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The Indian Ocean Turtle 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, Indian Ocean region, and south/southeast Asia. The newsletter also intends to cover related aspects such as coastal zone management, fisheries and marine biology.

The newsletter is distributed free of cost to a network of government and non-government organisations and individuals in the region. All articles are also freely available in PDF and HTML formats on the website. Readers can submit names and addresses of individuals, NGOs, research institutions, schools and colleges, etc for inclusion in the mailing list.

SUBMISSION OF MANUSCRIPTS

IOTN articles are peer reviewed by a member of the editorial board and a reviewer. In addition to invited and submitted articles, IOTN also publishes notes, letters and announcements. We also welcome casual notes, anecdotal accounts and snippets of information.

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Manuscripts should be submitted in standard word processor formats or saved as rich text format (RTF). Figures should not be embedded in the text; they may be stored in EXCEL, JPG, TIF or BMP formats. High resolution figures may be requested after acceptance of the article. In the text, citations should appear as: (Vijaya, 1982), (Silas *et al.*, 1985), (Kar & Bhaskar, 1982). References should be arranged chronologically, and multiple references may be separated by a semi colon. Please refer to IOTN issues or to the Guide to Authors on the website for formatting and style. Authors should provide complete contact information including an email address, phone and fax numbers.

Reference styles in list:

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Special Theme Section: The Dhamra Port debate – perspectives and lessons

The Dhamra Port development in Orissa, India, has been characterised by conflict. The tension exists not only between developers and environmental groups, but also among local and international environmental organisations and individual experts around differing approaches, processes, and uses of information. For more than a year, the issues surrounding the Dhamra Port development have sparked passionate and sometimes vehement discussion on email listservs and during the Marine Turtle Specialist Group (MTSG) meeting at the International Sea Turtle Society's annual symposium (January 2008, Loreto, Baja California, Mexico). Because of the concern among interested parties, and the importance of the issues as related to sea turtle conservation, the editors of the Marine Turtle Newsletter (MTN) and the Indian Ocean Turtle Newsletter (IOTN) are simultaneously publishing a variety of editorials and perspectives on this subject. This ensures that the discussion and arguments are documented in a published forum, and can reach a wider audience. Editors Matthew Godfrey (MTN) and Chloe Schauble (IOTN) sought contributions from an array of informed persons from all sides of the Dhamra debate. Kartik Shanker, Chloe's fellow IOTN Co-Editor, recused himself from an editorial role in relation to Dhamra-related contributions because he has been a player in the debate and wished to contribute a perspective piece himself.

The following people were invited to contribute: Nicolas Pilcher (MTSG Co-Chair), Holly Dublin (Chair, SSC-IUCN), Sanjay Choudhry (Corporate Communications, TATA Steel), Amlan Dutta (Dhamra Port Company Ltd), Janaki Lenin & Romulus Whitaker (conservationists in India), Ashish Fernandes & Sanjiv Gopal (Greenpeace India), the Orissa

Marine Resources Conservation Consortium, Aarthi Sridhar (Ashoka Trust for Research in Ecology and the Environment), Biswajit Mohanty & Belinda Wright (conservationists in India), Jack Frazier (Smithsonian Institution), Nicholas Mrosovsky (University of Toronto and former MTSG Co-Chair), and Kartik Shanker (Indian Institute of Science). We asked authors to keep each contribution under 1000 words of text; some were more diligent than others in meeting this request. We also asked Douglas Hykle (IOSEA) if we could reprint his editorial published earlier in 2008 on the IOSEA website. Hykle's editorial provides a good overview of a number of the issues, and it is followed by two letters: one that was jointly authored by a number of sea turtle conservationists/NGOs in India and sent to the IUCN, and the other that was written by the IUCN in response to the first letter. Other perspectives on the situation are provided by Mrosovsky and Shanker. Following this are three editorials written by sea turtle conservationists in India who have actively expressed concern about the Dhamra Port development: Lenin & Whitaker, Fernandes, and Rodriguez & Sridhar. Next are three editorials written by members of the MTSG, the IUCN/SSC and the Dhamra Port Company Ltd, on their positions: Pilcher, Dublin and Dutta. The theme section is brought to a close with an editorial by Frazier who tries to situate the Dhamra debate in a wider context. While we hope that this forum will shed some light on the larger issues surrounding the Dhamra Port development debate, we realise that simply highlighting the debate is only one step in the complex process of resolving conservation issues. Nevertheless, understanding the problems is a necessary first step towards finding solutions. We thank all authors for their time and effort in producing their editorials for this special theme section.

India's Dhamra Port controversy heats up again[#]

Douglas Hykle

*IOSEA Marine Turtle MoU Secretariat
c/o UNEP Regional Office for Asia and the Pacific
2nd Floor, United Nations Building, Rajdamnern Nok Avenue
Bangkok 10200, Thailand.
Email: iosea@un.org*

For as long as the IOSEA website has been tracking news headlines, marine turtles of the Indian state of Orissa have probably been featured more frequently than any other single issue over the past several years. More specifically, a search of the IOSEA archives for "Dhamra port" using the built-in search tool yields dozens of stories, dating back to 2004, about this controversial development project.

In brief, concern has been expressed that the project would create a major port facility, and result in ancillary industrial development, within 5 km of a national park and close to some of Orissa's world-renowned turtle nesting beaches.

Scientists concerned about the potential environmental impacts of the port development circulated a petition in January 2008 seeking a new, comprehensive environmental impact assessment; urging relocation of the proposed port to a less ecologically sensitive area; and calling for the IUCN Marine Turtle Specialist Group (MTSG) to reconsider its involvement in various mitigation aspects of the project. See IOSEA website feature of 20 January 2008: Petition calls for halt to deepwater port project in Orissa, India (http://www.ioseaturtles.org/feature_detail.php?id=227).

The controversy resurfaced in the last month with a renewed appeal by some to re-examine the MTSG's involvement in the project, raising questions about transparency and an apparent lack of consultation of Indian conservationists, including MTSG members. The various exchanges of view are reproduced below.

The two sides of this fascinating debate draw attention to a number of fundamental challenges facing the "sustainable development" paradigm.

On the one hand, legitimate concerns have been articulated about the potential ecological and

social impacts of this particular development within the context of wider industrial activity along the Orissa coast. On the other hand, the project presents an unusual opportunity to proactively engage industry in measures to mitigate the effects of development that is probably inevitable, sooner or later.

Leaving aside purely altruistic motivation, one might suggest that the developer's willingness to invest in mitigation stems from a vested *economic* interest in not harming the environment (i.e. thereby avoiding future punitive sanctions, fines etc). But, taking a more cynical view, even if the company's main aim was merely to deflect ongoing criticism, it could still be argued: Why not make the most of its "environmental sensitivity" to try to maximise the benefits for (or, rather, minimise the damage to) the environment, in the face of India's inexorable quest for economic prosperity.

Added to this already complex mixture is the human element, which is rarely lacking from any controversy in the real world of conservation, where organisations and individuals compete for scarce resources. Beyond the honourable stated aims of environmental protection and proactive engagement of industry, questions will always arise as to who is benefitting -- or not -- from a given relationship and in what way. The Dhamra port case is no different.

In the various interventions reproduced below, questions have been raised about the nature and legitimacy of the IUCN MTSG's association with the project; and of the actions of the developer in allegedly representing this relationship as a "green badge of approval" from a respected NGO. The report of an IUCN 'Scoping mission to the Dhamra Port project' (http://www.dhamraport.com/download/dhamraport_iucnreport.pdf) reveals an awareness and understanding of these particular sensitivities.

At the same time, it is open to speculation as to whether those opposing the development in its current form would have felt compelled to engage in this public dialogue -- and would have been quite as outspoken -- if they, likewise, had been offered a "seat at the table" early on in the process.

Human nature being what it is, there might be

too much water under the bridge to reconcile the various opposing interests, but it might not be too late to try. A truly representative Dhamra port stakeholders meeting and a well-constituted, transparently-operated environmental review panel might be a good starting point.

– Originally published online 25 Apr 2008 on www.iosea.org; reprinted with permission

Letter to IUCN from conservationists and NGOs in India

Ms. Julia Marton L efevre,
Director General,
IUCN
Rue Mauverney 28,
Gland, 1196
Switzerland

Ref: IUCN's involvement in the Dhamra Port Project, Orissa, India

May 7, 2008

Dear Ms. L efevre,

As members of the IUCN and MTSG in India we are deeply concerned by the process in which the IUCN and MTSG have become involved in a controversial mega-development project that is a mere 13 km from Gahirmatha, one of the most important nesting beaches of the olive ridley turtle and just 5 km away from the Ramsar site of Bhitarkanika National Park, an internationally critical wetland. Moreover, this area is used for traditional fishing and living spaces by some of the most marginalized peoples of India. In particular, we wish to register our protest at the manner in which we have been sidelined by the IUCN and MTSG leadership in undertaking this project.

Some of the more serious concerns are summarized in the following points:

1. It is widely accepted – even by MTSG - that the Environmental Impact Assessment for the project is woefully inadequate. Therefore, any attempt at mitigation can only be of limited scope.
2. The Dhamra Port is not a single entity; several associated industries such as a ship building yard, a steel plant, and a port-based

fertilizer plant are already being planned, and more are certain to appear in the near future. The cumulative environmental and social effects of all these industries have not been considered.

3. The issue of bilge water and invasive marine species, now recognized as an enormous environmental and economic threat at a global level, has also not been addressed.
4. Dhamra is only one of the sites where the Government of Orissa has planned or initiated construction of ports. There has been no serious engagement on the issue of unplanned coastal development and its consequences for marine biodiversity and marginalized coastal dwellers who depend directly on living marine resources.
5. No stakeholders' meeting on the Dharma Port project has ever been conducted by IUCN/MTSG. Both the Orissa Traditional Fishworkers' Union and the National Fishworkers' Forum (the apex body for the traditional fisher community) have voiced their opposition to the port in the national press and to the IUCN through Orissa Marine Resources Conservation Consortium (OMRCC). Numerous Indian NGOs working in this area have also not been consulted.
6. There has been virtually no consultation or even basic information sharing between IUCN – particularly MTSG leadership – and national members, many of whom have been grappling with the problem long before the IUCN became involved. This squanders considerable local expertise, besides sidelining local members. Several members of the MTSG have not only signed the petition that opposes the port, some have written thoughtful letters of concern, and the Regional Chairman of the MTSG has resigned.

7. Despite being a non-advocacy group, the wholehearted support of the Port in public fora casts aspersions on the credibility and neutrality of the IUCN and MTSG engagement in this project. <http://lists.ufl.edu/cgi-in/wa?A2=ind0803&L=cturtle&T=0&P=12430>. The Dhamra Port Company Limited (DPCL) is using this purported support of the IUCN to claim that environmental impacts have been adequately addressed and mitigated. This, in particular, has undermined all other initiatives of local organizations, some of whom are IUCN members, against the port.

Given these grave problems that threaten the future of critical protected areas, the credibility of the IUCN in India and the livelihoods of tens of thousands of marginalized peoples, we call upon the IUCN to:

1. Issue a statement that the IUCN abides by the precautionary principle and therefore does not support the construction of the Port in principle. Clarify, in this statement, that any advice that they provide could only mitigate some of the threats to marine biodiversity, endangered species, and local livelihoods and even then, only partially.
2. Insist that the DPCL conduct an EIA to compile baseline ecological data, assess the impact on sea turtle movement, recruitment and nesting beaches, and the effects on Bhitarkanika National Park and Gahirmatha Marine Sanctuary.
3. Urge the Government of Orissa to reconsider the unrestricted coastal development plan and to seriously integrate environmental concerns and mitigation into their planning.
4. Actively consult and engage with its membership, many of whom have long years of experience working in this geographical area, who speak the local languages, and who understand the complex socio-cultural-political realities of the situation. Also include representatives from local artisanal fishing organizations, NGOs and other relevant organizations in these consultations.

We look forward to hearing from you.

Please reply to:

Belinda Wright
Executive Director, Wildlife Protection Society of India (WPSI)
S-25 Panchsheel Park, New Delhi 110017, India

E-mail: belinda@wpsi-india.org

Yours sincerely,

Harry Andrews, MTSG-India member
daiharry@hotmail.com
B.C. Choudhury, MTSG-India member
binodlily@yahoo.co.in
Kartik Shanker, MTSG-India member
kshanker@ces.iisc.ernet.in
Wesley Sunderraj, MTSG-India member
wesley.s@rediffmail.com
Basudev Tripathy, MTSG-India member
tripathyb@yahoo.co.uk
Rom Whitaker, MTSG-India member
kingcobra@gmail.com

Bombay Natural History Society (BNHS), IUCN member and IUCN Indian National Committee member, bnhs@bom3.vsnl.net.in

Foundation for Ecological Security, IUCN member and IUCN Indian National Committee member, jagdeesh@fes.org.in

Gujarat Institute of Desert Ecology, IUCN member and IUCN Indian National Committee member, vijay196129@gmail.com
desert_ecology@yahoo.com

Indian National Trust for Art & Cultural Heritage (INTACH), IUCN member and IUCN Indian National Committee member, intach.ssd@gmail.com

Salim Ali Centre for Ornithology & Natural History (SACON), IUCN member and IUCN Indian National Committee member, florikin@gmail.com

Wildlife Protection Society of India (WPSI), IUCN member and IUCN Indian National Committee member, belinda@wpsi-india.org

Response from IUCN: Dhamra Port project: the role of the International Union for Conservation of Nature

The Dhamra Port Company Limited (DPCL) in Orissa, India, has requested the advice of the International Union for Conservation of Nature (IUCN) to mitigate the impact of the port's development on the Olive Ridley Turtles. In fulfilling that role, IUCN has been receiving enquiries and questions about its overall involvement in the project. This brief clarifies the nature and extent of IUCN's role.

The Dhamra Port project was conceived several years ago and project development is in progress following Indian government approval. The project is located in close proximity to turtle conservation areas. The potential impact of the project on the turtles has been a matter of concern to environmental organizations, and thus a subject of extensive debate. In 2006, after the project had been approved and development was underway, DPCL invited IUCN to advise on addressing the potential impacts of the project on turtles. IUCN carried out a scoping mission in November – December 2006 that led to our current engagement involving mobilization of IUCN scientific expertise to provide the requisite advice. All along, IUCN has been guided by the advice of the scientists in the Marine Turtle Specialist Group (MTSG) of the Species Survival Commission. The scientists have visited Dhamra on two different technical missions – a dredging mission in December 2007 and a lighting mission in March 2008. The reports of both these missions can be viewed on the IUCN Asia Regional Office website at: <http://cms.iucn.org/about/union/secretariat/offices/asia/index.cfm>.

At the time of IUCN's first involvement, the decision to develop the port had already been taken and work was already underway. IUCN was assigned the role to influence the course of the development. Over the past two years of our engagement, and as a result of it, DPCL has worked towards carrying out turtle-sensitive dredging including putting in place turtle deflectors, fitting screens in inflow pipes, and developing an observer programme. The engineers and DPCL's contractors are currently designing turtle-sensitive lighting systems. In pursuance of a holistic solution for turtle

conservation in Orissa, IUCN is liaising with the Government of Orissa to propose a lighting ordinance which would address lighting at a greater geographical scale than in Dhamra alone. The IUCN team is also designing programmes to generate awareness amongst local communities, especially children, about the turtles and the need to conserve them; and is working with fishermen to encourage them to use turtle excluder devices (TED) to reduce the incidence of bycatch.

IUCN's decision to get involved in the Dhamra port project was guided by its Mission to influence, encourage and assist societies for the conservation and sustainable use of nature. In engaging with business, IUCN seeks to conserve fragile and unique ecosystems and mitigate the negative environmental impacts of developments. In the DPCL case, IUCN has been fulfilling and continues to fulfil its Mission and role by providing assistance with mitigation of the impact of port development activities, such as dredging and lighting, on marine turtles. In addition to this, IUCN is encouraging DPCL to develop a comprehensive environmental management plan that would address the broader issues of environment. More details on IUCN's support to DPCL are available at: <http://cms.iucn.org/about/union/secretariat/offices/asia/index.cfm>.

It is important to remember that IUCN is not a regulatory organization and does not have a mandate to adjudicate in cases such as this: rather, it provides independent scientific advice when called on to do so. Any such involvement is neither intended nor should be construed as approving or disapproving a particular development but rather as a means to help those making decisions with respect to the conservation of nature. IUCN hopes that its work with DPCL will generate useful tools and examples around mainstreaming biodiversity conservation in major economic development projects, and that lessons from the Dhamra port experiences will benefit the planning and development of other ports in the country, notably in terms of the importance of comprehensive planning, early stakeholders' engagement, and timely access to scientific advice.

Gland 04 June, 2008

Continuing controversy over ridleys in Orissa: cui bono?

Nicholas Mrosovsky

*Department of Ecology and Evolutionary Biology, University of Toronto,
25 Harbord St. Toronto, Ontario CANADA M5S 3G5.
Email: nicholas.mrosovsky@utoronto.ca*

Sea turtles in India have featured in the Marine Turtle Newsletter (MTN) on a number of occasions (e.g., MTN # 23, 25, 31, 61, 63 suppl, 64) – and rightly so because India hosts major aggregations of turtles, especially olive ridleys. The present debate over the construction of a port at Dhamra and other ports along the Orissa coast is part of long-standing controversy about turtles in this region.

More than 25 years ago, in 1982, the MTN (# 23) launched a letter-writing campaign about the extensive but uncontrolled and unmonitored killing of ridleys. Numerous letters were sent, signatures added to petitions, and the matter mentioned in some influential newspapers. Are such campaigns effective?

Certainly, awareness of the importance of India for olive ridleys was heightened. The head of Wildlife Preservation, Department of Environment, India, told me that the letters had strengthened their hand (Mrosovsky, 1983). And Mohanty-Hejmadi (2000) considered that the letter writing to the then Prime Minister, Indira Gandhi, was among the factors resulting in better protection at the main nesting beach at Gahirmatha. But matters were not thoroughly resolved and a new problem arose, namely the proposal to build a large jetty and facility for fishing boats, only about 10 km from Gahirmatha.

In 1993, stimulated by Harry Andrews (1993), a second alert and round of letters was initiated by the MTN, then under the editorship of Karen and Scott Eckert (1993). For various bureaucratic and financial reasons the issue appeared to die down, only to resurface at the present, with construction of a port already underway and calls by Greenpeace to sign a petition and dissension within the IUCN Marine Turtle Specialist Group (MTSG).

It would seem that opponents of the port are losing because construction has already started.

How did this come about? Part of the reason, perhaps, is that no convincing alternatives have been advanced. And this in turn may result from disagreement or inadequate formulation as to the why of conservation. Why is it desirable and important to look after this population of ridleys? Who benefits? As so often the case, there are underlying clashes between preservationist and sustainable use approaches to conservation.

The calls for action in the earlier MTN-promoted appeals were not in fact based on either of these philosophies. They were aimed primarily at alerting the conservation community and the public in general that events were unfolding which might have major impacts on what was thought then to be the largest aggregation of olive ridleys in the world. Other than expressing concern to the Indian authorities, what might be the best course of action was not advocated. However, neither of these early appeals argued against consumptive use as a component of a conservation strategy (Mrosovsky *et al.*, 1982; Mrosovsky, 1993). How does this possibility look today?

Consider the following points:

1. After a petition against the Endangered status of olive ridleys on the IUCN Red Lists, this species has been downlisted from Endangered to Vulnerable.
2. At large arribadas, it is common for nesters to dig up and destroy eggs laid earlier by other females. On occasion, 70% of the eggs are destroyed in this way (Mohanty-Hejmadi & Sahoo, 1994). The figure varies considerably and depends on how soon one arribada follows another. When Cornelius *et al.* (1991; see also Cornelius, 1986) made their studies in Costa Rica, it was estimated that typically at Nancite about 17% of the eggs in an arribada were dug up by turtles nesting subsequently. This is a huge loss and suggests that carrying capacity is being approached.

3. Cornelius *et al.* (1991) pointed out that removal of some of the nests might result in higher hatch rates and greater recruitment. Douglas Robinson was interested in testing this possibility, and preliminary experiments were initiated. In 1983, at Ostional, he showed me two corrals intended to control nest density. One appeared unfinished, and the other seemed in disrepair, having proved insufficiently strong to prevent unwanted turtles from joining the experiment. I do not know if this experiment was continued and am unaware of any published results.

4. Despite lack of proof, the idea of density-dependent limits on recruitment was appealing, and persisted (e.g., Pritchard, 1984; Mehta *et al.*, 2000). Recently, Honarvar *et al.* (2008) have obtained experimental evidence that crowded nests do worse: % hatch at Nancite was compared among plots of 9, 5 and 2 nests/m². The key points were that at densities of 5/m², 5 nests produced about the same number, or slightly more hatchlings than did 9 nests at densities of 9/m² (Table 1). And 2 clutches at densities of 2/m² produced more than half the number of hatchlings as 5 or 9 nests at densities of 5 and 9/m² respectively.

Table 1. Hatch as a function of density of clutches, all of 70 eggs (data from Honarvar *et al.* 2008).

Nests /m ²	Hatch %	Hatchlings per clutch	Hatchlings per plot
2	71.6	50.1	100.2
5	55.9	39.1	195.5
9	29.5	20.7	185.9

So, for example, if 5 clutches were moved from 9/m² to 5/m² density areas, 195.5 hatchlings should be available plus 4 X 70 = 280 eggs from the remaining 4 clutches. The latter could be used for subsistence, commerce with some of the proceeds going toward conservation, or to augment recruitment. For example, if these 280 eggs were incubated at densities of 9 clutches/m², they could be expected to produce 82.8 hatchlings. If they were incubated at densities of only 2/m², they could be expected to produce 200.4 hatchlings.

Such calculations should not be taken too literally or applied mindlessly to other beaches.

Not all arribada beaches have nest densities as great as those formerly at Nancite. The study there focused on nest density *per se*. Of course, predators and destruction of nests by other turtles come into the equation. In Costa Rica, the % of nests dug up by other turtles is related to arribada size (Alvarado, 1990; Cornelius *et al.* (1991). And in India it has been noted that at Rushikulya, a beach with relatively sparse nesting, the hatch rates are much higher than those at the more densely packed Gahirmatha beach (Pandav, 2001). Also, if eggs are not taken for consumption or to other beaches, the availability of suitable low density areas to which to transplant thinned out clutches is important. But the present quantitative considerations do illustrate the potentially large benefits that might be obtainable by reducing nest density.

5. The existence of solitary nesters with fertile eggs suggests that aggregation in large groups is not a necessary stimulant for reproduction. An Allee effect, if it occurs, would not appear to be threateningly strong (see also Hays, 2004).

6. At Ostional, despite imperfections of the program there, limited harvest of eggs has not apparently devastated the nesting population (Ballesterro *et al.*, 2000; Chaves, 2004; Cornelius *et al.*, 2007).

The biological points above should be considered in the context of the degree of poverty and malnutrition in parts of India and a legitimate desire there to modernize, industrialize, and increase the standard of living. It is not as if the olive ridley is now thought to be a species on the very brink of extinction. Moreover, there is a good chance that recruitment might actually be increased by a careful thinning out of nests. Why not try it? Treat it as an experiment. If there are problems, the trial can be discontinued. There are an increasing number of examples of sea turtles recovering from low numbers (Balazs & Chaloupka, 2004; Broderick *et al.*, 2006; Marcovaldi *et al.*, 2007; Márquez *et al.*, 2005).

Essentially, these suggestions are a version of the more general conservation strategy of identifying causes of natural mortality (one of which in this case is density-dependent destruction of eggs) and taking some of these otherwise doomed eggs for consumption but leaving others to augment recruitment (Mrosovsky, 2001). As Cornelius *et*

al. (1991) put it, “The basic objective should be to use nests that have a low expectation of success”. Both cash and subsistence use were proposed, but conservation would nevertheless be likely to be enhanced because of increased recruitment from nests left in situ.

It is not argued that the harvesting arrangements at Ostional should be copied in detail elsewhere. Sociological as well as biological conditions vary at different areas (Campbell, 2007). Regionally appropriate systems are needed. But it is argued that the biology of large arribadas allows for, even begs for, some take and that had the interests of fishermen and villagers in Orissa been more actively promoted, there might have been, and now be, a constituency of local people benefiting from a legal turtle harvest, and by that token with greater power as stakeholders to influence the course of events. It is not implied that this would be enough to overpower mighty steel companies, or stop major trends promoting

industrialization as a way forward for India. But it might have given the turtles a stronger representation at the negotiating table.

There is a need for the turtle conservation community – especially the MTSG - not to cling to positions adopted in different circumstances, but to evolve. If human population increase and environmental degradation do, as many fear, lead to major food shortages, flooding and other catastrophic events, preservation of biodiversity may be lower in the list of priorities than it is today. Species whose eggs provide protein, in a sustainable way, nearly every year, may be more highly valued – not just by tourists and turtle biologists but by people most in contact with the animals and their habitat. This will be more likely if they have tangible and dignified incentives to assist in enforcement and other aspects of conservation. As Webb and Vardon (1996) emphasized, the essentials are simple. People conserve what they value.

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My way or the highway!!! Where corporations and conservationists meet

Kartik Shanker

*Centre for Ecological Sciences
Indian Institute of Science, Bangalore, India &
Coastal and Marine Programme, Ashoka Trust for Research in Ecology and the Environment
(ATREE), Bangalore, India.
Email: kshanker@ces.iisc.ernet.in*

I would like to make clear at the outset that this is a personal account. I have been involved with sea turtles in India for two decades and in Orissa for nearly ten years. Here, I present my experience and observations of the debate over the construction of the port at Dhamra, and IUCN's involvement with the project.

Olive ridley turtles nest en masse at several beaches in Orissa, mainly Gahirmatha, Rushikulya and Devi River Mouth (Bustard, 1976; Shanker *et al.*, 2003). As much as fishery related mortality has hogged the headlines on turtle conservation, it is far from being the only threat, and conservationists have had to deal with a variety of other problems, particularly development (Pandav, 2000; Sekhsaria, 2004a, b; Shanker *et al.*, 2003, Shanker & Kutty, 2004). Starting with a missile testing range, followed by fishing ports, ridleys in Gahirmatha have been threatened by development since the 1970s and 1980s (Das, 1986; Das, 1997). There have been several appeals and articles published in the Marine Turtle Newsletter (Mrosovsky, 1983a b), several letters written to various authorities, and resolutions passed during this time (Anon., 2000). Some of these plans have been thwarted, others temporarily averted, and some have been completed, resulting in impacts to coastal habitats and sea turtles.

During the last three decades, the nesting population at Gahirmatha has been alternately and sometimes simultaneously referred to as the 'world's largest' (from Bustard, 1976 to Patnaik *et al.*, 2001) and as 'highly endangered' (from Davis & Bedi, 1978 to Patnaik *et al.*, 2001). Other commentators have warned of the danger of creating hype (Frazier, 1980 to Mrosovsky, 2001) and the negative impacts of conservation rhetoric in Orissa (Shanker & Kutty, 2004). Well, the turtles are still here. So are the threats, the conservationists, and remarkably, so are the same arguments. Despite the vastly different

policy and development environment, has nothing changed for the turtles?

A brief history of the port at Dhamra

The Dhamra Port has been in the pipeline for over a decade now. Clearance to build a port was granted in 1997 taking advantage of an amendment to the Coastal Zone Regulation (CRZ) Notification that allowed the expansion of minor ports (Dhamra is a notified minor port) with clearance from the Ministry of Surface Transport rather than the Ministry of Environment and Forests (MoEF). The power to clear such projects has since returned to the MoEF. The port was to be built by International Seaports (India) Private Limited under an agreement with the Government of Orissa. At that stage, International Seaports (India) comprised Larson and Toubro (L&T) and two other companies (Manoj, 2004). The Environment Impact Assessment Report prepared for this project was critiqued by some of us at the Wildlife Institute of India. Resolutions were passed at the Annual International Symposium on Sea Turtle Biology and Conservation (in 2000) against the port development project and these were submitted to the state and central Governments (Anon., 2000). It is debatable whether these had any impact, but the plans for the port construction by that particular consortium are believed to have been shelved due to economic reasons.

Even a few years ago, it was becoming clear that this was only one of several coastal development projects to worry about. The Orissa government had signed more than forty MOUs with companies to establish steel plants as part of the state's development plan (Hegde, 2005; Rao, 2006). As part of this, they had planned 3 – 4 major ports along the coast, which could affect all the mass nesting beaches in the state, including one near the Devi River mouth mass

nesting beach to be built by POSCO, the Korean Steel company, along with a 12 million tonne steel plant (Hegde, 2005; Handique, 2007); there have been local protests surrounding the construction of this port, mainly over acquisition of land (Anon., 2008a).

Tata tries to get advice from conservationists

In 2004, Tata steel and L&T agreed to develop the port as a 50:50 joint venture through the Dhamra Port Company Limited (DPCL) (Manoj 2004). Tata Steel is a part of the Tata Group, a multinational company which works in several different sectors and companies (www.tata.com). According to the website, the DPCL was awarded a concession by the Orissa Government to build the port; it is supposed to be the deepest port in India and close to the mineral belts in nearby states (www.dhamraport.com). Although the characteristics of their port proposal vary from that of International Seaports Limited, the environmental clearance granted to the earlier proposal was used. The opposition to this port from the angle of the impacts to sea turtles picked up again about 2 years ago, with Greenpeace being its most outspoken critic. Based on interactions with some conservationists and media reports, representatives of Tata & DPCL then contacted several sea turtle biologists around the country and requested that we conduct studies (offshore distribution studies of olive ridley turtles with satellite telemetry) to see if sea turtles would indeed be adversely affected by the port. Additionally, Tata (unlike the government and other corporations) seemed willing to share many details about the port development project, the rationale for the selection of the site, as well as other sites along the coast.

Some of us (a group of turtle biologists and conservationists representing academic institutions and NGOs) attended a meeting in Mumbai with Tata Steel to discuss the port project in April 2006. Tata & DPCL expressed their keenness to initiate studies but did not agree that they would halt port construction. They stated that they would be willing to take required measures to mitigate impacts, and would not rule out abandoning the project at a later stage if studies showed impacts on sea turtles. At that time, however, they were only interested in asking whether sea turtles were present in the offshore waters of the port development site

(which is some 15 km north of Gahirmatha) or not.

I advised them that any study should be collaborative and consultative and involve multiple stakeholders, otherwise the results would not be accepted by different interest groups. I also offered to conduct or help conduct these studies, but only if it had the endorsement of local conservation groups and other non-government organizations (NGOs). However, since neither the company nor conservationists held a consultation on this issue, there was never an opportunity to share perspectives and to try to arrive at a consensus of any sort. The Coastal Programme at ATREE had also made it clear that we were not interested in conducting a study with too narrow a scope that only sought to ask whether turtles were present in those waters or not. We tried to emphasize to both conservationists and the company that we should ask a larger question on whether the port would negatively impact sea turtles and their habitats in the region. We were willing to engage with this proposal, but through a consortium of NGOs and individuals. Since this situation did not emerge, the Coastal Programme and I decided not to get involved in any study at that point.

The corporation conservationist standoff

In 2006, a grant was received by the WWF India, but then returned when other NGOs protested about the narrow terms of reference of the study. Subsequently, the Bombay Natural History Society agreed to coordinate the project but also retracted when petitioned by their members and other NGOs. In every interaction with Tata & DPCL, and with individuals and organisations wanting to work with the port, NGOs demanded that Tata/DPCL stop construction until studies were completed. They pointed out that if construction were to continue, the company would eventually claim that there had been too much investment to stop even if studies were to show negative impacts on turtles.

In an ideal world, this would indeed have been the appropriate sequence. The NGOs also assumed that the studies would have unequivocal results. However, considering that requisite clearances were already obtained by Tata and they insisted on carrying on with the construction, perhaps conservationists should have continued to work together to engage with

the company on various issues. These NGOs also insisted that any attempt to work with the corporation would ‘greenwash’ the port and have long-term negative consequences for sea turtles, usually dramatically stating that it would lead to the extinction of olive ridleys from Orissa. I campaigned unsuccessfully with the NGOs that we should engage with Tata in participation and consultation with local conservation organisations.

The corporation conservationist deal

Tata/DPCL began a dialogue with IUCN, who in turn approached their specialist group, the Marine Turtle Specialist Group (MTSG), in 2006 (recorded in a series of emails from the Co-Chairs to me). At this time, I served as the Regional Co-Chair of the MTSG, but at no time was I (or any of the other members in India) formally consulted by the IUCN or MTSG Co-Chairs. Asked for an informal opinion by the Co-Chairs over email, I suggested that IUCN not get involved in this project “without a consensus from local partners and groups.” I did not believe then and do not believe now that the entry of an international NGO and outside consultants unequivocally helps the cause of marine turtle conservation, especially when developed in a manner that was not transparent and excluded local partners. On several occasions, the MTSG membership in India was assured that if and when the IUCN and MTSG did get involved, we would be given full information and asked for our advice and opinion. Several points at which local members could have been involved, but were not, include:

- a) the first scoping mission to Dhamra by the MTSG and IUCN
- b) advice on involvement in the project
- c) reviewing the project document and terms of the contract between IUCN and Tata/DPCL
- d) taking a decision on what (if anything) should be done in the best interests of marine turtle conservation with regard to engaging the Tata/DPCL

Throughout this period, IUCN insisted that they were being advised and supported by the MTSG. However, the MTSG members who were aware of the situation in India opposed the involvement of IUCN in this project (see letter from R. Whitaker, B. Tripathy and B. Pandav; 25 March 2008; posted on CTURTLE 27 March). IUCN

presented the project to their membership in India in August, 2007. WWF India and Wildlife Protection Society of India protested strongly, while other members raised concerns; though these concerns were noted, IUCN signed the contract with DPCL in November 2007. Members also raised concerns and protested IUCN's involvement at a meeting in February 2008, but were construed as a minority (Belinda Wright, pers. comm.). It is not clear if even a single member was strongly in favour of this engagement. IUCN also ignored the protests of many conservation NGOs that were completely against their involvement with Tata and DPCL (Anon. 2008b). Finally, several members of IUCN in India and most MTSG members sent a joint letter to IUCN on 7 May 2008, outlining these issues (see earlier in this IOTN issue). IUCN has since responded, clarifying their position and role (see earlier in this IOTN issue).

Where conservationists mirror corporations

The role of large international NGOs in conservation has been questioned in recent years (see Chapin 2004; Dowie, 2005; Frazier, 2005). Greenpeace, WWF and IUCN are all large international NGOs. Tata is a large multinational corporation. Generally, corporations are self-perpetuating by definition, conservationists are self-righteous in their rhetoric. But are they fundamentally different; specifically, did they act differently with regard to sea turtle conservation in Orissa?

In the first round, both the corporation and the NGOs largely stuck to their agendas. Tata and DPCL refused to acknowledge problems with the EIA and clearly intended to proceed with port construction while exploring mitigation strategies, rather than re-examine the port project itself. The NGOs and individuals against the port did not consider the very real prospect that some number of ports would be built on the Orissa coast with no environmental safeguards for turtles or for conservation. Tata's willingness to accept some environmental safeguards may have been (and still be) an opportunity to mainstream some of these as regulations in port and coastal development. In the long term, this may have net positive impacts for the coast and marine turtles.

Both conservationists and corporations were remarkably similar in their singular approach to meet their mandates. If anyone, the corporation

seemed more ready to negotiate. In their obsession with marine turtles, the big conservation NGOs largely ignored a range of other issues such as impact on social development, environmental consequences of social change, fisheries, introduction of invasives through bilge water disposal, etc. Thus, if studies were indeed to show that sea turtles were not found in the port area, or would not be adversely affected, all opposition to the port project would collapse. Also, if the port does get built, and sea turtle populations do not decline, the current positions taken by groups such as Greenpeace would seem alarmist in the extreme, leading to loss of credibility, as has happened before (Davis & Bedi, 1978; Frazier, 1980).

Thus, it would seem that IUCN's involvement was seeking this important middle ground. However, securing the contract, they largely left aside many principles that they claim to abide by, namely the precautionary principle, transparency and democracy. For many of us, the main objection is not that IUCN or MTSG engaged with a company, but that the process was not transparent and in many ways, insulting to the entire local membership.

The middle road

Large conservation organisations and corporations do seem to have much in common, particularly their 'my way or the highway approach' to addressing a problem. If there is at all a middle ground for sea turtle conservation in Orissa, I have the following suggestions to move forward in our search for it:

a) Tata is, *relatively speaking*, an environment-friendly company and my interactions with them were very positive. We must allow for a diversity of approaches, and if some groups can work with companies to mitigate impacts, we must allow them to do so. Of course, others have the same freedom to be critical of such collaborations and resulting studies.

b) The port at Dhamra may not even be the

biggest problem in Orissa for marine turtles. The state government is believed to be planning 4-6 ports, and other major constructions (POSCO at Jatadhar) and expansions (Paradip port) are already in the pipeline. We need to be working to counter the large scale uncontrolled economic growth model – that places little or no importance on negative environmental and social impacts – that the government is proposing, not addressing each issue piecemeal.

c) If large international membership based organisations like IUCN truly value the opinion and expertise of their members, they must learn to consult them in an active and transparent manner, and to base actions on their inputs rather than on whatever other agendas may drive these NGOs.

In concluding, I have three observations to emphasize and one question to pose. Conservation in Orissa has been driven more by rhetoric than action. Conservationist organisations have a lot more in common with corporations than they would like to believe, particularly in the way that they like to use information selectively. And large international conservation organisations also have much in common with corporations (Frazier, 2005), especially in the way they function and make decisions. If nothing has indeed changed in the thirty odd years of sea turtle conservation in Orissa, could it possibly be because all the players (the state, conservationists, corporations, academics, fishers) intentionally or institutionally continue to pursue agendas and strategies that are geared to helping mainly themselves regardless of whether it helps sea turtles in the long run or not?

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Membership Excluder Devices

Janaki Lenin & Romulus Whitaker

P.O. Box 21 Chengalpattu 603001 India.

Email: janaki@gmail.com; serpentcatcher@yahoo.com

Evidently, some time in late 2006, the IUCN signed an agreement with the Dhamra Port Company Ltd (DPCL) toward “developing a sound environmental management plan for development and operation of the Dharma Port.” (http://cms.iucn.org/about/union/secretariat/offices/asia/asia_where_work/india_programme_office/dhamra_port/index.cfm), but exact details of the agreement do not appear to have been made public. It seems IUCN sought specialist assistance from the Species Survival Commission (SSC) Marine Turtle Specialist Group (MTSG), through its voluntary Co-Chairs, Roderick Mast (Conservation International) and Nicolas Pilcher (Marine Research Foundation). Mast and Pilcher, in turn seem to have concluded that Pilcher should represent the MTSG in this matter. Pilcher, seemingly with the support of Mast, undertook investigations and made various recommendations in the name of the MTSG and IUCN.

There are several contentious issues arising out of IUCN and MTSG’s involvement in this project. Of concern here, several IUCN and MTSG members, particularly those from India, are troubled by the lack of transparency in IUCN and MTSG involvement. The SSC has provided guidance on these matters through their ‘Terms of Reference for SG [Specialist Group] and TF [Task Force] Chairs 2005-2008’ and ‘Guidelines and Advice for SG and TF Chairs 2005-2008’ (available here: http://www.iucn.org/about/work/programmes/species/about_ssc/governance/index.cfm). We endeavour to analyze if the process of involvement followed these terms and guidelines.

Information exchange

The SSC rightly prioritizes “*Communication and networking*” as “*a crucial role of SG and TF Chairs, as the establishment of effective communication is essential to the functioning of any SG/TF.*” Added specifically to this direction is the provision of “*Up-to-date information on*

the most important threats to biodiversity and the actions being taken to mitigate these threats”.

In an important and controversial case such as the Dhamra Port facility, even basic information on the involvement of IUCN and the MTSG, such as the agreement between DPCL and IUCN was not provided to members. Meetings between MTSG leadership and Indian members were never convened, and Indian members have been sidelined.

A lively discussion of the Dhamra project dominated the Annual Meeting of the MTSG held at the 28th International Sea Turtle Symposium in January 2008, but no minutes of what transpired have been circulated, even to members.

Consultation

The SSC advises the SG Chairs to: “*Make interventions on technical issues in the name of the Group, ensuring adequate consultation within the Group prior to making such interventions,*” and “*Where such issues are **potentially controversial**, wide consultation and review within Groups, as well as consultation with the Species Programme staff and the Office of the Chair, is expected.*” Recognizing the voluntary nature of the efforts made by SG members, the SSC sees one benefit of consultation being: “*An ability to influence policy and decision making within the group, the SSC and ultimately the IUCN through the World Conservation Congress*”.

The MTSG Co-Chairs insist that consultations about MTSG involvement with DPCL occurred, specifically involving Indian MTSG members B.C. Choudhury, Bivash Pandav and Kartik Shanker. But these people state that there has been no consultation. The MTSG leadership says that no minutes of these consultations were recorded, and to prove their claim of consultation, an email dated 29 August 2006, from Kartik Shanker, the then Regional Chair,

was referred to. But this message merely provided background information on the Dhamra issue to the Co-Chairs. According to Pilcher, B.C. Choudhury and Bivash Pandav did not respond to emails, so it is unclear how that constitutes consultation. It does not appear that MTSG members outside India were consulted at all. The case for broader consultation and involvement with local MTSG members, which arguably did not happen in this case, is considered fundamental to the ability of the MTSG and any other SSC-Specialist Group to function effectively. After all, specialists who speak the local languages, live and work within the socio-political system, and have dedicated decades of their lives to conservation should have something useful to contribute. On the other hand, the absence of any local participation jeopardizes the long-term sustainability of the project.

Conflict of interest

The SSC advise that *“Chairs should transparently reveal their own conflicts, but they need not exclude themselves from discussion or relinquish their leadership role.”* With regard to ‘Managing Money’ the SSC is more specific, *“Implementing conservation action should largely remain the domain of individual SG members or groupings of members. The SG Chair and other SG officers play an important role in supporting their members but not in the implementation of projects or programmes, per se.”*

Using one’s knowledge and expertise to further the cause of conservation of biodiversity is not an unethical way of earning a living. However, using the credibility of the combined membership of the MTSG to raise funds for one’s own organization or personal benefit constitutes conflict of interest. In this case, there has been talk of money changing hands for consultant’s fees with DPCL. By what criteria then did an overseas Co-Chair and his organization get the job? Who gets paid? What are the terms of engagement? How is such a consultancy handled within the framework of the IUCN? When these questions were understandably raised with the broader MTSG membership, on an e-mail discussion list, no clear and transparent answers were forthcoming, suggesting the process undertaken by the MTSG Chairs was not consistent with the SSC

guidelines. Indeed, the MTSG Regional Chair for India (Kartik Shanker) resigned over what he considered a failure to observe due diligence on behalf of the MTSG Chairs.

Dispute mediation

The SSC Guidelines recognize that disputes between Specialist Group members will occur from time to time, and suggests SG chairs should remain impartial, transparent, be trusted, respected and thus able to exert authority.

In this case, the MTSG Co-Chairs have initiated a process, in the name of the MTSG, that has unquestionably caused a dispute between MTSG members and the Co-Chairs. The lack of transparency in the process and the leadership’s vested interest in the project has eroded confidence that members need to have in the Co-Chairs, making it improbable that they would be able to mediate disputes. It is difficult to see how this dispute can be resolved amicably within the MTSG, unless the SSC and/or the affected members of the MTSG and the Co-Chairs appoint an independent arbiter. There has been some casual discussion between the Co-Chairs and three of the Indian MTSG members about a possible meeting in Bhubaneswar, India, around September 2008, but four other Indian MTSG members have not been included in the exchange of emails.

Discussion

Specialist Group members provide the SSC and IUCN with unique human resources; people skilled in the technical challenges of conserving plants and animals, people familiar with the different national contexts in which conservation needs to be pursued, and people so committed to the IUCN and its conservation goals that they are prepared to volunteer their efforts. All they expect in return is to be treated with professional respect and be included in the processes of advancing conservation, particularly within their own countries.

For the Indian MTSG members, who have long been significant contributors to the MTSG, and who have been active in fostering sea turtle conservation within India for decades, their marginalization is inexplicable. One can only imagine the response that would occur in other countries, if Indian MTSG consultants were

engaged to solve such a controversial development problem, without engaging local MTSG members from the country involved. Attempts by the Indian MTSG members to obtain clear and transparent explanations about the MTSG involvement in the Dhamra project

have been met with elusive responses, couched in derogatory terms, which has further aggravated the situation and added to the frustration. Hence our attempt to explain the situation, as we see it.

IUCN–Tata partnership – undermining conservation

Ashish Fernandes

Oceans Campaign, Greenpeace India, Bangalore, India.

Email: ashish.fernandes@in.greenpeace.org

A handful of mass nesting locations remain worldwide for the olive ridley turtle. Gahirmatha is one of the largest. Already threatened by trawling, the last thing the turtles need is a mega port less than 15 km from their mass nesting beaches. The port is also less than 5 km from India's second largest mangrove forest, Bhitarkanika.

Given that this will be the deepest port in India and the entire region, and one of the largest, its location in an area of ecological significance is obviously a matter of concern, particularly given that no proper environment impact assessment has ever been conducted for this project. The only EIA that exists has serious flaws, and considers a project with a different location and specifications from the one being built. (See www.greenpeace.org/india/press/reports/critique-of-the-environmental for a critique of the EIA). A biodiversity assessment study conducted in 2007 has thrown up rare species of reptiles and amphibians on the port site itself, species that found no mention in the EIA!

There are some things about the IUCN-Tata partnership that just don't make sense. Like the IUCN agreeing to provide advice on mitigation measures, rather than first insisting on a comprehensive impact analysis. The IUCN has acknowledged that procedural loopholes prevented a proper review of the port's environmental impacts, and also that the project's EIA was substandard (see http://www.dhamraport.com/download/dhamraport_iucnreport.pdf). The IUCN also said in its first scoping report that a comprehensive EIA was needed, yet this was never done. Why didn't the IUCN first conduct such an EIA? How can it

advise on mitigation after accepting that the impacts are unknown? Is this in keeping with the Precautionary Principle?

Another puzzle: The IUCN's refusal to consult with turtle researchers, Marine Turtle Specialist Group (MTSG) members and conservation groups in India. Tata approached IUCN prior to July 2006. Yet there was no effort to inform, let alone consult or involve, other groups in India. The apprehensions of conservationists, NGOs and fishermen's associations had been public for close to eight years. Why the secrecy?

What really doesn't make sense is Dr. Nicholas Pilcher, MTSG Co-Chair and now chief consultant on the mitigation plan, vociferously defending the economic necessity of the port itself, and asserting that it poses little threat to turtles (<http://lists.ufl.edu/cgi-bin/wa?A2=ind0803&L=cturtle&T=0&P=12430>). It doesn't make sense because Dr. Pilcher had clearly stated in December 2006 that turtles would be impacted, by lighting, dredging and most of all the secondary development that would follow the port's establishment. Why the turnaround?

In 2005, the Bombay Natural History Society refused to undertake a Tata-funded study to ascertain turtle presence in the area on the grounds that the project (land acquisition, etc.) was already underway, raising the probability of a *fait accompli*. Tata now claims that it was ready to abandon the project had anyone advised them. But surely continuing work while an impact study is ongoing doesn't indicate readiness to abandon a project (see <http://www.greenpeace.org/india/turtles/background>).

The IUCN is ignoring the fact that mitigating all impacts is impossible. Mitigation measures (maintenance dredging and lighting restrictions, ballast water discharge regulations, etc.) need to be implemented on a daily, yearly basis. Who will monitor this, for how long and with what safeguards? The IUCN scoping report (Pt. 8.7 and 8.8, page 8) identifies this problem, but how is it being addressed?

What about impacts that cannot be mitigated, particularly from secondary development (a ship yard is planned, and other industries will follow to take advantage of the port)? While the scoping report (Pt. 8.5) zeroes in on this as a major problem, again, no word on how it will be tackled. Such development will not be controlled by the port company, and the state government couldn't care less.

An example of what lies in store can be seen by the dirty industrialization around Paradeep port to the south. Paradeep is over 50 km. from the Gahirmatha mass nesting beaches and over 40 km. from the former mass nesting beaches at Devi. While turtles are still seen near the port, there is no mass nesting site close by. No one knows what the turtle nesting situation was before Paradeep came up in the 1960s. Gahirmatha was only 'discovered' after Paradeep had been built.

Greenwashing destruction

Of course it's better to have a port that employs some mitigation efforts, rather than one that doesn't. But the situation was never a stark either-or. At the time the IUCN entered the scene, only preliminary construction and land acquisition was underway and the company was under pressure to consider alternatives. The company claims that it withheld construction for a year. However, project funding was tied up in February 2007, and immediately components of the project got underway. Some, such as the

credit guarantee for the dredging component by Belgian bank ONDD were already in the works.

If the IUCN had a) stuck to its mandate of putting nature first, b) advised against the port at its current location, or c) at the very least insisted on a thorough impact analysis before the project proceeded, the company would have had little choice but to agree, or run the gauntlet of international censure. The IUCN's involvement has instead provided the company with the proverbial fig leaf, albeit one that is tattered and dangling precariously in the wind. The IUCN name is now being used to greenwash a major business development. This might not have been the IUCN's intention, but it is happening, and the IUCN is refusing to stop it.

The IUCN-Tata deal over Dhamra has set a disastrous precedent and vindicates fears about the potential pitfalls of the IUCN's Business and Biodiversity Programme. Why would industry think twice about entering an ecologically critical area if it can get the IUCN to prepare a 'mitigation' plan? As conservationists, isn't the first priority to keep destructive development away from ecologically critical areas?

Indian groups and IUCN and MTSG members have asked the Union to issue a simple clarification that it does not endorse the port project at its current location. A simple enough statement, right? Yet the IUCN has refused to do this. How is this one statement in any way contrary to the IUCN's principles or its espoused commitment to the Precautionary Principle?

With no coherent explanation forthcoming from Gland, conjecture is all that remains. Is the IUCN's pro-business section wary of the precedent such a statement would set? Are there other links between Tata and the IUCN that could be jeopardised? And where does this leave the turtles and the future of one of the world's largest arribadas?

Dhamra Port: how environmental regulatory failure fuels corporate irreverence

Sudarshan Rodriguez & Aarthi Sridhar

*Ashoka Trust for Research in Ecology and the Environment
659, 5th A Main Road, Bangalore. India.
Email: sudarshanr@yahoo.com; aarthisridhar@yahoo.co.uk*

The site of the proposed Dhamra port project is located on the eastern Indian coast of Orissa, north of the River Dhamra and is about 13 km away from the Nasi group of islands, the Gahirmatha Marine Sanctuary and the Bhitarkanika National Park. How diligent are the 'due diligence' practices outlined for the port developers? The environmental regulatory framework sets the country's priorities towards the environment and only provides a signal for companies to follow. The controversies over the Dhamra port area result from lacunae in the environmental laws, litigation processes and in the nature of engagement over environmental decision-making in the country.

Flexible priorities

The Wild Life Protection Act, 1972, is revered by many as one of the most stringent of conservation laws. Under the WLPA, areas can be set aside to declare Wildlife Sanctuaries and National Parks. Prior to the declaration of the Gahirmatha Wildlife Sanctuary, the earlier draft map of the GMS comprised of a region measuring 65 km in length, and 10 km in width (seaward distance). This included the Wheeler islands (site of the present DRDO missile testing range) as well as the site of the proposed Dhamra port. However the Government in its letter No. 11693 dated 20th June 1997 requested that these areas be excluded. This was promptly attended to and executed by the Forest Department. Ironically, there is no evidence to show that any consultation took place with local fisherfolk on conservation measures or fishing restrictions in the GMS area prior to its declaration. This was one of the first compromises of the environment, well within the letter of the law but against its spirit of conservation.

Assessments of environmental impacts

The original project proponent was International Seaports Private Limited (ISPL) which signed a concession agreement with the Government of

Orissa on 2 April 1998 to expand and develop the 'minor' port of Dhamra. As required by law, ISPL hired a private consulting firm, Kirloskar Consultants Ltd to conduct an Environmental Impact Assessment in October 1997 (Dhamra Port Company Limited, 2006).

It is important to note here that Dhamra is a 'minor' port governed under the Indian Ports Act, 1908. The term 'minor' only denotes those ports that are under the administration of the State Government, while 'major' ports are administered by the Central Government. This distinction has an important significance for the application of environmental regulations on ports. Minor ports are exempt from the environmental clearance process under the Environmental Impact Assessment (EIA) Notification of 1994¹. In reality however, most minor ports are much larger in scale and costs (Sekhsaria, 2002; Sridhar & Parthasarathy, 2003). Though exempt from the above process, 'minor' port projects are still required to conduct an EIA and seek environmental clearance under another law – the Coastal Regulation Zone (CRZ) Notification, 1991 as it falls within the coastal regulation zone. However, unlike the EIA Notification, the CRZ Notification does not require public hearings as part of the clearance process (Sridhar, 2001; Sridhar & Parthasarathy, 2003). These lacunae in the environmental legislation did not allow local coastal communities living in the vicinity or fisherfolk using these waters an opportunity to express their viewpoints and participate in the environmental decision-making process. In India, several faults with the EIA reports prepared by consultants have come to light only through public hearings and the availability of reports through the public hearing related procedures where these reports

¹ The Indian Ministry of Environment and Forests recently replaced the EIA Notification, 1994 with the EIA Notification 2006, but the provisions of the earlier law would apply to the Dhamra port project since it was cleared prior to the 2006 notification.

are kept in local district offices, as per the EIA Notification, 1994. The Kirloskar EIA did not go through any scrutiny by the larger public at that time.

The second gap in the environment clearance came from an amendment on 9 July 1997 to the CRZ Notification which transferred environmental clearance of port projects from the Ministry of Environment and Forests (MoEF) to the Ministry of Surface Transport (MoST). In fact, both of the above gaps made the environmental clearance ‘easier’ for state governments and the project proponents (Sekhsaria, 2005). This amendment was challenged on many grounds by the Wildlife Protection Society of India, in the Delhi High Court² and the case is pending till date. The MoST granted environmental clearance to the project in January 2000. Essentially, the Ministry which has a primary mandate towards the growth of shipping and ports in the country had granted clearance to a project which would benefit it. This reflects a grave conflict of interest. Though the 1997 amendment was reversed by another amendment to the CRZ in August 2000, the earlier clearances held good. DPCL, the current proponents of the port, repeatedly state that they have all statutory clearances; however the above issues enable us to evaluate the true value of these assessments and clearances.

The clearance by the MoST was challenged vide a petition filed by the Orissa Beach Protection Council filed with the National Environment Appellate Authority (NEAA), a body set up by the government under the National Environment Appellate Authority Act, 1997 to review appeals and grievances with respect to environmental clearances under the Environment Protection Act, 1986³. The petition challenged the Dhamra port environmental clearance on only two grounds – firstly, that the project site was a marine turtle nesting area and secondly that it was also ecological sensitive and falls under the CRZ-I(i) category in the Orissa Coastal Zone Management Plan (CZMP)⁴ making it a “no

development zone.” The NEAA was considered to be a defunct body for several years and environmentalists worth their salt hesitated approaching this authority until recently (T. Mohan, pers comm.). The NEAA upheld the port’s clearance as the petitioner had not provided adequate papers including nesting data or data on turtle behaviour and ecology, causing the NEAA to conclude that the site was not a nesting ground. The NEAA overlooked the fact that the area was not included as a CRZ-I(i) category in the Orissa CZMP. Virtually no coastal state in India has an accurate, revised and finalised CZMP as per the guidelines provided by the MoEF in the CRZ Notification or in the conditional clearance letter issued by the MoEF⁵. According to the CRZ Notification, areas such as mudflats and fish breeding grounds are supposed to be included in CRZ I(i) category but this was not done in the CMZP and never corrected despite the MoEF’s conditions. The NEAA also did not consider other issues, such as turtle congregations offshore, impacts of oils spills, ship traffic, dredging, port lighting on turtles, impacts on the ecology of the Bhitarkanika system and the port site itself, as these issues were not raised by the petition.

The environmental clearance for the port has also been challenged in the Orissa High Court by a petition by Wildlife Society of Orissa and others in 2000 which is still pending. There are many other instances of conservation oversight. According to a manual on Eco (Turtle) Friendly Coastal Development, no ports, harbours and jetties should be planned within a range of 25 km from any important nesting and congregating site (Choudhury *et al.* 2003). No doubt, the contents of this manual were long forgotten even if recognised.

Change of proponents and project details

In October 2004, Larson and Turbo (L&T) one of the share holders in ISPL took over as sole stakeholder and then assigned and subrogated all its rights and obligations to Dhamra Port Company Limited (DPCL), a 50:50 venture with Tata Steel which achieved full closure in May

² Delhi High Court petition CWP 4198/97.

³ The CRZ Notification, 1991 and the EIA Notification, 1994 are both issued under the Environment (Protection) Act, 1986

⁴ Every coastal state is mandated to prepare a Coastal Zone Management Plan showing various coastal

zones (CRZ –I(i), CRZ –I(ii), II, III and IV), as per the Coastal Regulation Zone Notification, 1991.

⁵ Letters dated 27th September 1996, from the MoEF to the Chief Secretaries of all coastal states.

2005. (Manoj, 2005; Dhamra Port Company Limited, 2006).

The 1998 and 2005 port site: from apples to oranges

When the project proponent changed, the site and scale of the project also changed significantly from the one proposed in the EIA of 1997. The site shifted from the Kanika sand bank island to the mainland coast (Table 1). As part of oft repeated environmental ‘due diligence’ requirements, during the assigning and subrogating of rights and obligations from ISPL to DPCL, the latter would have deemed it necessary to have re-applied for environmental clearance with a fresh EIA of its own accord.

The EIA Notification, 1994 requires that there should not be any change in the dimensions of the project once it has been accorded clearance. But with the regulatory and monitoring body, the MoEF, itself failing to do so, it is of little surprise that the company chose to pay short shrift to these significant details.

Many experts unanimously agree that the Kirloskar EIA study was inadequate and incomplete and had poor baseline ecological data, very little references to turtles, a poor Hazard Analysis and Risk Assessment. It has not taken into account impacts oils spills, lighting of the port, continuous dredging and ship movement (Johnston & Santillo, 2007; Sridhar *et al.*, 2005). To date there have been no impact studies on ancillary and downstream projects as a result of port which are a ship building yard, a steel plant, and a port-based fertilizer plant.

Many experts and NGOs are of the view that the Kirloskar EIA of 1997 is no longer valid, now that the dimensions of the project are totally changed under the new proponent. Rightfully, they have called for a fresh Environmental Impact Assessment and clearance. The Tatas and DPCL have refused to conduct a fresh EIA, or consider alternate sites. The same has been highlighted and stressed by campaigns, several letters to DPCL/ Tatas by various experts, press statement and campaigns by NGOs.

Table 1. Comparison of 1997 and 2005 Port details

Port Details	ISPL EIA (1997)	Dhamra Port Company Limited (2005)
Location	On Kanika Sand Banks Island ⁶	On mainland
Land Area	<ul style="list-style-type: none"> o 1200 acres on main land for port area o 5000 acres for industrial park o 3000 acres for rail road alignment 	<ul style="list-style-type: none"> o 4013 acres for Port o 3000 acres for rail road <i>Ancillary Industries</i> o Ship building yard o Steel plant o Port-based fertilizer plant
Channel Length	7 Km	18 km
Depth	14 m	18 m
Dredging	50 million tonnes	60 million tonnes for phase I (2 berths)
Maintenance Dredging	2.2 Million tonnes/year	No details available
Max Vessel Size	120,000 DWT	180,000 DWT
Cargo Handling /yr	25 Million tons/year	83 million tons/year
No. of Berths	2	13 (Two in Phase I)

Source: (International Seaports Pte. Ltd 1997, International Seaports Pte. Ltd 1998, DPCL 2006)

⁶ The EIA considers two options- one on the Kanika Sands itself, and the other on the mainland, before discarding the mainland option in favour of Kanika Sands going on to only evaluate impacts of the port location on Kanika Sands

In public statements to counter this issue and criticism, the Tatas and DPCL rely on and repeatedly emphasise NEAA's final judgement upholding the environmental clearance.⁷ This is doubly misleading. Firstly, the NEAA judgement itself was born out of a poorly argued petition. But more importantly, the petition was focused on the original location and scale as mentioned in the 1997 EIA report. The campaigns against Dhamra port are vocal and hard to ignore. Yet both the regional and central offices of the MoEF and their colleagues with the Departments of Environment or Forests in Orissa choose to demonstrate complacency over a major breach in the regulatory process for this project. DPCL chants on about possessing all requisite clearances, but no government authority has pointed out what is obvious to all else. The present port project is totally different from the earlier one proposed by ISPL and actually has no EIA and no environmental clearance.

More greenwash

The Tatas and DPCL have also approached many NGOs, individual experts, and institutions for research studies on possible impacts of the port and mitigation options, but have refused to agree to halt project related activities till the findings of these studies emerge. Abandoning the current site was also not an option they were willing to consider (Anon., 2004; Sahgal, 2005). Many NGOs, institutions and individual experts refused to engage any further because of this stand taken by the company. The insistence on continuing work on the port while impact studies were even on is against the spirit of the precautionary principle – an established principle of international environmental law⁸. The principle basically put the onus of burden of proof of no/minimum impact on the proponent and till such time that is achieved, considers no development as the best option.⁹ It is this

⁷ See Press Note by Tata Steel on "Dhamra Port and Olive Ridley Turtles". Available at <http://www.tatasteel.com/Dhamra-Port-project-and-Olive-Ridley-Turtles.doc>

⁸ See note, 'The Precautionary Principle in the Real World', by Peter Montague. Available at http://www.rachel.org/lib/pp_def.htm

⁹ It should be emphasized that while burden of proof to establish no/minimum acceptable impact on turtles is one element as per the principle it should be part of a fresh comprehensive Environmental Impact

principle which is also supposed to have guided the EIA Notification.

In most instances, many State CZMPs classify port areas and their limits as CRZ-II by default even though they may be ecologically sensitive sites warranting a CRZ-I classification (Bhaskar 2007). Furthermore, in most states zoning of areas into CRZ categories in the CZMP process lacked a well planned and participatory exercise and hence did not produce a robust scientific document to guide development along the coast (Menon & Sridhar, 2007). Thus many areas along the coast that should have ideally been CRZ-I(i) and hence protected, are sites for development projects. The Dhamra port is an illustrative example in this regard as the current project site is known to harbour ecologically significant biodiversity and was recently found to be an important habitat for the endangered horseshoe crab making it a fit case for a CRZ-I(i) classification (Dutta, 2007; Anon., 2008). This would have made it impossible for the port to be located in the site. Finally the Supreme Court appointed Central Empowered Committee (CEC)¹⁰ in its directions on a petition filed before it, through its July 2004 report to the Supreme Court states: "*The present site (Dhamra port) will seriously impact Gahirmatha's nesting turtles and could lead to the beach being abandoned by the marine creatures. It is therefore necessary that an alternative site is located for this port*".¹¹ The recommendation is yet to be acted upon by the State Government or by the Supreme Court.

Assessment study and environmental clearance process.

¹⁰ The CEC was appointed by the Supreme Court vide Notification File No.1-1/CEC/SC/2002. The rules and procedures of the CEC are outlined in Notification No 2 No. 1-1/CEC/2002 Date: 20.6.2002. The CEC was constituted primarily to deal with the large number of cases pending with the Supreme Court of India on matters related to forest laws, the WLPA and other environmental laws in India (Sridhar, 2005).

¹¹ In September 2002, the Supreme Court constituted a Central Empowered Committee (CEC) with the broad tasks to monitor and ensure the compliance with the orders of the Supreme Court concerning the subject matter of forests and wildlife and other issues. (For the Notification of the CEC: sanctuaryasia.com/resources/envirolaw/cecommittee.doc). Also see <http://www.forestcaseindia.org/f8>

Conclusion

Matters are still pending in the Orissa High Court challenging the development of the port. The question of the legal validity of the environmental clearance remains a very valid one. The Tatas and DPCL meanwhile carry on with their priorities. The construction of Dhamra Port cannot wait for the dust to settle on environmental matters. The Dhamra case is not an isolated event of mere corporate irreverence towards the environment. It is closely intertwined with the regulatory environment which at present is designed to fail, with its gaps in legal text, poor implementation and monitoring framework besides other systemic

issues such as corruption. Little succour is found in an already strained judicial system which is reluctant to intervene when a contentious project has already started, particularly when it is considered a 'development' project. The Dhamra case poses many fundamental challenges. Is it possible to expect an integrated and meaningful operation of the regulatory framework? What is required to integrate legislation, clearance procedures, implementation and compliance mechanisms and development planning? The regulator needs to demonstrate that environment protection is a social norm. Only then will corporate behaviour adapt itself to respecting and following environmental norms.

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The MTSG and its involvement in the Dhamra Port, Orissa, India

Nicolas J. Pilcher

Co-Chair IUCN SSC Marine Turtle Specialist Group
136 Lorong Pokok Seraya 2, Taman Khidmat
88450 Kota Kinabalu, Sabah, Malaysia.
Email: npilcher@mrf-asia.org

There have been numerous discussions over the development of the Dhamra Port in Orissa in India, particularly related to the involvement of the IUCN Marine Turtle Specialist Group. However one might personally feel about the involvement of the MTSG, the bottom line is that the group exists to do what it can to conserve marine turtles, and that is the only way I have looked at our involvement. For once I felt like we were doing something for which we were established, providing expert advice on the conservation of turtles and having a realistic, practical impact on the ground. A quick look at the MTSG Mission Statement "*To develop and support strategies, set priorities, and provide tools that promote and guide the conservation of marine turtles, and their ecological roles and habitats*" and the ten sub-statements under this suggests that in this case we have lived up to our own expectations.

However apprehensive one may be of the MTSG involvement, this is exactly what we have achieved. Without MTSG involvement in Dhamra, there would have been significant impacts to turtles. But with MTSG expertise, we have been able to guide development, and keep in check those activities which might have impacted turtles. These activities would have taken place regardless of IUCN's decision to assist with the turtle conservation aspects of this engagement.

From a people perspective, it has been suggested that there was no consultation with India members, but this is actually far from the truth. In August 2006 we approached our regional Vice-Chair in India for guidance and input. A few days later, after consulting with other India members, the MTSG Vice-Chair reverted to us and provided background material and suggestions on what could be done. Claims to the contrary are just not supported by the various email exchanges we as Co-Chairs had with the Vice-Chair at that time. The very reason for establishing a regional Vice-Chair network was

so that there would be an avenue of communication and correspondence between members and the Co-Chairs, and in this case it worked particularly well.

It is personally very painful to me that some members of the turtle conservation community would think I have been insensitive in this matter. If there is one thing that I feel I have brought to the MTSG as a leader is the open and heightened communication with members, regardless of their stand on issues.

Further dialogue with our regional Vice-Chair suggested that there may have been underlying politics between IUCN and other parties in India, and that the MTSG may have been used by levels higher than the Group Co-Chairs. I personally contacted both the Regional Director and the Chair of the SSC, and received written assurances from both that this was not the case. Throughout this involvement with the Dhamra case I have been in constant touch with the IUCN Director General, the SSC Chair, and the Regional Director. All have been and continue to be extremely supportive of the work the MTSG and all its members have done to conserve turtles under these trying circumstances, and regard this as a model for how groups such as IUCN can link up with the private sector to provide tangible conservation benefits.

But where did it all start? The truth is the IUCN-Tata relationship started a while before MTSG became involved, when the IUCN Regional Office in Bangkok and the IUCN Headquarters office deliberated establishing a corporate partnership with the Tata group. Subsequent to a thorough company profile conducted by an external audit firm, IUCN became involved in the Dhamra Port issue. The Regional Director contacted the Chair of the SSC, given the specific species-oriented issues (marine turtles), and the Chair of the SSC subsequently contacted Rod Mast and myself. Our involvement thus started in August 2006, with a series of emails

between ourselves, the SSC Chair, IUCN HQ, and our Vice-Chair in the region. A scoping mission was planned and scheduled for late 2006 to investigate the situation. Both Rod and I suggested to the Chair of the SSC that the regional Vice-Chair be a part of that group, but a request was made that a completely external and unbiased review group be assembled for the mission, and this was clearly explained to the regional Vice Chair at the time.

It eventually transpired that I went on the initial scoping mission in late 2006, and subsequent missions to help the Port, all of which I have reported on in the past (see past MTSG Quarterly reports in the Marine Turtle Newsletter). When I first went to Dhamra, we walked into a Port under development, and were asked to help where we could – and there was plenty of scope for that. The science side of things suggests turtles can indeed coexist with a Port, and evidence both in India (the port at Paradeep is a great example, lying similarly close to a key mass nesting site and not having had any impact on nesting at Devi) and elsewhere (Florida and Australia, for instance, each hosting globally important nesting populations of turtles) does not support claims of an impending catastrophe. Dredging impacts can be and are currently being mitigated. Deflectors on the dredger dragheads, and screens on inflow and outflows, along with a permanent observer programme put together by the MTSG ensures this. Lighting impacts can be controlled, and MTSG input has already provided the solutions for a turtle-friendly light management plan. Ship collisions can be avoided by reductions in speed, at-sea contamination can be minimised by adherence to a sturdy environmental management plan, which IUCN intends to help develop. The truth is, ports and turtles co-exist all over the world, and it is

illogical to suggest, particularly with no evidence to support the claims, that the Dhamra port will be any different.

The MTSG does not direct the relationship between the Tata group and IUCN or run this entire project. The MTSG provides the scientific and technical input on saving turtles. MTSG members who have travelled to India as part of the project (myself, Dena Dickerson, Eric Hawk, Erik Martin and Blair Witherington) have all provided specific input to mitigating impacts of the port with regards to lighting and dredging. All of these inputs far exceed anything that was prescribed by the original EIA and operating permits which were specific to the port

But a sour taste remains from the MTSG involvement, and it saddens me that things are so. As I have stated publicly before, I never set out to alienate anyone, or to hurt anybody's feelings. Indeed, I hoped to establish some wonderful working relationships with colleagues in India, and am disappointed this has not yet transpired. I have worked hard over my professional career to positively impact turtle conservation in many countries, worked closely and developed wonderful friendships with people of varied backgrounds and cultures. I would like to think I am not insensitive to other people's feelings and opinions. But I also know that as a leader sometimes it falls to one person (or two, as in this case) to make a difficult decision, and in the case of Dhamra, a decision was to bring the powers of the group to bear on a complex issue in a way that could have a practical conservation output. For me, there was a tangible reason for engaging the scientific and technical expertise of the MTSG. We save turtles, it's what we do all over the world, and what we continue to do in Dhamra.

The Dhamra Port issue: some views from the Chair of the IUCN SSC

Holly T. Dublin

*SSC Chair's Office, Cape Town, South Africa.
Email: holly.dublin@iucn.org*

IUCN's mission embraces the inherent values of species, and the goods and services they provide to human development through meeting the needs and aspirations of people. Comprised of

both government and non-governmental members, IUCN provides an unparalleled platform to deal with the highly complex and

often controversial conservation matters of our modern times.

This is clearly demonstrated in IUCN's proposed 2009-2012 programme, which while focusing on conserving biodiversity, is directly concerned with improving livelihoods, reducing vulnerability of the poor, integrating ecosystem values in economic policy and markets, and enhancing environmental and human security through sustainable ecosystem management. As summed up in the 2009-2012 programme document, IUCN "helps the world find pragmatic solutions to our most pressing environment and development challenges." This holistic approach is implicit in IUCN's involvement in the Dhamra Port intervention.

IUCN has the ability to convene multiple stakeholders, to facilitate dialogue and to bring technical and scientific knowledge to bear in solving complicated conservation issues. It is committed to improving governance and empowering the voices of civil society to help conserve biodiversity, for its own sake and for the contribution it makes to improving human-wellbeing. In the case of Dhamra port, or any other significant development, IUCN interventions are about safeguarding both biological diversity and the needs of people.

IUCN 'One Programme' approach mandates greater engagement with the business sector to realise our conservation agendas. IUCN has a dedicated Business and Biodiversity Programme to oversee relationships with industry, and it goes without saying that these are never simple processes: partnering with any sector, which by its very nature does not have the conservation of biodiversity as its primary objective, makes for practical challenges. But resolutely not engaging with industry makes our task even more difficult and fosters conservation expectations that may be unattainable in reality.

Before IUCN partners with industry on any matter, every effort is made to apply due diligence through background research and dialogue between the three pillars of IUCN – the Secretariat, the Commissions and the Members. Not every approach moves on to become a concrete relationship, and many never make it past the "starting blocks". In the case of our involvement with the Tata Group, IUCN felt it provided an opportunity to bring about more

positive outcomes for marine turtles than might have happened otherwise.

The Species Survival Commission is the largest of IUCN's six Commissions, and it is charged with providing the IUCN and global conservation community with "sound interdisciplinary scientific information", which can influence "decisions and policies affecting biodiversity". The SSC has no executive authority over the work of the IUCN programme, and so providing the necessary information is not as easy or straightforward as it may seem. Fundamentally, the SSC is a loose constellation of experts, that have a passion for species conservation, and who are prepared to assist the SSC gratis – though occasionally specific outputs may be paid for at cost, SSC members are not on the IUCN payroll.

Science and objectivity form the Holy Grail of the SSC. This does not mean consensus will be reached on the scientific evidence underpinning each and every decision, and the dedication and passion of SSC members sometimes conflicts with real world pragmatism. For example, it is not unusual for SSC members of the Sustainable Use Specialist Group to support a level of harvest of a wildlife population opposed by members of a taxonomic Specialist Group, who may well advocate complete protection of the same species. Strong arguments can always be made from both sides. Who is to say what is "right"? Walking the tightrope between strong views held by different conservationists is daily work for the SSC – an often unenviable and difficult operational space, but one that advances conservation in the real world.

The SSC core values, conserving all species and practicing sound science, are what brought us to the table on the Dhamra port issue, and what keeps us there still. The SSC was approached by IUCN's Secretariat, through its Business and Biodiversity and Asia Regional Programmes, to bring our relevant expertise to bear. Through the SSC's Marine Turtle Specialist Group (MTSG), I believe we have delivered sound science related to the port development, in the form of practical and tangible mitigation steps. Our role is not to point fingers, but rather to provide input where we felt it could do the most good given the Dhamra project was already underway. Acting on IUCN's deeply-held philosophy pertaining to development - "do no harm" - we were faced

with a port development that had been approved, was going ahead, and our role was seen as being one of using knowledge and influence to ensure it did the least possible damage to the turtles and their environment.

The Dhamra port situation is one where IUCN's proactive engagement, through its Business and Biodiversity Programme, Asia Regional Programme, the SSC and the MTSG, is aimed at making things better than what they might otherwise have been. We are demonstrably influencing the Dhamra Port Company Ltd to deliver on its conservation promises, through good science, the use of cutting edge technologies and for the betterment of livelihoods of people in the State of Orissa.

Environmental mitigation and the protection of marine turtles are fundamental to the outcomes achieved.

Perhaps the biggest criticism of IUCN's involvement that has been brought to my attention is that we may have fallen short of bringing all concerned parties and individuals along with us in this role. I have been assured that those involved have certainly tried their best to consult, but if some feel they have been left out there is always room for more consultation. Through continued exchange of ideas, and through exploiting opportunities for collective thinking and actions, even greater conservation benefits can be obtained in future.

Dhamra Port: the other perspective*

Amlan Dutta

Environment Manager, Dhamra Port Company Ltd., Bhubaneswar, Orissa, India.

Email: amlan@dhamraport.com

The Dhamra port has been a contentious issue for quite a many years, with a history of mistrust, misconception and hysteria. Perceived to be one of the largest ports in India when complete and one of the few projects actually being implemented in Orissa, without being held up by social upheavals, legal or political encumbrances, this port is actually owned by the state government of Orissa, India, a perception not realized by many dissenters.

The Dhamra Port Company Ltd. is a Special Purpose Vehicle assigned to build own operate and transfer (BOOST) the port to the Orissa government, the ultimate owner. Regardless of the fact that the EIA of the port project has undergone scrutiny by the National Environment Appellate Authority (NEAA), the only judicial body specifically mandated to look into environment clearances, wherein the NEAA has upheld the environment clearance, the port faces constant and directed criticism at various quarters. Its association with IUCN is looked at with derision and cynicism, once again regardless of the fact that this is the first such association of conservation science and Indian industry. Efforts are constantly being made to dissuade IUCN and a particular business house which is one of the promoters, from its

association with DPCL. Some of the criticism has been very personalized against the Chair of this house. Perhaps because of the traditional cynicism of the corporate sector by conservation scientists and conservation workers in India, research and industry have never mingled together due to a history of mistrust.

Conservation research application in managing the protected areas of India has seen few success stories, the best example being the current tiger population in the 29 tiger reserves of the country. Conservation efforts for the olive ridley in Orissa have never been able to stem the 9,000 – 10,000 recorded turtle deaths every year due to trawl fishing, even with judicial interventions, as the conservation approach was fundamentally faulty, possibly because enforcement and conservation need a fine balanced approach, which was never there resulting in the alienation of the trawl fishermen, and a stake for turtle conservation was never felt by the trawl fishermen. Within this background, we have a port being built near turtle habitat; we need to ask ourselves can the port help in turtle conservation in a coordinated effort. Can conservation efforts be directed towards involving all stakeholders in consolidation to bring results?

We need to ask ourselves whether and how ports harm turtles, are there other ports which are close to turtle habitats. The fact is ports don't harm turtles with numerous ports in proximity to turtle habitat and nesting grounds; the numerous examples are the ports of Brisbane, Angola, the 90 riverine ports of US and especially the Canaveral Harbor in Florida near Cape Canaveral a situation strikingly similar to Wheeler Island and Dhamra port. What are the measures taken by them? Who takes these measures? Do these measures minimize intake of sea bed life? Yes they do, and in the US, the US Army Corps of Engineers and National Atmospheric and Oceanic Administration have been doing pioneering work on dredging with safeguards for the last 27 years. Are these measures being followed by the Dhamra port? Yes, they are. But, the EIA process had flaws? Why, because it was not obtained from the Ministry of Environment and Forests. This issue has been examined in great lengths by the NEAA, who have upheld the procedure and the clearance for such a case. In fact, the procedure of environment clearance warranted that the EIA be cleared by an Empowered Committee for Environment Clearance (ECEC) of the Ministry of Surface Transport (MOST) and had the port applied to the MOEF, it would have naturally directed the EIA clearance application to ECEC of MOST, which had members from the MOEF too. But that's not the right way; the traditional way would have been the MOEF clearing the project. But if MOEF delegates the power to MOST, should not the extant procedures for the environment clearance be followed? There are concerns regarding the EIA application submission of 1997 having fundamental flaws like baseline studies, port location etc. But wasn't the original EIA submission supplemented by additional study reports, as some of the very same questions were asked by the ECEC during the two years of scrutiny undertaken, and further the NEAA had also examined the environment clearance on these very concerns. But the explanations are never satisfactory and the debate goes on.

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So where do we stand now? Where do we direct our collective energies? Criticize and condemn this unique and pioneering association between industry and science for working together towards conservation in India. What would be in the best interests of conservation science in India, letting DPCL build the port without scientific guidance as has been the traditional approach of conservationists in India? Why can't we apply conservation science in the field and especially at the Dhamra port, when we know such research exists and proves that ports and turtles can co-exist. Would conservation be better off without the port having the scientific expertise of the IUCN, is the question we need to ask ourselves.

Since the discovery of the arribadas on the Orissa coast (Bustard 1974, Bustard 1976) turtle conservation efforts by various NGOs, research institutions and the state government have resulted in satellite telemetry studies, capture-recapture studies, and nesting site studies, which helped us understand olive ridley ecology and habitat usage, which has helped protect turtle habitats. However, these conservation efforts could not prevent the alienation of the trawl fishermen, as we haven't been able to convince them in using the Turtle Excluder Devices (TEDs), because we have embittered them by laws and fishing bans, more so with no workable alternate livelihoods on the ground for them during the fishing ban. However, now the port and its promoters have an opportunity to help in changing the perceptions of the trawl fishing community and work towards conservation. But this can only be done in a collaborative effort together with conservationists and conservation scientists, and only when conservation science and industry can come together for conservation.

Relevant weblink:

http://cms.iucn.org/about/union/secretariat/office/s/asia/asia_where_work/india_programme_office/dhamra_port/index.cfm

* – *The views expressed in this article are entirely in the personal capacity of the author*

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Why do they do that? Ruminations on the Dhamra drama

John G. Frazier

Conservation and Research Center, National Zoological Park,
Smithsonian Institution, 1500 Remount Road, Front Royal, VA 22630, USA.
Email: kurma@shentel.net

Half a decade ago several of us took upbeat, even rosy, approaches in articles to commemorate the 100th issue of the *Marine Turtle Newsletter*: I offered almost romantic musings on “Why do we do this” (Frazier, 2003). The present special issue presents a radically different situation: a highly contentious debate confronts not only marine turtle conservationists,¹² but exposes the tip of an iceberg bearing much wider and deeper conundrums menacing coastal ecology and human communities, local conservationists and their organizations, and the conservation industry writ large – not to mention prickly questions of governance and human values: dignity, ethics, and integrity.

The Dhamra Port Company Limited (DPCL)

In the spotlight is an enormous port and industrial complex that has been planned for over a decade.¹³ This mega-project – at present more

than a half billion-dollar investment to build the largest port facility in South Asia, and likely to grow to a multi-billion dollar complex over the next few years (IUCN, n.d.a: 7) – is being developed some 15 km from world famous Gahirmatha nesting beaches in Orissa, India. Moreover, Dhamra port is about 4 km from Bhitarkanika National Park, a Ramsar site that hosts remarkable ecological and species diversity, many of regional and global importance.¹⁴ Remarkably, the focus of the development site is land that ten years ago was proposed to be included within the protected area. It is claimed by some that the final notification of the park was reduced in area by more than half in order to make room for the proposed port project (IUCN, n.d.a: 4; Sekhsaria, 2004a, 2005; Singh 2008), a contention supported by official correspondence (Mohanty, in litt. 12 July 2008). No less significant are the hundreds of thousands, if not millions, of people in the “area of influence” drawn into this mêlée, as well as the procedures and processes underlying it all, questions that have profound implications on how biological conservation is planned and conducted, particularly in the context of powerful developmental lobbies.

¹² See earlier articles in this IOTN issue, Awasthi & Shanker (2008), as well as the summary of IUCN, the International Union for Conservation of Nature (IUCN, n.d.a: 3 ff.).

¹³ The proposed Dhamra Port Company Limited (DPCL) complex is a 50:50 joint venture between Larsen and Toubro Ltd. and Tata Steel. It includes: initially 2, and ultimately 13, deep water berths; shipbuilding and repair yards occupying at least 1,050 acres; dredging some 60 million m³ of sea bed in a channel up to 19 km long, for vessels up to 180,000 DWT; land fill up to 6 m with imported soil and dredge spoils; a jetty with fully-mechanized loading and unloading facility, initially 700 m and ultimately several km long; capacity to handle 83 mt of cargo annually; access roads and a 62 km rail link between Dhamra and Bhadrak; and projected direct employment of over 11,000 and indirect employment of over 40,000 people (Anon, 2007, 2008a, b; DPCL, 2008; IUCN, n.d.a; Poddar, 2008; Sanyal, 2007); plans for a much wider variety of associated industries (e.g., fertilizer, power generation and steel plants) are indicated by various media reports and project documents, but details and “facts” vary as there are a number of fundamental inconsistencies in

different versions of the projected development (IUCN, n.d.a; Johnston & Santilla, 2007).

¹⁴ Bhitarkanika National Park and Sanctuary host species highly significant to India and the region such as the crab-eating frog (*Fejervarya cancrivora*), the white-bellied mangrove snake (*Fordonia leucobalia*), India’s last significant population of saltwater crocodiles (*Crocodylus porosus*), one of the largest mixed species heronries in India, an important breeding site for horseshoe crabs (*Carcinoscorpius rotundicaudata* and *Tachypleus gigas*), and the second largest mangrove forest remaining in India (Dutta, 2007; Mishra *et al.*, 2005; Reddy *et al.* 2007; <<http://www.greenpeace.org/india/press/releases/evidence-of-turtles-rare-spec>>, <<http://www.wii.gov.in/ars/2005/ars/gopigv.htm>>).

Oriyan potpourri: Dhamra Port, turtles, IUCN, MTSG, and much, much more

Conservationists – of all hues – lament the future of ridley turtles in Orissa. Over the past years a vociferous public hue and cry about DPCL's threats to the turtles (see earlier articles in this IOTN issue) finally resulted in a partnership between DPCL and IUCN, the International Union for Conservation of Nature (until recently the World Conservation Union), for the latter to provide council on mitigation measures for turtle conservation. Hence, the Marine Turtle Specialist Group (MTSG) of IUCN's Species Survival Commission (SSC) has been commissioned to work with DPCL (see earlier articles in this IOTN issue).¹⁵

Unquestionably, the mega-project poses many threats to turtles, but the ecology of these reptiles does not allow simple predictions of how the port development will affect them: annual nesting numbers can be frighteningly erratic over the years; Gahirmatha nesting beaches are notoriously unstable, subject to massive erosion and degradation; at least some turtles that nest at Gahirmatha also nest elsewhere on the Orissa coast; and tens of thousands of turtles wash up dead every year from fisheries interactions (e.g., Prusty & Dash, 2006; Shanker *et al.*, 2003). Moreover, it is known that under certain circumstances, marine turtles can survive near major coastal developments (e.g., Salmon *et al.* 1995; Lutcavage *et al.*, 1997; Zurita *et al.*, 2003; Witherington & Frazer, 2003: 367 ff.; Valerga & Panagopoulou, 2006; Cornelius *et al.*, 2007: 239), although there seem to be few systematic/quantitative studies of the effects of a coastal development such as Dhamra port on long-term survival/mortality of turtles, namely the future of massive off-shore congregations and massed nesting beaches.

Within this context a number of claims about the severity of DPCL's threats have ignored various issues other than turtles, some of which are grave. Remarkably, there's been little concern about other pernicious ecological impacts of the

¹⁵ There is some confusion about the arrangement: one version is that the MTSG was commissioned to provide the consultation; another version is that one of the MTSG co-Chairs has been commissioned, in his personal capacity, to provide the consultation.

mega-project. Mangrove deforestation has long been recognized as a major ecological and economic problem in the Dhamra area (e.g., Reddy *et al.*, 2007; Upadhyay *et al.*, 2002): what will happen to the remaining mangrove forests in the area of influence? How will channel modification (i.e., dredging of an estimated 60 million m³ of sea bed from a channel 230 m wide and up to 19 km long – as well as periodic maintenance [Anon, 2008c; IUCN, n.d.a: 3; Sanyal, 2007]) affect wetland salinity and nutrient exchange in Bhitarkanika, as well as water flow and deposition-erosion of sediments along the final course of the Dhamra River, particularly nesting beaches at the river mouth? What *reliable* measures will be used to deal with oil spills, construction and industrial noise pollution (already above acceptable standards [IUCN, n.d.a: 8]), atomized particles, spilled toxins, and many other perturbations from the diverse industries?¹⁶ This is to say nothing of invasive marine species (especially those introduced through bilge and ballast water) at the nation's biggest, deepest port.¹⁷ What will be done in response to ecological impacts not only in nearby Bhitarkanka, but in coastal food webs affecting availability of living marine resources in the area of influence for hundreds of thousands, if not millions, of people dependent on these living resources? With mega-development projects of this magnitude, and the limited regulatory regimes in which they lie,¹⁸

¹⁶ For general discussions of the types of environmental perturbations expected to be produced from the Dhamra port project see IUCN (n.d.a) and Johnston & Santillo (2007).

¹⁷ For information on the risks of marine invasive species see the GloBalast website <http://www.imo.org/Environment/mainframe.asp?to_pic_id=219> [then "click here"], a partnership of the Global Environmental Facility (GEF), United Nations Development Program (UNDP) and International Maritime Organization (IMO); this begins "Invasive aquatic species are one of the four greatest threats to the world's oceans, and can cause extremely severe environmental, economic and public health impacts." There is a vast, and growing, literature on this global crisis.

¹⁸ Witness, for example the fact that the environmental impact assessment for Dhamra port is widely regarded as inadequate and invalid (i.e., the assessment is for an island site, but the port development is on the mainland), and the permitting process for the port was anomalous (Johnston & Santillo, 2007; see also the letter to IUCN presented

the question is not *if* there will be ecological impacts: it is how pervasive will they be, and what will be done in response?

Not to minimize the importance of these many concerns and questions about the development of Dhamra Port, it is essential to understand that this is but one of a number of mega-projects currently underway for the coast of Orissa, tied to a recent move to relax Coastal Zone Regulations (Menon *et al.*, 2007; Sridhar, 2006; Sridhar *et al.*, 2008). In fact, Dhamra is one of a dozen port development projects along the 480 km Orissa coast (Anon, 2008d), and the Dhamra project is dwarfed by the POSCO project, with steel plants and other industries planned for a new port at the mouth of the Jatadhari River, 10 km from Paradip <<http://posco-india.com/website/project/details.htm>>. This is some 30 km from another major massed nesting area south of the Devi River mouth. Likewise, a site on the Rushikulya River in the south of Orissa, is slated by Bharat Petroleum Corporation Limited (BPCL) as well as Reliance Industries Limited (“India’s Largest Business Enterprise”) for a major oil and gas handling facility, linked to offshore oil exploration and extraction (Mohanty, 2000; Singh, 2003; Saha, 2004; Sekhsaria, 2004b; Anon, 2006a, 2006b, 2006c): Rushikulya is the southern-most massed nesting area in Orissa, with correspondingly dense concentrations of turtles in offshore waters (Pandav *et al.* 1994; Pandav, 2001; Tripathy *et al.*, 2003; Tripathy, 2004). Hence, while threats to turtles at Gahirmatha are substantial, they must be viewed within a wider context; various development activities along the Orissa coast individually and cumulatively are all threatening the same turtles, at one stage or another in their life cycle.

While flagship species, like ridleys, are very effective at mobilizing interest in various sectors of society, there must be a reality check for priority ecological and social problems that overlay the flagship attraction (Frazier, 2005). In this case, lamenting the fate of just turtles overstretches the flagship, limiting its function and demeaning its greater value: the ability to mobilize interest and action for less charismatic issues. Yet, virtually all the anxiety of

earlier in this IOTN issue); this situation is openly recognized by IUCN (n.d.a: 4 ff.).

conservationists, as well as the proposed mitigation measures proposed by IUCN and MTSG, are limited to the turtles. Moreover, it’s just the turtles around Dhamra port that are getting the attention (e.g., IUCN n.d.a, n.d.b; see earlier articles in this IOTN issue).

No less important than turtles, industrial pollution, invasive species, massive environmental perturbations, including altered shorelines and food web manipulations, are the socio-economic problems for marginalized, rural communities; it is unclear what will happen to hundreds of thousands, perhaps millions, of coastal people in the area of influence, human beings who have little or no livelihood alternatives, not to mention capital – either monetary or political (Sridhar, 2005). How will they respond when land and coastal areas, economic systems on which they and their forefathers have sustained themselves, are dramatically altered, or made inaccessible? DCPL promises corporate social responsibility <<http://www.dhamraport.com/events.asp>>.

However, there appear to be plans to resettle people from the Dhamra area (Anon, 2007a). Significantly, nearby areas also involved in major coastal developments – especially POSCO – have experienced vigorous resistance by villagers to plans to displace them, with hundreds of people being arrested by the authorities, evicted and dispossessed from their lands (Anon, 2007b; 2008 e, f, g, h, i, j; Dash, 2008). There are accounts of violent, even fatal, aggression between different interest groups in nearby coastal villages, including gangs of outside thugs reputedly commissioned by big money, as well as armed factions of the same village waging war against each other (Anon, 2007b; 2008 h, i, j, k; Kaur, 2008). These show how intense and complex socio-economic dilemmas can become; and these sorts of confrontations are typical social evils of mega-development projects (Cernea, 2006; Isbister, 1993; Utting, 1995). Yet sadly, no reliable social impact assessments of the Dhamra project seem to have been done by anyone: conservationists, developers, or government.¹⁹

¹⁹ In this light it is remarkable that the IUCN scoping mission to Dhamra port is all but silent on the complex social issues likely to be generated by this mega-project; the only clear recognition of social

IUCN: doing business with Business

Immense ecological and social problems caused by big business are well known; the corporate sector routinely drives institutional, political, development, and conservation agendas for self-serving purposes, e.g., by buying influence and inserting corporate chiefs into positions of power in conservation and other organizations (see review in Frazier, 2006). Not surprisingly, with one of the most powerful commercial houses in the world involved as a major stake holder in the Dhamra project – Tata Group – there have been repeated cries of foul play. Hence, it is hardly surprising that local conservationists – suspicious after decades of “irregular dealings” by big business – are distraught by the lack of basic information and transparency regarding the DCPL-IUCN relationship (see earlier articles in this IOTN issue).

On the other hand, it is completely unfair and irresponsible to brand the entire commercial/entrepreneurial sector as parasites and predators on society; there are active, international movements to promote social and environmental responsibility in business, such as ISO 26000 (<www.iso.org/sr>) and United Nations Global Compact (<<http://www.unglobalcompact.org/AboutTheGC/index.html>>). Unquestionably, Tata investments have made many important contributions to society (Baisya, 2004), but at the same time, Tata industries have also been implicated in grave social and environmental problems.²⁰ For its part, the Dhamra Port

problems is a passing comment that local support for the project may be “premised on the hope for economic prosperity, possibly ignorant of the potential impacts that the project and associated secondary developments might have on the environment ...” (IUCN, n.d.a: 6). Not all specialists in IUCN, the UN, academia, etc. are so nonchalant about the social risks of mega-projects (see Ibster, 1993; Utting, 1995; Cernea, 2006; and review in Frazier, 1997).

²⁰ See for example numerous reports on the Amnesty International website that implicate various industries of the Tata Group with grave social and environmental transgressions, including excessive use of force, collusion with state police forces responsible for gunning down unarmed people, displacement of rural peoples, and much, much more. <http://www.amnesty.org/en/ai_search?keyword

Company Ltd (DPCL) has at least supported some health camps (Anon, 2008!; DPCL, 2008). There is no doubt that the business sector *must* be an active *partner* in the conservation enterprise; and recently IUCN has recognized the importance of nurturing this fundamental relationship (IUCN, 2007).

Certainly a partnership between DPCL and IUCN presents many valuable potential benefits for all sides (IUCN, n.d.a). The question is: what is the nature of IUCN’s relationship with big business? Clearly, IUCN must walk a fine line to provide independent scientific advice (IUCN, 2008), but can the Union be equal partners with enormous corporations? While business associates scrutinize their bottom line to insure profitability as the top priority, can IUCN truly be vigilant over its top priority? As expected, the Dhamra project has provoked extensive debate and discussion about this matter, with flurries of e-mails, on-line and newspaper articles, both national and international (e.g., Anon, 2008m, n, o; Awasthi & Shanker, 2008; Poddar, 2008; Sekhsaria, 2004a, 2005, 2008; Singh, 2008) as well as this special issue of the Newsletter. These raise fundamental issues far beyond turtles, with accusations of an elitist policy of engagement between IUCN and DPCL, sidelining local expertise, particularly national members of the Union, and ignoring local concerns – particularly of the need for fresh competent, comprehensive social and environmental impact assessments; there is a palpable concern that IUCN and MTSG involvement are ultimately supporting green-washing. The existence of the intense debate shows that there is unlikely to be one simple truth; so questions must be adequately addressed by IUCN and MTSG if these organizations are to regain their credibility, especially throughout India.²¹

[s=tata&form_id=search_theme_form&form_token=1caafe7b51eef50a8eaa956bf2a64459](http://www.tata.com/pressroom/press_releases/2007/07/20070720_tata_dpcl.html)> as well as a discourse on social irresponsibility of Tata industries <http://www.thesouthasian.org/archives/2007/tatas_social_irresponsibility_1.html> and general public protest against several large Indian corporations <http://businesstoday.digitaltoday.in/index.php?option=com_content&task=view&id=7233§ionid=22&issueid=24&Itemid=1> .

²¹ In a recent confidential e-mail one conservation veteran has commented “we were clearly better off without IUCN’s formal presence in India.”

Turtle conservation in post-modern times

Clearly, these times do not promote “humanistic conservation.” As neo-liberal economics, wedded to neo-conservative foreign policies, increasingly penetrate everyday life (Korten, 1995; Utting, 1995), procedures deemed inefficient and outmoded are replaced by practices reckoned to be effective. This is not to mention powerful, covert activities to manipulate and undermine development and create corporate empires (e.g. Perkins, 2004). Quiet, steady, behind-the-scenes actions – even though proven effective in the long-term – are supplanted by overt marketing and self-promotion.²² Decision-making processes fostering participation and consultation are time-consuming, tedious, and frustrating; decisions taken by a few people in a chain of command (often behind closed doors) are far more effective at establishing priorities and actions. But, there is an enormous difference between making snappy executive decisions and getting adequate buy-in from diverse groups in a complex, dynamic world that will support what needs to be done over the long run.

Clearly, these management practices are part of a dominant world culture, which embraces India, as well as IUCN and many other conservation NGOs (Frazier, 2006). For example, human rights groups, environmental groups, and civil society in India have become very apprehensive about vast national environmental governance reforms, particularly those affecting the coastal zone. Concerns include limited information access and participation, undemocratic procedures, decentralization without concern for

local capacity, lack of science-based decision making with a bias toward unhindered development, one sided industry-friendly policies, and lack of implementation (Menon *et al.*, 2007; Sridhar, 2006; Sridhar *et al.* 2008). The question is not only how long these post-modern practices will last, but whether they truly serve the stated objectives of the respective organizations and societies. Other articles in this special issue summarize the level of discontent and disenfranchisement by diverse conservationists and organizations in India – most of them with decades of continued commitment, often despite miserable levels of material and political support. This is not to mention concerns about the rejection by IUCN and MTSG of advice from Indian specialists, including the former Regional Chair of the MTSG and other national members (see earlier articles in this IOTN issue), but also other highly respected members of other IUCN specialist groups. For example, the ecological concerns of Dr. S.K. Dutta, member of IUCN’s Amphibian Specialist Group as well as the Conservation Breeding Specialist Group, and Head of the Department of Zoology at the North Orissa University, have been completely ignored (see Dutta, 2007). The contentious debate over the Dhamra port is perceived as hierarchal, elitist management by IUCN and MTSG, disconnected and insensitive to local expertise, experience, participation, and needs. The procedures involved in the Dharma Port case contradict IUCN’s stated vision that “the Union can deliver when members, commissions, partners and the secretariat work together to find scientific consensus, formulate sound policy advice, and create partnerships to tackle conservation challenges in the field.” (Marton-Lefevre, 2007). Few societies today are (openly) structured with emperors and nobles dictating to serfs and peasants, so the perception of these organizations is particularly egregious in a society like that of India, where centuries of overlords have left people voracious to exert the right of participation and collaboration with their own considerable expertise.

The Dhamra Port brouhaha is just the tip of a complicated iceberg. As marine turtle specialists, we must be concerned about the turtles; but to neglect other pressing, ecological questions is imprudent in the least. Ignoring social, economic, and procedural issues that impinge on the turtles and their habitats is negligent at best.

²² Numerous MTSG (and also IUCN) members have privately expressed concern that for the first time in its history this all-volunteer specialist group is being linked to recently initiated projects of the co-chairs’ NGOs. It appears that the MTSG is being used to validate and support fund raising of select activities (e.g., <http://www.seaturtlestatus.org/Main/About/SwotTeam.aspx>), http://www.conservation.org/discover/about_us/programs/Pages/seaturtles.aspx, <http://www.seaturtlestatus.org/Main/Team/Donations.aspx>, http://mrf-asia.org/projects_view.cfm?THE_ID=32); it is unclear if other, smaller NGOs, some with decades of steady commitment to marine turtle conservation, are entitled to make use of the same marketing strategy.

More on-line resolutions, e-mail flurries, or MTN/IOTN special issues will not resolve this dilemma; leadership and patrons (and perhaps even the membership) of IUCN and MTSG must decide what fundamental priorities are to be promoted and by what procedures. In the end, answering why do “they” do “that” will require considerable self-inspection.

Acknowledgements: Various colleagues have

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Resources of interest

Global map of human impacts to marine ecosystems

(<http://www.nceas.ucsb.edu/GlobalMarine>)

The map has been developed by the National Centre for Ecological Analysis and Synthesis at University of California. The goal was to “estimate and visualize, for the first time, the global impact humans are having on the ocean's ecosystems”. Their analysis shows that “over

40% of the world's oceans are heavily affected by human activities and few if any areas remain untouched”. A KML file is available for download, to allow you to view the map in Google Earth.

The Ocean Conservancy's SEE turtles best practice for turtle viewing guidelines

(http://www.oceanconservancy.org/site/PageServer?pagename=see_turtles)

The guidelines are downloadable as a PDF. The document includes straightforward advice on how to Live Blue, Go Local, Protect Beach Habitat, behave In the Water and behave On a

Nesting Beach when you travel to a destination where there are sea turtles. It is all about responsible travel and tourism.

Seaturtle.org's Groups Directory facility

(<http://www.seaturtle.org/groups/>)

The vision is for the Directory to become a comprehensive database of groups around the world involved with sea turtles. As the database matures it will also be used to add new group-level access to various seaturtle.org tools and services. All conservation, government,

academic, research, management, and any other types of organizations working with sea turtles are encouraged to submit an entry. Once you have added your group, please remember to update the details as necessary.

Seagrass Watch's website

(www.seagrasswatch.org)

Currently 18 countries participate in Seagrass Watch's global seagrass monitoring. The program aims to “raise awareness on the condition and trend of nearshore seagrass ecosystems and provide an early warning of major coastal environment changes”. The

website includes information on how to participate. Additionally, PDFs of selected reports and papers on seagrass, e.g. status and trends, are available on the website under “Info centre”.

The Indian Ocean South-East Asian (IOSEA) Marine Turtle Memorandum of Understanding website (<http://www.ioseaturtles.org/>)

This website has had a recent upgrade, making it even more user-friendly, informative and visually appealing. Some of the website's key features are:

- o Extensive information on the purpose and workings of the IOSEA MoU and its subsidiary bodies.

- o A home page featuring Monthly Project Profiles, a Message Board, News Headlines, Useful Contacts, and links to Dates of Interest, Archives, and the subscription form for those wishing to receive the monthly IOSEA E-News by email.
- o IOSEA Online Reporting Facility: This allows Signatory States to submit and update National Report information and allows the rest of us to view and query the contents interactively.
- o Projects Database: Provides information on marine turtle conservation projects throughout the Indian Ocean and South-East Asia.
- o Marine Turtle Interactive Mapping System (IMapS): Provides access to reliable and current information on marine turtles. The system enables the user to combine and print the various available data and layers on demand, e.g. distribution, abundance, migration, presence and extent of sea grasses, coral reefs, mangroves.
- o Flipper Tag Series lookup table: See who is using what letter/number series on their tags. The table has been prepared in the interest of preventing duplication of tag numbers, as well as standardising flipper tag codes used throughout the Indian Ocean – South-East Asia region. Anyone who is currently tagging turtles in any of the 40 IOSEA States, or who has accurate information on tag series that have been used in the past, is encouraged to provide the relevant details for inclusion in the table.
- o Electronic Library: Contains turtle related Reference Materials (Journals/Newsletters, Studies/Reports/Other, Conservation and Management Manuals, Workshop Proceedings, Action Plans, Directories), Papers, Powerpoint Presentations, Education Materials, and Dates of Interest (events calendar).
- o Genetics Directory: This new facility is will provide basic information on researchers working on sea turtle genetics around the Indian Ocean and South-East Asia. Geneticists - as well as others collecting samples and using the results of genetics research for the benefit of turtle conservation – are encouraged to include their details in the directory.

(Source: IOSEA website)

What else is happening in the Indian Ocean -
South East Asian region?

**Subscribe to IOSEA's monthly
e-news and find out**



http://www.ioseaturtles.org/subscribe_form.php

29th Symposium on Sea Turtle Biology and Conservation – Latest News

The International Sea Turtle Society (ISTS)'s annual symposium is the premier event on the international sea turtle community's calendar. It brings together researchers, policy makers, resource managers, coastal community members, non-government organisations, relevant businesses, sea turtle enthusiasts and volunteers from all over the world to share their findings, expertise, and experiences.

The 29th Symposium on Sea Turtle Biology and Conservation will be held in Brisbane, Australia on the 17-19th of February 2009 (with regional

meetings beforehand). The theme is Creating Community Collaborations. Abstracts and travel grant submissions have now closed. Registration is still open. The 2009 symposium website (www.turtlesbrisbane2009.org) contains a wealth of information on the coming event, while the ISTS website (www.seaturtle.org/ists) presents key information about the society itself.

Preparations are in full swing as Australian turtlers prepare to welcome delegates from around the world to subtropical Brisbane.



What's happening at IOSEA

The Fifth Meeting of the Signatory States to the Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia was held in Bali, Indonesia, from 20-23 August 2008. The meeting was organised by the Directorate of Conservation and Marine National Parks, in cooperation with the IOSEA Secretariat and WWF-Indonesia; and coordinated with a number of associated meetings. Other States and organisations concerned with the conservation and management of marine turtles and their habitats were welcome to attend.

In addition to reviewing implementation progress, the Signatory State meeting encompassed separate workshops on coastal development issues and fisheries-turtle interactions. Meeting documents are being posted on the IOSEA website under 'IOSEA Meetings' as they become available.



The Meeting of Signatory States was preceded, on 18-19 August 2008, by a meeting of the IOSEA Advisory Committee (including designated sub-regional observers). Also on 19 August 2008, there was an informal meeting of Signatory States to the CMS Memorandum of Understanding on the Conservation and Management of Dugongs in order to welcome new MoU members and to discuss priorities for project funding.

(Source: Douglas Hykle, IOSEA secretariat)

Editors

Kartik Shanker
*Centre for Ecological Sciences,
Indian Institute of Science, Bangalore, India,
Email: kshanker@ces.iisc.ernet.in*

Chloe Schäuble
*Burdekin Dry Tropics NRM,
Queensland, Australia
Email Chloe.Schauble@bdtmrm.org.au*

Editorial Board

Kirstin Dobbs *Great Barrier Reef Marine Park Authority, Australia*
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Duke University, USA

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the Environment (ATREE), India*

Editorial Assistants

Sudarshan Rodriguez
Seema Shenoy
Aarthi Sridhar

*Ashoka Trust for Research in Ecology and the
Environment (ATREE), India*

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