridley sea turtle is a major focus of Operation Kachhapa. However, as many of the beaches and villages where turtle activity takes place are remote and inaccessible, spreading the message of the importance of turtle conservation has thus far been limited to the printed word and stories by the print and television media. To allow individuals to better understand the issue, Operation Kachhapa is currently developing plans for a creative learning centre in Bhubaneswar that would, effectively, bring the sea to the city.

A modest building has been hired in which an interactive turtle interpretation centre will be created. This will include a life-size mural (which is being painted by students from a local art college) detailing life under the sea and the life of the sea turtle. Three-dimensional models of turtles, fish, shells and vegetation will complete the effect of an underwater environment. Nets and TEDs will be strung from the ceiling to illustrate the impact, and legal solutions, of mechanised trawling. Along another wall will be examples of mangrove forests, turtle eggs and shells. Known predators of hatchlings will also be depicted and critical information about sea turtles mounted throughout the display. Slide and video shows for school children, teachers, legislators,

government officials and other interested visitors will be held to create turtle awareness.

Activities in 2000 – 2001

➤ Operation Kachhapa (OpK) set up field camps in early December at the mouth of the Devi River and at Rushikulya, with a total of six field assistants. This was in time to monitor the mass gathering and mating of turtles offshore. The staff is working against considerable odds this season as high tides are causing numerous breaks along the shoreline, making monitoring difficult. One "beat" is nearly 80 km long. But with the help of a motorbike and bicycles they are doing an excellent job

➤ We understand that at present no turtle mortality counts, other than the ones made by the OpK field assistants, are being carried out outside Gahirmatha. Everyone - including the Forest Department and the Orissa Government - are now relying on these figures.

➤ Operation Kachhapa's patrol trawler is based at the mouth of the Devi River. It is carrying out regular patrols, using staff from the Puri Forest Division and the local police force, between Paradeep and Rushikulya.

➤ The Coast Guard are being very cooperative, despite severe budget cuts. After a number of discussions between Operation Kachhapa's Project Co-ordinator and the Coast Guard, they are now carrying out regular sorties along the coast, including the shoreline.

➤ The Forest Department has been carrying out regular patrols, using their new trawler, within the Gahirmatha Marine Sanctuary.

➤ Despite the increase in patrolling (by the Coast Guard, Forest Department and Operation Kachhapa's trawler), illegal trawlers continue to make bold attempts to operate within the 20 kilometre zone and without the mandatory TEDs, and turtle mortality is still high. So far the dead turtle count this season has reached 6,000. This information makes the use of TEDs all the more

critical. OpK plans to increase lobbying for the use of TEDs.

➤ To date over twenty trawlers have been seized, although hundreds more have been scared off by the vigilant patrolling.

➤ In an attempt to reduce turtle mortality, the Orissa State Government issued a notification in December 2000, banning mechanised fishing within 20 kilometres from the coast, along a 150 kilometre stretch between the mouths of the Jatadhar River mouth and Magarmukh-Chilka, from January 1 to May 31, 2001.

➤ Operation Kachhapa's travelling minstrels and other awareness activities are proving to be extremely popular and have resulted in meaningful discussions and action within the local fishing communities against the illegal trawler activity. A number of petitions have been drawn up demanding an end to trawling by boats from Andhra Pradesh. Operation Kachhapa's Project Coordinator has been requested to hand these petitions over to the Director of the Fisheries Department in Cuttack.

➤ To our surprise, OpK was contacted this week by none other than the Fisheries Department requesting assistance to carry out patrols, since their own trawler was out of order. We have jumped at the opportunity and suggested that they might like to carry out joint patrols with the Forest Department using the Operation Kachhapa trawler.

➤ The court case against the construction of the Dhamra Port (which has now been added to the joint Wildlife Protection Society of India and Wildlife Society of Orissa's Public Interest Litigation regarding Bhitarkanika and turtle conservation) has suffered delays due to lengthy strikes by lawyers in Orissa, during which the courts could not operate. From its conception, the project has received the highest political support from the State Government and a lot of tension surrounds the case. Operation Kachhapa is the most vocal opponent to Dhamra Port, leaving the project vulnerable to attacks by the Port's

supporters, including powerful union leaders who are saying that the court case is anti-development and anti-employment. The Project Co-ordinator and all our field staff have had to take certain precautions and be extremely careful in their day to day activities.

The biggest tragedy is that the turtle deaths are still high. But it is clear that the massacre would be far, far greater, and the problem would have remained unknown, undocumented and unchallenged if it was not for such efforts as Operation Kachhapa.

Community Effort at Kolavipaalam, Kerala

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Kolavipaalam hamlet was recently in the news in Kerala for being this year's recipient of P.V Thampy Award which has been instituted to recognise and encourage people's efforts at conservation of natural resources. Located in Payyoli Gram Panchayat, Quilandi Taluka of Kozhikode District in North Kerala, Kolavipaalam is a quiet village with relatively less dense human population as compared to the rest of coastal Kerala. The local fisherfolk community has been protecting not only the Olive Ridleys but also carrying out mangrove afforestation on their mud banks. What is heart warming is that this entire effort began on the basis of a news article on the endangered status of Olive Ridleys in *The Hindu*. This spurred the local youth to protect the turtles which came to nest on their beach every year. They even recognise some of the "regulars" - a female with a damaged flipper that unfailingly nests nearly at the same spot!

The local youth organised themselves into a group that they have named as "Theeram Prakruti Samrakshana Samiti", literally translated as a Committee to Protect the Coastal Environment. Theeram has been awarded this year's P.V.

Thampy award in November 2000 along with which goes a cash award of Rs. 5,000/-. This would give the youth a much needed boost, ever since their mentor Mrs. Prakruti Srivastava, DFO Nilambur has been transferred. During her tenure, she started the practice of paying daily wage to a couple of locals to guard the turtles. Financial and material assistance was also provided by the department as well as by the local community members for the hatchery that has been constructed. Freshly laid eggs are transferred to this hatchery in order to protect them from the jackals that abound near the mangrove forests. When the hatchlings come out of their nest, they are collected in a water basin and released into the sea.

There is no monetary gain from this effort and yet the youth give in their entire energy to protect the turtles and to spread awareness on the importance of protecting their environment. When questioned about their motive this was the reply that stumped me "We get to meet interesting people like you and get to know so much more about what is happening else where". Empowerment is another word to describe their motive and satisfaction at having done a job well.

Survey of nesting beaches in West Bengal – A preliminary report

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In eastern India, olive ridley turtles (*Lepidochelys olivacea*) visit the coast from November till the first week of April. The olive ridley turtles migrate from the Indian ocean and its adjacent areas and pass through the Andhra Pradesh and Tamil Nadu coasts. They then reach the mass nesting beaches in Orissa and follow the same route during their downward migration from the breeding ground. Although, Gahirmatha and other beaches in Orissa are the primary areas of nesting, there is some nesting further north in coastal West Bengal as well. The coast of West Bengal stretches from the Sundarbans in the east to the Digha Shankarpur region in the west. The Sundarbans have the largest contiguous mangrove forests in the world, while the vegetation of the Digha Shankarpur region are primarily *Casuarina*. The entire region is an intensive fishing zone, with large scale trawling related turtle mortalities. The coasts have not been surveyed adequately to identify the density of nesting of sea turtles. This survey is currently being conducted by the Nature, Environment and Wildlife Society, Calcutta in collaboration with the Forest Department of West Bengal.

Study Area

West Bengal has a total of 200 km of coastline. The coastline of the Bay of Bengal extends from the Indo-Bangladesh border which is the deltaic region of the Sundarban in the east to the Digha Shankarpur area upto the border of Orissa in the west. India and Bangladesh are divided by the river Hariabhanga in the extreme east of West Bengal. The coast along the border of West Bengal and Orissa lie just before the Talsari in the west. 24 Parganas and Midnapore districts fall within this zones, comprising 46 fishing villages. Major trawling takes place in different islands of Digha, Shankarpur, Sundarban and Junput.

Methodology

April to May, 2000: A preliminary survey was carried out on the West Bengal coast to identify the key nesting areas, to rapidly assess trawling related mortality and identify the main anthropogenic pressure. To achieve these tasks, the area was broadly divided into two sectors, A. Sundarban sector B. Digha Shankarpur sector. The coastal residents and the fishing communities were interviewed.

June – October, 2000: Creation of a network of organisations in the state who can work together to collect information on sea turtles and implement management plans.

November 2000 – March 2001: Extensive surveys will be carried out on foot along the entire West Bengal coast. Secondary information will be collected from fishing communities and at landing sites. Land use pattern will also be studied.

Problems

The Sundarban is the only sea turtle area in India which is infested with man eating tigers. Although the Forest Department provides armed guards during the survey, there is a high risk factor involved in the study. During the survey in Bijeara, there was clear evidence that a tiger had followed the study team for about 2 kilometres. Pugmarks of 3 different tigers were found in Bijeara, all of which were absolutely fresh. In Kalash, within 3 km, pugmarks of 4 tigers were found; one adult male, one adult female, one subadult female and one cub. Two of these were absolutely fresh. Moreover while reaching the nesting sites, the team has to cross very muddy and slippery patches full of pneumatophores.

Observations

The project was initiated in May 2000. During the first two months, the study team collected information about different sites and the period of nesting, as well as information about mortality from different sources. According to the information collected during this period the following nesting sites were identified along the coast of West Bengal: Bijeara, Kalash Island, Jambudweep and Sand island in the Sundarban Biosphere reserve; Mechua and Chaimari in the Sundarban Tiger reserve.

The sites which have been identified as high mortality areas are Shankarpur fishing harbour, Digha mohona and coasts and Junput fishing harbour.

The fish depots where there is information about the arrival of dead turtles along with fish are Raidighi, Namkhana, Canning and Nayachar.

In the months from July – October 2000, there was no fishing and trawling in the coastal areas due to the monsoon. Moreover nesting does not occur during these months. During these months, the study team collected preliminary information, and visited the sites to promote awareness by organising group meetings with fishermen, local

communities, NGOs and nature activists and developed a network with NGOs and activists and prepared different printed materials for distribution and collection of information.

Intensive survey began from November. During this session, the survey team visited the coastal zones of Digha, Shankarpur and Junput in the second week of November. The beaches were surveyed on foot. Trawl and gill net fishermen, forest guards, and trawler owners and local communities were interviewed. According to them, there was neither any information on sighting in the sea nor any dead turtle could be found on the beach.

The presence of carcasses and crawls indicate the occurrence of some nesting along this coast north of the major nesting beaches of Orissa. However, the density of nesting and the extent of mortality cannot be evaluated until later in the season after further surveys have been conducted in these and additional areas in Mechua and Chaimari in the Sundarban Tiger reserve

The field trip was conducted during mid December. The following information was collected from areas in the the Sundarban Biosphere reserve.

	Kalash Island	Bijeara Island	Jambu dweep
No. of nests	4	0	0
No. of active nests	2		
No. of eggs/nest	96-103		
Cause of damage of nests	Wild boar/fishing cat		Wild boar
No. of live turtles	0	1	0
No. of dead turtles	6	6	7
Cause of death	2 perhaps by tigers; rest trawling related	1 tiger, 1 perhaps jackal, rest trawling	Probably related trawling
Crawls	several	Few	None

Survey of marine turtles along the coast of Maharashtra and Goa

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A preliminary survey was carried out to study the present status of sea turtles along the coast of Maharashtra and Goa from May 13 – 31, 2000. An intensive survey was carried out along the coastal region of these states from 4th December to 22nd December 2000.

Two sites, Morjim and Galjibaga were visited during this survey with Mr. Paresh Porob, the local resource person in Goa. A total of 34 localities in Maharashtra were visited. Some of the important sites visited in the preliminary survey were also visited during this survey to collect recent information. In this survey more importance was given to areas which are less populated and less disturbed. Schools and colleges located in the coastal villages or towns were visited to collect information and to distribute reply cards. Mr. Prakash Gole, a well known conservationist in Pune, who has done a study on the marine biodiversity of the coastal region of Maharashtra informed us that sea turtles used to nest on most of the beaches on the coast of Maharashtra.

Goa

In Goa the Forest Department has created a lot of awareness about marine turtles. They have initiated conservation of marine turtles by protecting the nesting sites of Olive Ridley's on two beaches viz. Morjim and Galjibaga. Both these sites were visited during this survey. At Morjim, 16 nests are protected. The nesting density is more towards the river mouth. It is an approximately 200 meters stretch, which is immediately backed by a Casuarina plantation. On the remaining beach the plantation is not very close. Some hotels are present on the beach. In December 2000, a visit was also made to the Galgibaga beach. This is one of the less populated

beaches on the coast of Goa. Here the beach is immediately backed by large sand dunes with Casuarina plantation. According to recent information, 18 nests were protected on this beach.

A reporter of a local daily also described hatchlings with white spots and identified them as leatherback hatchlings from a picture, but this cannot be confirmed.

Maharashtra

Out of the five species of sea turtles found in India, four species are known to occur in Maharashtra waters. In the preliminary survey the locals of some villages were told to keep the carapaces of dead turtles if found on the beach. In the present survey the carapaces of three species viz. Olive ridley (*Lepidochelys olivacea*), Green turtle (*Chelonia mydas*) and Hawksbill (*Eretmochelys imbricata*) were collected from the locals of different villages in Maharashtra. A carapace collected at Achara (Malvan) is difficult to identify. According to some fishermen, Leatherback locally called 'Kurma' or 'Satpotya' is also seen but are very rare and seen in the deep sea. The olive ridley is present along the entire coast of Maharashtra and this is the common species on this coast. The population of Green turtles is more near Malvan. In the village Neevati, which is close to Malvan three carapaces of green turtles and three carapaces of olive ridley were seen. The turtles got entangled in the fishing nets and died and some were found dead on the beach. Another village called Khavane about 4 km. from Neevati was also visited. The locals of this village informed us that in the last four months, 8 to 9 turtles got entangled in fishing nets and died. Here four carapaces of green turtles were seen on the outskirts of the village. As per

the information given by the locals, the local fishermen release the turtles if they get in the fishing nets but most of them die due to suffocation. The percentage of people eating sea turtles is little more in these two villages compared to the other villages in the Sindhudurg district. A small carapace of green turtle (SCL – 45 cm) was seen with one of the locals in the village Kelus which is about 15 km. from Neevati. While asking about the green turtles the locals told us that these turtles prefer the rocky substratum and mostly feed on the algae. Some localities in the Ratnagiri district also have a record of green turtles but the number is very low. A carapace of hawksbill was collected from one local from Nandivade near Jayagad. This turtle was captured in a fishing net two months ago very close to the shore.

The number of sea turtles killed for meat is high in Ratnagiri district compared to the other coastal districts in Maharashtra because most of the turtles entangled in the nets were killed here for meat. In most of the villages visited in this district, sea turtles were killed for their meat. In Sindhudurg and Raigad district most of the people release them if they get caught in the net. They believe that sea turtles are an avatar and if caught in the net they perform a prayer and release the turtle. According to the information collected along the coast of Maharashtra, nesting of sea turtles has drastically declined in the last 10 years. This year, only a few localities near Malvan have a record of 4 to 5 nests and on the entire coast of Maharashtra there are sporadic records of nesting. The beach of about 6 km. between Shiroda and Motemal near Sawantwadi and the patch between Sarjekot and Achara near Malvan which is about 7 km. are the important nesting sites of olive ridleys and green turtles. Mr. Vasudev S. Kamale, fisherman from Achara told us that he had seen leatherback on this beach 5 years ago and he remembered it because of its large size and ridges on the back. The locals of the villages visited in this area informed us that 10 years ago, in the breeding season, about 7 to 8 turtles were nesting per night but now the number is very less.

In Kashid, a small village in Raigad district, the Headmaster of the primary school told us that in the first week of January some students brought the hatchlings of marine turtles in the morning collected on the same beach. The Headmaster went to the beach and saw some of more hatchlings. The hatchlings were collected and released immediately. Only sporadic nesting is recorded from Raigad district this year. The beach between Ambolgad and Vetye in Ratnagiri district is good for nesting of Olive Ridley as this is a less disturbed patch.

Threats

1) Egg poaching: The main threat to the population of sea turtle on the coast of Maharashtra is from egg poaching. The eggs are consumed by humans along the entire coast. Most of this year's nesting records are from poached nests. The locals informed us that if the eggs are not removed, they are consumed by stray dogs, foxes etc. About 4 to 5 years ago, eggs were sold in the market but nowadays as the nesting has decreased the eggs are consumed by the person who collects them and if his family is small, he distributes them in the village.

2) Incidental catch: Fishing is intensively carried out all along the Maharashtra coast. There are records of turtles getting in the nets but in most of the localities they are released immediately. But in some areas of Sindhudurg district and most of the localities in Ratnagiri district, the turtles are caught for meat. The average percentage of incidental catch is 4 to 5 turtles per trawler per year. According to information given by some trawler owners and local fishermen, there is no decline in the population of marine turtles because they are plenty in the sea but due to increased fishing activities and the human disturbances on the beaches, the turtles are not coming ashore to nest.

Future Plan

1. As most of the beaches on the coast of Thane and Bombay districts are populated and the

nesting records are also sporadic, a visit is to be made to these areas to collect recent records.

2. In the present survey a visit was made to some of the forest offices and fisheries offices, and

information is to be collected from the remaining offices through post.

3. An awareness campaign is to be carried out in some of the villages on the coast of Maharashtra.

CONSERVATION AND LIVELIHOODS NETWORK

5th Consultation on Wildlife Conservation and People's Livelihood Rights April 8-10, 2001, Makaibari Tea Estate, Kurseong, West Bengal

INVITATION

For the past few years there have been attempts at various levels across the country to bring together people who represent the cause of wildlife conservation on one hand and human rights activists, particularly those working with forest and other natural resource dependent communities, on the other. In the past these constituencies have often been in conflict with each other over issues of wildlife conservation versus local people's livelihood rights. One of the efforts in this direction have been the National Annual Consultations on Wildlife Conservation and People's Livelihood Rights that have been held for the last four years.

The first two were held at Tarun Bharat Sangh, Alwar District, Rajasthan in April 1997 and April 1998. The third consultation was held at Bhopal, Madhya Pradesh, in May 1999, while the fourth one was held in the BR Hills in Karnataka in April, 2000.

The objective of these consultations has been to provide a forum for constructive interaction among the various interest groups; to provide an opportunity to learn about the strengths and concerns about each other; and to work towards joint strategies for action against the larger threats to the habitats that support both wildlife and local communities. We have attempted to involve people from NGOs, communities and the government in these discussions.

The 5th in this series of Consultation is being held from April 8-10, 2001 in the Makaibari Tea Estate in Kurseong, West Bengal . It is being co-organised by Kalpavriksh and the Ashoka Trust for Research in Ecology and the Environment - Eastern Himalaya Programme (ATREE-EHP), with assistance from the North Eastern Society for the Protection of Nature and Wildlife (NESPON) and the Makaibari Tea Estate (MTE).

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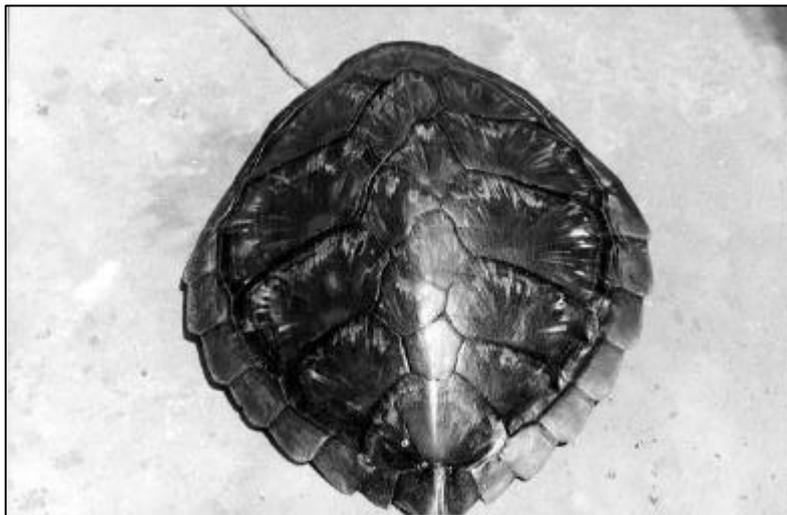
Some notes on an interesting carapace from Maharashtra

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This carapace was collected by Varad Giri, Bombay Natural History Society, during his survey of sea turtles on the Maharashtra coast in 2000. Though the markings resemble that of a juvenile green turtle, *Chelonia mydas*, the scute

pattern is puzzling. I sent the image to CTURTLE (email discussion group) and asked for opinions. I have summarised the results of my survey below.



Six of the 10 respondents identified the carapace as an immature green turtle, while hawksbill (*Eretmochelys imbricata*), loggerhead (*Caretta caretta*) and olive ridley (*Lepidochelys olivacea*) turtles each received a couple of votes. 'Hybrid' was also suggested. Some argued that since the forward most costal (lateral) scute meets the nuchal scute on both sides, it would be hard to defend anything but *L. olivacea* or *C. caretta*. Because of the very round shape, it might be *L. olivacea*. It was pointed out, though, that the frontal region is not very clear, and an observer might mistake the first vertebral for the nuchal scute.

The consensus was that it is a juvenile green turtle with scute aberrations; i.e., subdivided vertebrals. In summary:

➤ The shell is roundish, marginals not dentate but scalloped; pattern of radiating brown lines in scutes

- A hawksbill would have dentate marginals
- A loggerhead would have a knob on the last vertebral
- A ridley would have straight sides to the vertebrals, so that they appear as octagons, and the anterior of the shell would be higher. There should also be some remnants of a medial keel on a shell of this size.

My opinion: It is still tempting to dream about hybrids and the shell is on its way to the laboratory. If this is the product of an Indian inter-caste marriage, we'll soon know.

(Thanks to Karen Eckert, Jack Frazier, J Nichols, Rod Mast, Liew Hock Chark, Jacques Fretey, Christopher John Ty, Bob Prince and Michael Frick for their comments and for participating in the debate)

A SPOTLIGHT ON ANDHRA PRADESH

Andhra Pradesh, with a coastline of about a 1000 km, is one of the most important maritime states of the country. Since it is just south of Orissa, it has particular significance for the thousands of turtles migrating through its coastal waters each year. While no mass nesting sites have been confirmed in this state, there are anecdotal accounts of large mating and nesting aggregations (of perhaps a few 100 turtles) at Sacramento in central Andhra and at Kopaskudd in northern Andhra Pradesh. Srikurmam, in northern Andhra, is historically significant, as it has a unique temple dedicated to *kurma avatar*, the incarnation of Vishnu as a turtle. There is significant trawling related mortality in the state, with over a 1000 turtles being killed each year along its coast. A few studies by P.S. Rajasekhar, Andhra University, Vishakapatnam and KVR Priyadarshini, a WWF conservation corp

volunteer, have provided information on nesting and mortality along this coast, particularly northern Andhra Pradesh. A few NGOs such as Green Mercy, Vishaka Society for the Prevention of Cruelty to Animals and Marine Turtle Preservation Group, Hyderabad, have been active in the conservation of turtles. Several other organisations have been active in working on coastal issues and with fisherfolk. In this issue, we have a report from Green Mercy on their conservation activities and a preliminary report from the GOI UNDP Sea Turtle Project on its survey in the state. We also present a profile of some of the NGOs working on coastal issues in the state.

Kartik Shanker
Editor

Conservation of sea turtles in northern Andhra Pradesh

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Green Mercy is an independent, registered charitable NGO that works in the field of animal welfare and environmental protection. The organization is actively involved in the conservation of sea turtles along the coastline of Srikakulam and Visakhapatnam districts of Andhra Pradesh. Green Mercy started the 'Save Sea Turtles' mission in the year 1996 in Srikakulam District and later extended it to Visakhapatnam District in 1999-2000. The organization has identified ten strategic sites for sea turtles along the coastline. The main strategies adopted by this organization are to create awareness about these endangered species and to mobilize people's participation to protect and carry out 'in-site' protection activity in the vulnerable pockets along the coastline. Green Mercy has prepared a Comprehensive Action

Plan to protect sea turtles along the coastline and has also constituted a monitoring group that will make efforts for the effective implementation of the Action Plan. The organization is taking assistance from the Department of Environmental Sciences, Andhra University and a WWF Nature Club in its mission to save sea turtles. The Forest Department has accorded special permission to Green Mercy for the protection of sea turtles in the districts of Northern Andhra Pradesh.

The conservation effort 'Mission to save sea turtles' has been launched with the co-operation of the A.P Forest Department as well as that of local conservation groups as well as the Coast Guard. Education and awareness programs have been initiated by Green Mercy in the coastal villages and aim at involving and mobilizing the

local people, especially the fishing communities. As a result of the dedicated efforts of this organization fishermen of the Srikulam coastal

belt of Srikulam District have given up their traditional hunting of sea turtles and are instead now involved in their protection.

Table 1: Green Mercy's mission to save sea turtles in Srikulam District covering 120km of coastline stretching between Srikulam to Baruva Beach during 1996-2000.

Place	Range (km)	Season	No. of Nests protected	No. of eggs	No. of eggs destroyed	Success rate (%)	Predators observed
Srikulam*	15	1996-97	22	1274	924	58	D,J,G,C,H T
	15	1997-98	28	1645	1144	59	
	15	1998-99	33	2009	1285	61	
	15	1999-00	30	1969	1061	65	
Mofasbandar**	10	1996-97	21	1295	901	59	H,D,J,G
	10	1997-98	28	1678	1120	60	
	10	1998-99	30	1827	1169	61	
	10	1999-00	25	1590	935	63	
Kalingapatnam* *	15	1996-97	33	1941	1350	59	D,J,C,G,H T,H
	15	1997-98	38	2275	1517	60	
	15	1998-99	42	2516	1678	60	
	10	1999-00	35	2291	1289	64	
Naupada**	20	1996-97	36	2192	1403	61	D,J,C,G,H T,H
	20	1997-98	42	2515	1678	60	
	20	1998-99	46	2848	1746	62	
	15	1999-00	38	2457	1383	64	
Baruva**	20	1996-97	39	2416	1482	62	D,J,C,G,H T,H
	20	1997-98	42	2556	1635	61	
	20	1998-99	49	3084	1812	63	
	20	1999-00	40	2588	1457	64	

Table 2: Green Mercy's mission to save sea turtles in Visakhapatanam District covering 112 km coastline stretching from Bhimili to Bangarayyapeta beach during 1999-2000

Place	Range (km)	No. of Nests protected	No. of eggs hatched	No. of eggs destroyed	Success rate (%)	Predators observed
Bangarayyapeta**	10	15	1158	473	71	D,J,G,C,HT,H
Pentakota**	10	18	1279	549	70	D,J,G,C,HT,H
Revupolavaram**	05	10	722	295	71	D,J,G,C,HTH
S.Rayavaram*	05	08	568	244	70	D,J,G,C,H
Rambilli*	05	10	715	307	70	D,J,G,C,H

* Vulnerable pocket

** Highly Vulnerable Pocket

D = Dogs, J = Jackals, G = Germs, C = Crabs, H = Humans, HT = High Tides

Preliminary Report on the Survey of Sea Turtles along Andhra Pradesh coast

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Of the five species of sea turtle occurring in the eastern Indian Ocean and coastal waters of India, four species have been reported from the Andhra Pradesh coast (Kar & Bhaskar 1982, Bhaskar 1993, Biswas 1982). However, nesting of only olive ridleys (*Lepidochelys olivacea*) have been confirmed (Kar 1983, Subba Rao *et al.* 1987). There are a few nesting beaches present in the northern Andhra Pradesh coast where ridleys congregate in large numbers, but at the same time, absolutely no information is available on the nesting status along the central and southern Andhra Pradesh coast.

The southern most rookery of Orissa is close to Andhra Pradesh, so mass aggregations in suitable beaches along Andhra Pradesh coast cannot be overruled. The olive ridley sea turtles traverse through the Tamil Nadu and Andhra Pradesh coast for reaching mass nesting beaches in Orissa, and follow the same route during their post nesting migration to the Indian Ocean and its adjacent areas (Kar 1983, Rajasekhar 1998). Over the years, there has been a rapid increase in the intensity of mechanised fishing along this coast, so the risk of incidental catch related mortality has increased. But no proper estimates have been made on incidental capture and fisheries related mortality of sea turtles along the Andhra Pradesh coast. The survey of sea turtles and its nesting beaches in Andhra Pradesh is being carried out by the Wildlife Institute of India, Dehradun, in collaboration with the Forest Department, Government of Andhra Pradesh. This report is based on the result of pre-nesting survey carried out along the Andhra Pradesh coast as part of the survey programme.

Study area and Methods

Andhra Pradesh is one of the largest maritime

states in India with a coastline of 980 km and is ranked 5th in marine fishery resources. There are 450 fishing villages and more than 280 landing centres along the coast. The major fishing harbours are Visakhapatnam, Kakinada and Machilipatnam with Nizampatnam and Krishnapatnam emerging recently, altogether contributing more than 37% at the total fish production. The major rivers along the coasts are Vamsadhara, Godavari, Krishna and Pennaru with several smaller rivers and tributaries. The beach was divided into sectors and various sites were visited. Fishing villages and nearby beaches were visited. Fishermen and local people were interviewed regarding sea turtle occurrence in their localities. Species of turtle nesting/ sighted in offshore waters were confirmed by showing them photographs of different species of sea turtles. They were also interviewed on the number of dead turtles found on their beach, cause and peak season. Other information collected included incidental catch of turtle in artisanal gear, type of net used, etc. Besides, developmental activities along the beach such as plantations, industries, landuse pattern, socio-economic status and consumption of turtle eggs and meat by local villagers were also taken into account. Major and minor fishing harbours situated all along the coast were visited. Forest officials and Fisheries Department personnel were also interviewed about sea turtle nesting in their jurisdiction. In total, 40 coastal fishing villages including fish landing centres and 20 beaches close to the river mouths were visited..

Results

Northern Andhra Pradesh coast

Though the beach substratum is predominantly rocky in the northern side of Northern Andhra

Pradesh coast, interview results reveal sporadic nesting of olive ridley all along this coast, which spread between Bahuda and Godavari (Goutami) river mouth. The nesting concentration varies between >5 to <50 per night in different areas, during the peak season in January (locally called *Makarasankranti nala*). According to some fishermen of Kalingapatnam, there is a 10 – 15 km stretch of sandy beach between Vamsadhara and Nagavali river mouth, where large numbers of turtles nest during *Sivaratri mela*, a festival which falls in February/March. Fishermen of Visakhapatnam harbour informed us about the occurrence and nesting of green turtles in a beach south of Visakhapatnam, which is rocky and with luxuriant seaweed growth. Two carcasses of olive ridleys were found at this beach during the survey visit. There is some consumption of turtle eggs and meat by the fishing community, and turtle carcasses and liver are used as medicine. The local fishermen rarely catch turtles in their net, and when they do, the turtles are immediately released.

Central Andhra Pradesh coast

This constitutes the area between Godavari (Goutami) and Krishna river mouth. Degraded to fairly dense mangroves are present in the Goutami, Veinateya and Vasista river mouths, which are all parts of Godavari river system. Some patches of mangroves are also present in both banks of the Krishna river mouth. According to some elder fishermen of the settlement at Hope Island, which is situated few miles inside Bay of Bengal, more turtles nested in this Island two to three decades back. But due to human disturbance, trawling near the Island and Casuarina plantation on the beach, very few turtles nest on this island now. As per information gathered from villagers of Neelarevu and nearby areas, olive ridleys nest in large numbers in the Sacramento shoal beach area during *Antarvediteertham*, a village festival of this area generally celebrated in the month of January/February. It is a wide sandy beach at the Southern end of Goutami river mouth and is backed with dense mangrove forests. The same

concentration of nesting takes place in the Krishna river mouth as well. Besides this, turtles occurs and nest along the rest of the coast between January - March. They also observe more dead turtles on the beach during this period. Consumption of turtle eggs and meat is still in practice in some coastal villages.

Southern Andhra Pradesh coast

Sporadic nesting occurs along this coast, but little information is currently available. 3 carcasses of Olive ridleys were recorded from the Krishnapatnam harbour beach.

Conclusion

The prenesting survey field visit and secondary information from local people, fishermen and Forest officials as well as from Fisheries Department personnel shows that Olive ridleys nest sporadically all along the Andhra Pradesh Coast and in few beaches they congregate in large numbers. Like wise there is incidental capture related turtle mortality along the coast, but the intensity is unknown. Though there is no commercial market, consumption of turtle eggs and meat still continues in some coastal villages. The nesting concentration in different beaches and number of dead turtles washed ashore as well as biotic and abiotic threats to turtles all along the coast can be ascertained only after the nesting survey, which is to be done extensively during the period January-April 2001.

References

- KAR, C.S & S. BHASKAR (1982). The status of sea turtles in the Eastern Indian Ocean. In: *Bjorndal, K (Ed.) The Biology and Conservation of sea turtles*. Smithsonian Institution press, Washington, D.C.pp.365-372.
- BISWAS, S. (1982) A report on the Olive ridley *Lepidochelys Olivecea* (Eschscholtz) [Testudines: Cheloniidae] of Bay of Bengal. *Rec. Zoological survey of India*, 79: 275-302
- KAR, C.S (1983). Notes on Marine turtles in Andhra

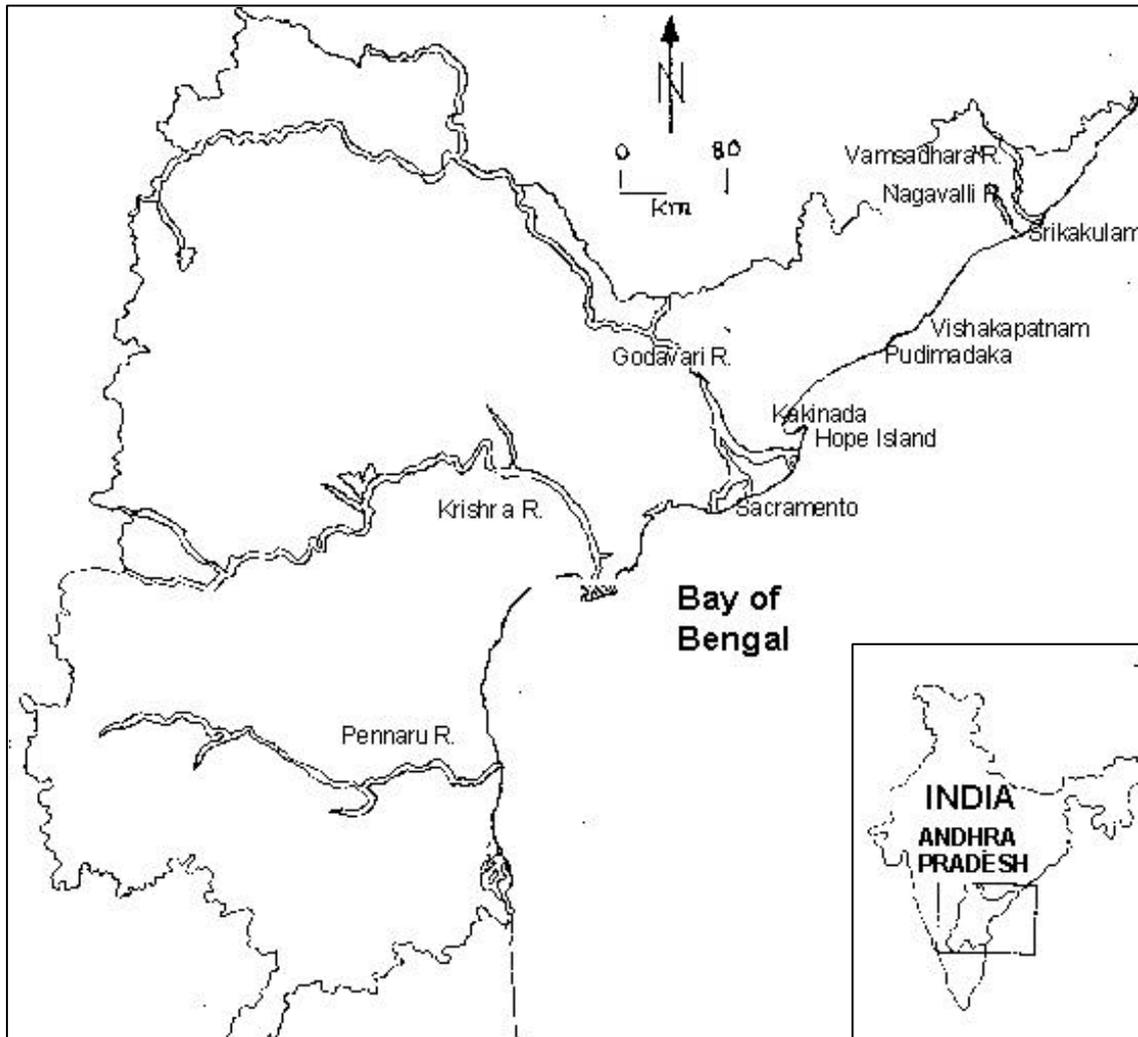
Pradesh Coast, India. IUCN/SSC, *Marine Turtle Newsletter* 25: 256-258.

SUBBA RAO, M.V., P.S.RAJASEKHAR & K.KAMESWARA RAO (1987) *Ecology and Management of Indian Sea turtles*. UGC Final Report, New Delhi.

PANDAV, B., B.C. CHOUDHURY AND C.S. KAR (1994). *A status survey of Olive ridley sea turtle*

(Lepidochelys olivacea) and its nesting habitats along the Orissa Coast, India. Wildlife Institute of India, Dehradun. 1994.

RAJASEKHAR P.S.(1998). Possible threats and conservation measures for the nesting olive ridley (*Lepidochelys olivacea*) populations in the Andhra Pradesh Coastline, India. Proceedings of the 19th Annual Symposium on Sea turtle Biology and Conservation, South Padre Island, USA



PROFILES

Society for National Integration through Rural Development

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SNIRD is a secular, non-profitable grass roots level voluntary organization that has been set up to help rural and downtrodden communities. This organization handles various projects and programs in the contexts of natural resources, micro credit and micro finance, community health, ecology and environment, community-based organizations, disaster management, water management and sanitation and child labor. SNIRD is involved in all levels of project development, from planning and conceptualization to research and development of strategies and policies as well as monitoring and impact assessment in various fields.

Some of the environment and conservation related projects being carried out by SNIRD include:

Organization of marine fisherfolk for sustainable resource utilization in Andhra Pradesh: This is a community based program covering 46 fishing villages. The project identified village level programs and gave representations to various government departments and mobilized resources for the development of these villages. Intensive training on organization management, record maintenance, managerial skills, leadership qualities, and so on were imparted to make the 'community based organizations' sustainable. Training in pre and post disaster management techniques was also imparted to Task Force committees. SNIRD has also conducted a study on mangroves in 4 coastal districts of Andhra Pradesh. Other activities conducted under this project include formation of eco clubs in schools and film shows and quiz competitions to impart environment awareness to children.

Watershed development program: SNIRD initiated a 'watershed development program' in the semi arid areas of Prakasam district. Awareness programs and training are conducted for farmers on soil and moisture practices with ridge to valley concept, more agricultural yields, ground water recharging and ecofriendly farming. The 9 watershed development programs cover 5500 ha. in 8 villages of Dronala Mandal. Importance has been given to the construction of check dams, rockfill dams, percolation tanks, diversion drains, stone checks, afforestation practices and so on to recharge the ground water and control soil erosion.

Ecodevelopment program: SNIRD initiated an 'ecodevelopment program' in the Nagarjuna Sagar Srisailam Tiger Reserve from 1997-2000. The problems of the forest dwelling Chenchu tribals were identified (The Chenchus are a socio-economically deprived group that survives on shifting cultivation and the sale of minor forest products). SNIRD organized monthly training for the staff who work on this project regarding forest ecosystem and protected area management. Ecodevelopment committees and self-help groups were formed from the tribals by involving the youth, as well as women and elders. These committees work with the Forest Department on protected area management and the groups are trained for managerial efficiency and entrepreneurship.

Other projects of SNIRD include the 'water management and sanitation program', 'study on the Nallamala forest ecosystem', 'Chenchu development program' and 'Soil and moisture conservation program'.

Coastal Community Development Program

Contact person: Prakash Lal

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CCDP is the development department of the Full Gospel Churches of India. The primary goal of the CCDP is to support the National Program for Alleviation of Poverty by increasing the income and standards of living in 9 selected villages and to make the population who are dependent on fisheries and fishing related activities better aware of the environment and marine ecology. The CCDP co-ordinates meetings and activities of the fishermen's' federation and helps them in solving day to day issues, promotes women's groups and empowerment of women and teaches them credit management, and helps in education by setting up schools and promotes community health programs. Issue based programs and

training activities are also organized on ecology and biodiversity issues including mangrove management and new approaches for coastal ecosystem development and social forestry. Participation of the local communities resulted in a 54 ha. regeneration area (including 3 villages) for mangroves. Two mangrove nurseries were set up and a video documentary was also made under this program. The social forestry project aided in the plantation of casurina trees and the development of a nursery. Better aquaculture management techniques like polyculture and training on post harvest fisheries technologies is also one of the programs.

Association for Rural Development and Action Research

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ARDAR is a registered NGO that aims to work towards building self sustained communities. ARDAR aims to work with backward and poor communities and to empower people to overcome exploitation, to improve conditions of women and children and old people, to provide opportunities for sustainable development and to take up research and action projects.

ARDAR has taken up various short term projects with 19 fishing villages in Vizianagaram district.

A longterm Sponsorship Project (12 yr.) that has been on since 1994, focuses on sustainable development, group organization, economic improvement, education and health programs. A short study on migration among the marine fishing community in the state of A.P was also taken up. Other studies include research on crop and agricultural systems and cyclone losses in coastal villages.

SRAVANTI (Action Group of Sustainable Development)

Chief functionary: K.L. Durgesh Prasad

Address: SRAVANTI Association, 32 -1-50, K.V.R. Swamy Road, Rajahmundry, East Godavari District, A.P, 533 101.

Sravanti is a non political secular action group for sustainable development that has been working for the past 8 yrs. on issues related to coastal

areas and empowerment of women in 35 villages in Tallarevu, U. Kothapalli, I. Polavaram Mandals and Rajahmundry Urban in East

Godavari District. The thrust of Sravanti's activities are towards facilitating collective action of fisherfolk and includes capacity building, women's forums, thrifts and credits, health education, community based disaster preparedness, mangrove regeneration, non formal education and environment education. Major emphasis has been laid on organizing communities to take up collective action for sustainable livelihoods in the context of marine resource utilization. Sravanti has taken up training programs to facilitate people's participation in natural resource management, marine resources, mangrove conservation and sustainable aquaculture.

The 'capacity building program' of the organization focuses on formation of people's groups for different purposes, education and environment awareness programs, and sustainable aquaculture practices. The organization also has a

program called 'conservation of mangroves and marine living resources'. Under this program awareness campaigns among fisherfolk and other coastal communities on the importance of mangroves and marine ecological issues, formation of 'mangrove protection samithis', regeneration programs (30 ha. achieved), and formation of 'ecodevelopment committees' are carried out. The 'income generation program' includes a revolving fund loan to 2000 fish vending women, imparting training on post harvest technologies like fish drying and pickle making and supporting micro enterprises. The 'disaster preparedness' and 'cyclone rehabilitation programs' aims at facilitating preparedness and imparting training in rescue and relief operations, construction of cyclone resistant houses and replacement of craft and gear and so on.

Sruthi – Voluntary Organization Society

Executive Secretary: Nageshwara Rao,

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Sruthi is a registered NGO that has been working for the past 3 yrs on issues related to conservation of marine resources and empowerment of fisherfolk in five villages Bhimavaram, Mogaltur and Kruttivennu Mandals of West Godavari and Krishna Districts. The thrust of this organization's activities are towards facilitating collective action of fisherfolk and includes capacity building, women's forums, thrifts and credit, health education, non formal education and environment education. A major emphasis of the activities has been laid on organizing the community context of marine environment

management. Sruthi's involvement in coastal issues is through environmental awareness campaigns. This includes education and encouraging community participation in sustainable natural resource management. This also includes education on the rights and legal aspects of aquaculture. As the coastal environment has become a victim of haphazard growth of prawn culture and destruction of the green belt, Sruthi has taken up training programs on sustainable aquaculture.

Mother India International (MII)

Chairman: Pilli Tirupathi Rao

Address: U. Kothapalli Mandal, East Godavari District, AP 533 447

MII is a secular, non-profit, non-political NGO and rural development agency that has been rendering its services to the poor and the

marginalised sections of the society for the past 7 yrs. MII operates in U. Kothapalli, Tondangi, Pithapuram and Kakinada Rural Mandals of East

Godavari District and the target groups of MII are the women, fisherfolk and the poor of all communities. This organization aims to develop and provide assistance in the spheres of rural infrastructure development, health, cultural development, education, environment awareness and disaster relief and preparedness. The different awareness programs conducted by MII include those on environmental protection, pollution, family welfare, AIDS prevention, nutrition and health, human rights, consumer rights, child labor and so on. MII also conducted relief and

rehabilitation programs for fisherfolk affected by the 1996 cyclone. The organization distributed food packets, clothes and utensils and organized medical camps for the coastal villages of Uppada, Ammenabad, Moolapet, Konapapet, Kondevaram, Gorse (U. Kothapalli Mandal), Chodipallipet, Penumallapuram, Danavaipet (Thondangi Mandal), Polavaram and Surya Rao Pet (Kakinada Rural Mandal). MII is also involved in 'disaster preparedness programs' in 8 villages of the area.

Tribal Community Development Society (TCDS)

Secretary: T.S.N. Rao

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TCDS was established with the central idea of integrating and enhancing the use of indigenous local knowledge systems into mainstream development interventions. This organization aims to promote and integrate institutional knowledge with local indigenous practices, so as to provide a more holistic framework for sustainable strategies. This would cover areas such as education, agriculture, drinking water, natural resource management, issues on tribal rights, human and animal health, folk arts and culture and media forms.

TCDS acts as a resource group and collaborates with various tribal, women, youth and community

based organizations, by developing sustainable strategies and implementing projects and programs that fit into the larger framework of the goals of the organization. Current activities of TCDS includes organizing tribal and women's rights groups against exploitation, initiating tribal women's self help groups to develop cooperative societies for income generation from minor forest produce and agriculture, documentation and preservation of medicinal and aromatic plants of the Eastern Ghats in collaboration with tribal groups, provide safe drinking water and document and organize various aspects of tribal culture.

NEWS

Fishworkers stir

The National Fishworkers Forum has decided to launch a country wide agitation in support of their outstanding demands from January 8, 2001 and observe a one day token strike on January 18. Some of the leaders of the strike would start an indefinite hunger strike from January 8.

Fishworkers in this country have been agitating for quite some time to press the Government to look into their grievances and redress them on a priority basis. They have been highly critical of the indifferent attitude of the Government.

The major demand of the Fishworkers which have been listed in their memorandum sent to various authorities are the withdrawal of the Aquaculture Authority bill, adequate diesel and kerosene to all fishermen at a subsidized rate, implementation of the recommendations of the Murari committee and inclusion of women and inland fisher people in the Saving-cum-relief scheme.

They are also asking for uniform monsoon trawl ban in all coastal states, discontinuation of import of fish and immediate release of innocent fishermen from India, Pakistan, Sri Lanka, Bangladesh and Maldivian jails. (*From The Hindu: January 8, 2001*)

OPINION

Sea turtles and Submarines – Sinking the wrong ship ?

Kartik Shanker

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Olive ridley turtles nest all along the east coast of India, though the major mass nesting grounds are to the north, in Orissa. The beaches in and around Vishakapatnam in Andhra Pradesh are good solitary nesting grounds for olive ridleys, though the population has been affected by the usual problems attendant with urbanization, namely lighting, sand-mining, predation of eggs and hatchlings by dogs, crows and so on. Nevertheless, the efforts of a few non governmental organisations including the Vishaka Society for the Prevention of Cruelty to Animals, VSPCA, the Marine Turtle Preservation Group, and others, have worked towards the protection of these nesting beaches and the sea turtles nesting there.

Recently, the beaches of Vishakapatnam became a bone of contention between VSPCA and the Indian Navy. The Indian Navy wanted to create a museum on the beach using a decommissioned submarine and ship. Vishakapatnam is incidentally the headquarters of the Eastern Naval Command. VSPCA filed a petition in the High Court against the Navy claiming that the submarine museum would be a violation of the CRZ (Coastal Regulation Zone) notifications and that it would severely affect sea turtles and their nesting habitat. VSPCA received letters of support from MEDASSET (Mediterranean Association to Save the Sea turtles) and Animal People, an international magazine, amongst others. The defenders of sea turtles in this case claimed that the submarine museum violated international conservation agreements that India has endorsed.

The main issue that the court debated was the violation of the Coastal Regulation Zone (CRZ) which includes sea coasts, backwaters, estuaries and creeks up to a distance of 500 m from the the

high tide line and the area between the low and high tide lines. While the Navy and Government claim that the area is CRZ-II, the VSPCA claimed that it was CRZ-I (which includes ecologically sensitive areas) where no construction is allowed. In November, 2000, the Andhra Pradesh High Court ruled that the proper permits had to be obtained by the Navy from the Andhra Pradesh coastal zone management authority after a proper examination of the area.

In June 2000, we received a letter from the Principal Chief Conservator of Forests regarding this particular issue. In this letter, the PCCF first points out that the VSPCA did not have the necessary permits to work on sea turtles for the year 1999-2000 unlike previous years. He then refers to the VSPCA's petition against the Indian Navy and points out that the beach where the proposed museum is to be set up "has been the recreational area for the urbanites of Vishakapatnam and there is so much traffic and disturbance throughout the year that it not at all a suitable site for conservation activities". He goes on to say that the Navy "red-handedly" caught members of the VSPCA trying to transplant eggs to the museum site, to make it appear that it is a nesting beach. A team of officials including the Curator, Indira Gandhi Zoological Park, Vishakapatnam, Divisional Forest Officer, Vishakapatnam, P.S. Rajasekhar, a marine turtle biologist with Andhra University, Vishakapatnam, K.V. Ramana Murthy, Green Mercy (an NGO that also works on sea turtles) inspected the areas on the same day and conducted an enquiry and arrived at the conclusion that the eggs had indeed been transplanted. The Forest Department of Andhra Pradesh was understandably annoyed. This Department has been genuinely concerned with the conservation of sea turtles, conducting

workshops for fisheries and forest officers, NGOs, the Navy, Coast Guard and trawler operators. They have been hugely supportive in the sea turtle survey of the coastline for the UNDP project by the Wildlife Institute of India.

I would like to start by saying that it is actually quite irrelevant (to me) as to whether the VSPCA transplanted those eggs or not. One accepts that even if it did occur, it was done for the 'noble cause' of protecting turtles. However, in environmental protection as in other arenas of life, the end does not justify the means. The protection of a beach or a species by false representation of data, or the election of a good president by ballot fixing is still wrong. Furthermore, the environmental movement, unlike politics, still rests on a base of good faith. More than anyone else, we talk about the ethical treatment of animals, the ethics of damaging the environment that our children will inherit, and so on. More than anyone else, environmentalists and conservationists have a responsibility to behave ethically.

However, there are other issues here that I think are more important that I would like to address:

1. While it is true that uncontrolled habitat encroachment along the coast has affected sea turtle nesting, it is also true that development cannot be completely arrested. Vishakapatnam and its nesting beaches represent a fairly minor nesting population of olive ridleys along the east coast (with apologies to turtle conservationists in Vishakapatnam) and the major nesting aggregates are further north in Orissa.

2. The naval museum is likely to take up a 200 metres along the beach (lets say an impact of a

few km). Perhaps the sacrifice of this nesting space could have been compensated by using the museum for furthering education and awareness about sea turtles. Perhaps it could be compensated by involving the Navy to a greater extent in turtle conservation.(Point: the Navy has been in communication with our researcher in the same region and is very open to helping out in offshore patrols).

3. An undue amount of effort and attention to minor issues distracts from issues such as the construction of a port at Dhamra (where several 100,000 turtles nest as opposed to a 100) and an oil pipeline at Rushikulya (where several 1000 turtles nest). The problem is that high court judges and other officials may not always be able to differentiate between one petition and another. If they are swamped by petitions to save turtles in every single beach in India, they are likely to ignore them all. This is also true of international support for these programs.

The conservation movement would be dead in its tracks without the motivation of its activists. However, the activist is often not in the best position to evaluate conservation needs or to prioritise conservation action. This, to me, is the domain of science. It is important to be able to objectively evaluate the evidence in the decision making process. In the case of species conservation, it is necessary to decide which populations should be prioritized for regional and global conservation attention and action. The lesson here is that local activists would benefit from consultation with conservationists and scientists who might be able to offer them a larger perspective and technical advice. The latter, for their part, need to interact with local activists to achieve conservation at the grassroots.

NEWS

Mass nesting at Gahirmatha

The Orissa Forest Department reported that mass nesting occurred at Gahirmatha from February 2, 2001. No further information is currently available on the total nesting or mortality.

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Cover Photograph: Olive Ridley turtles in a trawl net - Bivash Pandav

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