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Editorial: A Little Learning ... The Price of Ignoring Politics and History

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"A little learning is a dangerous thing; drink deep, or taste not the Pierian spring: there shallow draughts intoxicate the brain, and drinking largely sobers us again" – Alexander Pope

"The opposite of good is good intention" – Kurt Tucholsky

We would like to begin by acknowledging that Hawk's opinion piece (Hawk, this issue), though remarkably ill-informed, limited and naïve in its understanding of the issue of turtle conservation in Orissa, appears well intentioned. Hawk's facts about the ecology of sea turtles in Orissa are correct and indeed alarming, though ironically, he shores up his argument by extensively quoting the very individuals (many of them MTSG members) who have been opposed to the IUCN and MTSG's involvement in the Dhamra Port project. Mainly, however, Hawk appears to have very little idea of the history of conservation and its socio-political context in Orissa.

Science and technology are just tools whose efficacy is determined by the end-users. It has long been recognised the world

over that social change (or altering human behaviour) is the engine that powers successful conservation, which requires understanding of history, society and politics. Therefore, we provide below a brief primer for his benefit.

History of sea turtle conservation in Orissa: Sea turtle conservation in Orissa has a storied past (see Shanker & Kutty 2005). From extensive egg collection to the take of adults, the population has been threatened by anthropogenic impacts before, and conservation measures have responded to these threats. First, the collection of eggs was prohibited in the 1970s. Following the introduction of mechanised boats, targeted take of turtles in offshore waters increased dramatically, and it is estimated that 50,000 to 80,000 turtles were taken each year in the late 1970s (Das 1985). The Government of Orissa enforced The Wild Life (Protection) Act with assistance from the Coast Guard, and over a few years in the early 1980s, this trade in turtles disappeared. Subsequently, the threat from incidental catch increased through the 1990s and numerous attempts have been made to address it, as we will detail below.

A few years ago, we wrote that the unpredictability in size and timing of arribadas, decline in size and huge mortality, was indicative of an impending decline in olive ridley populations in Orissa (Shanker et al. 2003). During this time, it has however, become clear that while changes in the geomorphology have led to the decline in nesting at Gahirmatha (Prusty & Dash 2006), nesting in Rushikulya appears to be increasing (Tripathy et al. 2008), and mass-nesting in the Devi region has completely stopped for more than a decade. The effects of loss of habitat at Gahirmatha are already evident; the failure of arribada in 2008 may be attributed to fragmentation of nesting beaches at Gahirmatha (Prusty & Dash 2006). Thus, any impact on this population should be governed by the precautionary principle. The Dhamra Port Project coming up in close proximity to the nesting beaches constitutes one such significant threat.

Second, it makes little conservation sense to compare threats such as direct mortality and loss of habitat. Mortality constitutes a somewhat reversible threat. Populations can recover, as they have done in La Escobilla (Marquez et al. 2002). However, loss of habitat is often permanent, and great caution (the basis of the Precautionary Principle) needs to be exercised when undertaking activities that could lead to the permanent loss of these nesting beaches. Hawk's suggestions and solutions focus only on threats and mortality due to fisheries which no doubt should be addressed. In fact, he downplays and trivializes the ports impacts, calling them "insignificant aspects of Dhamra Port construction on sea turtles, such as channel dredging effects." The issues of long term and perhaps permanent impacts such as erosion/shoreline changes on turtle nesting habitat (or the coastline in general) that the port can cause are ignored. Of course, this should have been addressed in the original Environment Impact Assessment (EIA). However, it is considered that the scientific and legal validity of the EIA and environment clearance for Dhamra port are highly questionable, given the change in scale and location of the project (Rodriguez & Sridhar). None of this is mentioned or addressed by Hawk or IUCN/MTSG.

Socio-political issues and recent conservation efforts: In the 1990s, the USA extended its domestic law requiring shrimp trawlers to use Turtle Excluder Devices, to all its trading partner countries. Following extensive protest and deliberation at the WTO (in which India was one of the complainants), the US position was upheld (Bache & Frazier 2006). In 1996, NOAA conducted a workshop in Orissa to promote the use of TEDs and a few years later, this was mandated through law in Orissa (Sridhar et al. 2005). However, few trawler owners were inclined to use it for a variety of reasons that have been detailed before (Shanker & Kutty 2005). As elsewhere, including the US, trawler owners protested that only one of the causes of turtle mortality was being targeted (Tucker et al. 1997). Ironically, Hawk's suggestion that one should ignore the threats of development and dredging as being "insignificant", while focusing on trawling justifies and mirrors the trawl owners complaints, i.e. that fishing is being restricted while other threats (development, pollution, etc.) are being encouraged or ignored.

A few years later, Operation Kachhapa began their conservation efforts, which included funding the Forest Department to hire a boat and patrol offshore waters, providing legal advice, and conducting education & outreach programmes (Shanker & Mohanty 1999). Over a few years, a large number of trawlers were apprehended,

and some were tried in a court of law (Wright & Mohanty 2006). The targeting of trawlers created a vitiated atmosphere, in which most fishermen perceived conservation as anti-people (Shanker & Kutty 2005). During this time, laws have been passed restricting fishing, and the issue has been taken up by other agencies such as WWF and Greenpeace. All of these agencies, together with the State, have worked towards enforcing no-fishing zones (in Gahirmatha and to a lesser extent, Devi River mouth), while some of them such as WWF did and continue to promote the use of TEDs. Large sums of money have been spent in the last decade on doing exactly the things that Mr. Hawk suggests. They may be good suggestions, but in practice, they have largely failed.

Recognising the impasse between fishing communities and turtle conservation, in 2004, local and national conservation organizations and individuals, community organisations, and fishworker support organisations came together under the umbrella of the Orissa Marine Conservation Consortium (www.omcc.org). This group has been attempting to promote the conservation of marine biodiversity, including turtles, along with the livelihoods of the poor artisanal fishermen. The laws are conducive to this as they mainly seek to prohibit mechanised fishing in nearshore waters, which is beneficial to turtles and traditional fishermen.

Despite all these efforts, thousands of turtles are still killed on the Orissa coast. What prevents the government from taking the apparently small amount of action required to protect turtles? Is it mere apathy as Hawk and many Indian conservationists suggest? Why have TEDs not been successfully implemented in so many parts of the developing world? How will the adoption of TEDs address the threats from coastal gill nets? Why has it been so hard to enforce the existing legislation on the use of TEDs? These issues are addressed elsewhere (Shanker & Kutty 2006; Bache & Frazier 2006).

It is instructive to examine how long it took a technologically advanced nation such as the US to implement the usage of TEDs. It took two decades in many places, while still being contested in some, and turtles continue to be killed in trawl nets, demonstrating that these problems are not easy to resolve. In developing nations such as India where resources are scarce, coastal livelihoods are risky and marginal and other priorities abound, the task becomes harder. In Orissa (and the rest of India), the lack of coordination between Forest and Fisheries Departments remains a significant obstacle. Additionally, the focus of fisheries and fisheries export departments remains on increasing yield rather than sustaining it, which bodes ill for both sea turtles and fisheries management. These are areas of bureaucratic, economical and political imperatives where conservation organizations have limited influence. Nevertheless, these issues remain on the radar for conservation organisations and individuals.

A little learning..... In summary, sea turtles have faced a variety of threats over the past four decades in Orissa. Most recently, incidental mortality in commercial fishery has posed the greatest direct threat to adult ridleys, while coastal development threatens to destroy most nesting habitat. In response, a variety of conservation measures have been instituted to address these threats, largely through top-down enforcement. In recent years, these efforts in Orissa have largely failed and in fact made the coast vulnerable to development related threats such as ports and related industry. Currently, there are 14 ports being developed/proposed along the Orissa coastline of 480

km, which is a port every 35 km, including ones at the other two important nesting sites near Devi and Rushikulya river mouths. Unfortunately, some conservationists as well as the administration have been using approaches that are isolated from the process of fisher organisation and empowerment, which has been taking place over the last three decades throughout the country.

Thus, we are likely best served by examining why past conservation measures have failed by critically analyzing them, rather than repeating these mistakes. One step forward is to analyse and acknowledge history. We work with and respect local opinions and communities, at every scale. We accept that social change is required and that it is necessarily slow in developing areas. Despite differences in philosophy, a number of local groups, conservationists and larger conservation organisations are in fact attempting to work together towards sea turtle conservation in Orissa, more than at any time in the last few decades. We recognize that conservation approaches need to be enshrined in participatory and consultative mechanisms which are inclusive of fishermen, particularly the traditional fisher sector, for any initiative to be effective. These ongoing attempts include:

- i. Promoting an effective fisheries management plan, which exists on paper as the marine fishing regulations, but needs to be operationalised and implemented effectively. This would include the necessary resources (financial and infrastructural) being made available consistently. Recent reports indicate a per capita decline in fish catch in Orissa's territorial waters. Implementing a fisheries management programme with allied conservation motives, would also benefit turtles significantly.
- ii. Addressing the issue of over-capacity while being sensitive to livelihood needs; additional and alternative income generation programmes need to be developed and implemented in partnership with traditional fisher communities and the mechanized fisheries sector.
- iii. Empowering traditional fisher communities to co-manage marine resources, on the premise that they have a greater stake than any conservationist group in the health of the ecosystem. Since these communities have been marginalised by the state, this needs a substantial development effort in terms of additional income and livelihood measures to offset the impacts of conservation restrictions.
- iv. Encouraging enforcement agencies to use science for fisheries and sea turtle management. For example, years of research have indicated that turtles congregate in small and specific offshore areas, but the management has failed to provide adequate protection to these offshore congregations.

Unfortunately, the IUCN and the MTSG have chosen to ignore this vast constituency, and done more to undermine ridley conservation than any good they may have done by saving a handful of turtles from a few port related threats such as lights and dredgers. This only demonstrates the importance of understanding history, and socio-political contexts, in order to be successful. With consultation and participatory decision making, not just with each other, but with local communities, conservation organisations (international ones in particular) can achieve a great deal more towards long term conservation. While MTSG and IUCN have failed on all these counts, it is still not too late. If the IUCN and MTSG try to understand the position of Indian conservationists and respect their

contribution, a truly consultative dialogue can lead to a collaboration that will reflect the spirit of the international symposium in India.

Epilogue: We are delighted to report that an arribada took place during 21-25 March 2009 at Gahirmatha, Orissa. As sea turtle biologists repeat *ad nauseum*, sea turtles are slow growing, late maturing, long-lived vertebrates, and impacts of current actions will only be seen in a decade or later. Thus, while the recent arribada should give hope that Gahirmatha is still an important nesting beach, it sends a stronger signal than ever that we should protect these beaches and habitats from development related threats.

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