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The Olive riddle

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Is there a solution to the turtle deaths on the Orissa coast?

PHOTO: ASHOKE CHAKRABARTY



Face-off: Do fishing activities endanger the turtles?

SOMETIME during the Olive Ridley (*Lepidochelys olivacea*) breeding, nesting and hatching season in Orissa (October to April), the media churns out a series of gut-wrenching images of thousands of turtles washed ashore in grotesque postures and in varying stages of decay. This visual excess often ends abruptly with a description of the culprit, mechanised trawlers, and a final lament about government inaction. This has been happening over the last 10 years. But is the Orissa coast nothing more than a 480 km graveyard?

Protect a population

At the outset, if maintaining biological diversity seems important, then protection to this population of Riddleys that nest in Orissa becomes indisputable. Genetic studies (Shanker et al, 2004, *Molecular Ecology*) suggest

that this distinct population could be the ancestral source for contemporary global populations of Olive Ridley turtles. Data on turtle mortality show a decrease in the size of adults of the population suggesting an imminent decline. Protecting a sizable reproducing population would be a scientific conservation goal rather than the protection of every single turtle.

Orissa's beaches have seen dead turtles several decades ago. Turtles have had symbolic, cultural and spiritual significance for Indians. For some communities, the turtle meat and eggs were a part of their diets. Eggs were legally collected by the boatload upon payment of revenue (*andakara*) to the local zamindars of Kanika Raj adjacent to the present Gahirmatha mass nesting site and the practice continued after Independence. Live turtles were transported by train to West Bengal for the meat market. The Indian Wild Life (Protection) Act (WLPA), 1972, made this practice illegal. Initiatives to regulate the trade or to allow sustainable use continue to be unthinkable (with or without adequate research) in conservation circles and a total ban in 1972 appeared as the solution.

Trawling as a fishing method had gained popularity around the time of the turtle hunting ban. Thousands of turtles were washed ashore by the 1980s as a result of entrapment in trawl nets and, in some reported instances, in certain gill nets. Growing national and international demands for protection to the turtles prompted the Government of Orissa to declare the mass nesting beach at Gahirmatha and its offshore waters up to a seaward distance of 20 km as the Gahirmatha Marine Sanctuary (GMS) under the WLPA in 1997. Fishing restrictions were imposed within the 1435 sq. km. large sanctuary.

Why do turtles die despite this? A simplistic explanation from conservationists is that (illegal) fishing goes on in the Sanctuary and the Forest Department is unable/unwilling to control this. A more complete explanation appears by investigating the reasons for non-compliance of Sanctuary rules (by the trawlers and the traditional communities). It questions on the appropriateness and scientific rationale of the sanctuary design and fishing restrictions, the socio-economic status of the people living in the region, the capacities of the government departments to patrol the GMS, the relationship between the people and the Forest Department and, importantly, asks questions about the exclusionary process of conservation itself.

No consultations

Traditional fishing communities did not welcome the decision to create a marine sanctuary and joined trawlers in completely defying it and fished within its sanctified limits. They saw the sanctuary as a direct threat to their survival. The core zone of the sanctuary extending 10 km from the shore (a no-fishing area) and an additional 10 km was declared a buffer zone. This did not emerge from consultation with fishing communities. There was no formal notice about the sanctuary, or settlement of claims or even discussion on

fishing rights since "territorial waters" under the Act are the property of the Central Government.

In response to protests and objections, a "High Power Committee" permitted 10 hp engine boats using "small" monofilament nets within the buffer area (10 km away from the shore). Once again, this was an arbitrary decision and not based on consultation. Till date the protests against the sanctuary continue and the Government has not yet issued passes to access these far-flung buffer zones!

No scientific studies have been conducted on the impact of various fishing nets on turtles. Then what prompted the fishing restrictions? Research shows that turtles are present in Orissa's waters in maximum densities near the mass nesting beaches and are found in "reproductive congregations" — an area containing mating pairs (Tripathy, 2005, Ram, 2001). They measure between 60-70 sq.km. This is only a fraction of the large GMS. Several scientists have stated that providing adequate protection to the congregation areas will significantly bring down mortality levels and assist in stabilising this population. The congregations are known to be present outside of the sanctuary, as they change position between and within seasons. But considerable energy, effort and expense is involved in patrolling an area as large as the GMS.

Matters have reached a point where negotiations and trade offs are inevitable. In return for well-protected and monitored congregation zones, fishing permissions may have to be granted to trawlers and traditional fishers in other sanctuary areas. This suggestion would undoubtedly be branded as mischievous. However, it is not as astonishing as the complete absence of science or socio-economic reality in the current sanctuary's conservation scheme for this special population. Efforts to rectify this historical mistake are under way through the Orissa Marine Resources Conservation Consortium, a multi-stakeholder group with fishing unions, conservationists and scientists (www.omrcc.org) .

However, given the current scenario it is hardly shocking that dead turtles dot Orissa's beaches. On the contrary redundant conservation solutions ensure that they remain there for years to come.

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