



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

Profile of the Month

A shift in conservation approach from Orissa, India

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Photos: Bivash Pandav and Aarathi Sridhar



The narrative on sea turtle conservation and fisheries in India is introduced with varying style, intent and tenor depending on who tells the tale. The imagery left behind is usually varied. Sometimes magical – consider thousands of hatchlings emerging from hundreds of nests at the three olive ridley mass nesting sites of Gahirmatha, Devi or Rushikulya on the east Indian coast. Or the truly amazing sight of thousands of gravid female turtles waddling ashore to nest en masse under a fast brightening midnight sky.

This is matched by a more sordid visual. Endless beach with rotting turtle flesh, carcasses and carrion, over a hundred turtles entangled in a large gill net, a trawler in a turtle congregation area hauling aboard a dreaded mishmash of turtles, fish and struggling bottom dwelling creatures. However, these have stayed constant in the account on turtle conservation. What remains obscure is the picture from another occupant on the coast – fisherfolk and their fishery. Is it the ordinary business of turtle conservationists to project the image of a despondent fishery? Of empty hands grabbing small worthless fish as fisherwomen abandon their patient wait ashore? Of trawlers devoid of turtles in their nets?

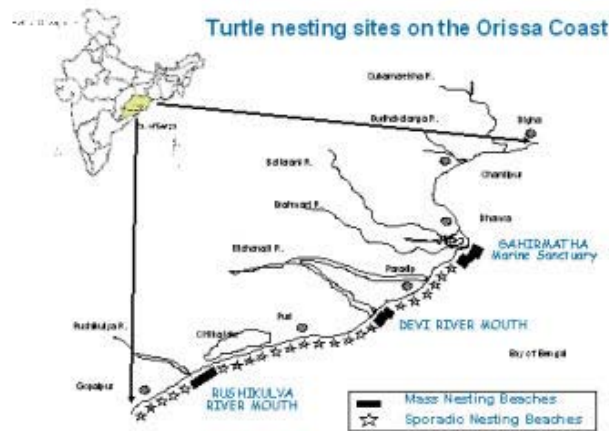


The visuals in the public mind are reflective of where the attention on conservation has been trained. Has the time come for these voices of conservation to give fresh accounts? To project visuals of a marine realm that varies between turtle and fishery seasons, with fishing practices, with types of conservation efforts, with kinds of fishers?

Reluctant emergence ... turtle science

Only a few facts about the olive ridley sea turtles of Orissa are known and are now perhaps more than well known. What we understand seems significant and we do not know a whole lot more, and perhaps this is the reason we repeat our tales. The olive ridleys are protected under the Indian Wild Life (Protection) Act (WLPA), 1972 which prohibits all hunting and trade of the species. Since scientists discovered three olive ridley mass nesting beaches at Gahirmatha, Devi and Rushikulya in 1975, 1991 and 1994 respectively, many more scientists have documented several aspects about these elusive creatures such as nesting numbers, hatching success, inter-beach nesting, size-class characteristics of nesting populations, offshore reproductive congregations among others. Yet all of this has revealed very little about the life of these creatures. Their habitat and behaviour ensure that they make difficult study subjects. Learning about shy animals that spend almost all their life in water and migrate large distances spanning a few seas can be somewhat of a challenge. Ironically, the status of this elusive animal as a scheduled species under the WLPA makes it harder for non-government researchers to obtain permits and navigate various cumbersome official procedures. Despite this, several research attempts did materialise and a few parts of the ridley puzzle reluctantly now fall into place.

Bivash Pandav has studied nesting and mortality of the olive ridleys of Orissa extensively and he reports in a 1994 report of the Wildlife Institute of India that olive ridley turtles nest sporadically almost all along the coastal beaches of Orissa besides the three mass nesting beaches, one of which (Rushikulya) he 'discovered' in the course of his surveys. His work between 1993 and 2000 reveals that the mortality of sea turtles is the result of 'incidental capture' by illegal mechanised fishing trawlers and also by mechanised boats operating gill nets. The most abundant statistic relates to turtle mortality. This data is collected fervently by local conservation groups, supervised in some instances by scientists such as Pandav, but is also collected somewhat less industriously by guards of the Orissa Forest Department.



Source: Pandav B., Choudhury B.C, Kar C.S, 1994

Though figures on mortality between agencies are often varied, Pandav's doctoral work reports an average mortality figure of about 10,000 per year for the last decade. A review of data by Kartik Shanker and his colleagues in *Biological Conservation* in 2004 suggests that population sizes may be in the range of 150-200,000 nesting females per year and that this population may be on the verge of a decline, based on evidence from the failure of arribadas in recent years, a decline in adult sizes and high fishery related mortality.

Findings from genetic studies published in *Molecular Ecology* (Shanker et al. 2004) show that there is no genetic difference between the turtles nesting in each of the three mass nesting beaches. Importantly, the results also revealed the distinctiveness of the population on the east coast of India, and suggested that they may be ancestral to populations in the Atlantic and Pacific oceans. This established the significance of this population.

Compared to the information we have on the turtles' behaviour on land, we know little about their behaviour in the water. Nearshore surveys have shown that sea turtles occur in discrete areas, termed as 'reproductive patches'. These reproductive patches have been located off the coasts of Gahirmatha and Rushikulya and are expected to occur in the offshore waters of other mass nesting beaches such as Devi River mouth. The patches are about 50 – 75 km² in size, and extend to a distance of about 5 – 6 km offshore. Satellite telemetry studies conducted in 2001 confirm anecdotal evidence that turtles do migrate over large areas within the Bay of Bengal right up to Sri Lanka.

Science and conservation

The growing international and national interest in the ridleys, led the Orissa state government to intermittently introduce turtle conservation measures in the state. But has all the science mentioned above been able to inform these conservation laws? The consistent scenario of high turtle mortality and poor fishery catch illustrates that there are problems with marine conservation laws in the state.



In 1997 the Orissa government declared a large offshore region near the Gahirmatha nesting beach as the Gahirmatha Marine Sanctuary (GMS). This area measures about 1435 sq km and extends about 20 kilometres into the sea. The core area of this sanctuary (extending 10- kilometres offshore) remains a no-fishing zone even for traditional fishing throughout the year. This stands in stark contrast to the scientific information on the turtles – they are highly migratory, the congregation patches they form may be only about 75 sq km and is formed in the near shore area within 6 kilometres. Aside from the dissonance with science, there are other problems with the GMS. The

Orissa Forest Department has openly stated several times that it is virtually impossible for them to patrol the large GMS. The declaration of the GMS and its various rules was not planned through a process of consultation or public participation, merely because the law did not mandate it. There is now widespread violation of the norms of the GMS. Traditional fishermen, venture into the southern region of the core area and trawlers fish without impunity throughout the region and even through congregation patches.

A recent event nearly cemented the views of fisherfolk against all turtle conservation efforts. In 2003, the Orissa government briefly banned the operation of all gill nets in the three sites based on

interim orders of the Supreme Court's Central Empowered Committee (CEC). Most of the fishing in Orissa is carried out by gill nets and not all of these are responsible for turtle mortality. Complying with such a ban would be suicidal for the fishers. After strong agitation by the fisherfolk and repeated appeals to the CEC on the matter, the CEC revised its orders and has prohibited only certain gill nets. However, despite this revision, there are incidents where the guards of the forest department wrongly detained traditional boats carrying permitted nets.

There appears to be a clear correlation between the process of conservation and compliance. Little was done in the past from all quarters to facilitate a positive attitude towards turtle conservation. Some say it may be too late, since the process of exclusion has already created an unfavourable attitude in the minds of the fishers. Awareness programmes do not appear to have impacts. People maybe aware, but to make a difference, people need to care.

Kartik Shanker, a biologist who been associated with conservation and research efforts in Orissa for years now says, "perhaps too much attention has been focused on the turtles in a manner that has really not served its purpose."

Much prior to turtle conservation laws, Orissa introduced marine fisheries laws. The 1982 Orissa Marine Fisheries Regulation Act states that the near shore waters of Orissa up to 5 kilometres from the shore are reserved for the traditional fishing sector and mechanised fishing including trawling are banned in these waters. This incidentally is the region where most of the offshore congregations are located. Researchers such as Bivash Pandav have stated that the limited resources of the government could be geared towards protecting the congregation patches as a priority, rather than attempting to protect large regions such as the GMS. Such focussed attention would considerably reduce turtle mortality.

Kartik adds, "If conservationists and governments focused on the proper implementation of fisheries laws alone, we would have done the job of protecting the interests of the traditional fisherfolk and incidentally also protected the turtles. We need to shift focus from 'incidental capture' to the idea of 'incidental conservation'." His statement is more than an innovative string of words; it is telling of Orissa's need. 'Incidental conservation' demands an attitudinal change from conservationists. It calls for conservationists to engage with a task that is not their ordinary business. To make their own conservation concerns appear 'incidental'. Implementation of fisheries laws is a complex affair and working towards it means more than blowing the whistle on an unwilling or inept state force. It is a job that calls for active collaboration with fisher communities. It involves organising the communities and restoring their right to manage their marine environment. Importantly, it requires us to change vantage points while viewing matters such as the conservation of endangered creatures such as turtles or dolphins. Incidental conservation is not the same as accidental conservation. The former involves the application of a deliberate process while the latter is largely the outcome of random actions.



The idea of adopting fisheries management approaches rather than a species-centric conservation plan can seem like changing horses midstream. However, in the Indian context it makes sense. The approach of fisheries management is to ensure the survival of fisheries, an anthropocentric goal notwithstanding, one that carries more appeal than the esoteric need to save marine turtles. Further, as in Orissa, compliance with marine conservation norms will require conservationists to undertake Herculean efforts at gaining the trust of many fishing communities.



Orissa is still far from seeing these new approaches in action. Only recently, in 2004 did various national, and local conservation groups, fisher unions, scientists, and NGOs come together to form the Orissa Marine Resources Conservation Consortium (OMRCC). The OMRCC (www.omrcc.org) is an important platform to debate these new approaches and ideas, to discuss ways forward and to work collaboratively from these new starting points. Members of the OMRCC are currently undertaking an exercise to document the fisheries in the state, to gather information on the threats to fisheries, problems with the implementation of fisheries laws etc. A campaigns office is also being set up to address the issues that threaten the fisheries and coastal environment of the state such as large commercial ports and oil and gas exploration. Already the experience of working on these issues is acquainting some of us with the many realities of the coast.

Wherever the efforts towards fisheries management or 'incidental conservation' take us, the images from this journey will be more complete. We hope that isolated images of turtle mortality or fish

scarcity can give way to complete ones where the magic of the turtles shares a space with the magic of fishing.

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