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/evid ence-of-turtles-rare-spec>,

<<u>http://www.wii.gov.in/ars/2005/ars/gopigv.htm>).</u>

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

Conservationists - of all hues - lament the future of ridlev 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. Marine the 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 vears; 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 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 megadevelopment projects of this magnitude, and the limited regulatory regimes in which they lie,¹⁸

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.

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

<<u>http://www.imo.org/Environment/mainframe.asp?topic_id=219</u> > [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 from Paradip <http://poscokm 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 slated by Bharat Petroleum Orissa, is 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 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).

important than turtles, No less 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

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

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 selfserving 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 brand to 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 (<<u>www.iso.org/sr</u>>) and United Global Nations Compact (<http://www.unglobalcompact.org/AboutTheG C/index.html>). Unquestionably, Tata investments made have 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

more.<http://www.amnesty.org/en/ai search?keyword

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 corporations? enormous 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 greenwashing. 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

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

s=tata&form_id=search_theme_form&form_token=1 caafe7b51eef50a8eaa956bf2a64459> as well as a discourse on social irresponsibility of Tata industries <<u>http://www.thesouthasian.org/archives/2007/tatas_so</u> cial_irresponsibility_1.html> and general public protest against several large Indian corporations <<u>http://businesstoday.digitaltoday.in/index.php?optio</u> n=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 Decisionmaking 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

asia.org/projects view.cfm?THE ID=32>); it is

local capacity, lack of science-based decision making with bias toward unhindered а 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 postmodern 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 bv 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.,

<<u>http://www.seaturtlestatus.org/Main/About/SwotTea</u> m.aspx>,

<<u>http://www.conservation.org/discover/about_us/prog</u> rams/Pages/seaturtles.aspx>,

<http://www.seaturtlestatus.org/Main/Team/Donation s.aspx>, <<u>http://mrf-</u>

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

Literature cited

Anonymous. 2006a. Olive ridley turtles come on time in Orissa. *The Hindu*, 19 February 2006, Chennai. <<u>http://www.hinduonnet.com/2006/02/19/stories/200</u> 6021901662000.htm>.

Anonymous. 2006b. Fishermen oppose Reliance's oil project. *The Economic Times*. 9 June 2006, Gurgaon, Haryana

<<u>http://economictimes.indiatimes.com/articleshow/16</u> 34990.cms>.

Anonymous. 2006c. Environmentalists oppose Reliance's oil project. *The Financial Express*, 9 June 2008, Mumbai.

<<u>http://www.financialexpress.com/old/latest_full_stor</u> <u>y.php?content_id=130035</u>>.

Anonymous. 2007a. Shipyard proposed in Orissa, *Tathya* 25 September 2007, Bhubaneswar <<u>http://tathya.in/story.asp?sno=1225</u>>

Anonymous. 2007b. It's 'war zone' at Posco project site. *ExpressIndia*, 17 April 2007, Mumbai <<u>http://www.expressindia.com/news/fullstory.php?ne</u>wsid=84961>.

Anonymous. 2008a. Rs 22 crore ship building yard at Dhamra. *The Statesman*, 3 June 2008, Kolkata <<u>http://www.thestatesman.net/page.arcview.php?clid</u>=9&id=23335&usrsess=1>.

Anonymous. 2008b. Dhamra port to be operational by 2010. *Business Standard*, 28 May 2008, Mumbai <<u>http://www.businesstandard.com/common/news_arti</u>cle.php?leftnm=1&autono=324283>.

Anonymous. 2008c. Sea dredging affecting Olive Ridley sea turtles, says green body. *Hindustan Times*, 8 April 2008 New Delhi

<<u>http://www.hindustantimes.com/storypage/storypage</u> .aspx?id=f35e2c0290944e3d84a43fab0ca7a0e8&Mat chID1=4746&TeamID1=4&TeamID2=1&MatchType 1=2&SeriesID1=1196&PrimaryID=4746&Headline= Sea+dredging+hits+Olive+Ridley+turtles>. generously helped provide information and comments on earlier drafts: Richard Cellarius, B.C. Choudhury, Ashish Fernandes, Matthew Godfrey, Ashish Kothari, Janaki Lenin, Colin Limpus, Biswajit Mohanty, Sudarshan Rodriguez, Pankaj Sekhsaria, Jeff Seminoff, Kartik Shanker, Aarthi Sridhar, Rom Whitaker, Jeanette Wyneken, and Mr./Ms. "X;" however, none of them are responsible for the comments and opinions expressed herein.

Anonymous. 2008d. Beach erosion threatens turtle sites in Orissa. *The Economic Times*, 23 August 2008, Gurgaon, Haryana.

<<u>http://economictimes.indiatimes.com/Earth/Beach_e</u> rosion_threatens_turtle_sites_in_Orissa/rssarticlesho w/3397455.cms>.

Anonymous. 2008e. Port work to evict 318 families. *The Statesman*, 15 February 2008, Kolkata. <<u>http://www.thestatesman.net/page.arcview.php?clid</u> =9&id=218061&usrsess=1>.

Anonymous. 2008f. 99 arested for hindering land possession. *The Statesman*, 27 April 2008, Kolkata <<u>http://www.thestatesman.net/page.arcview.php?clid</u>=9&id=228196&usrsess=1>.

Anonymous. 2008g. Nearly 100 held after obstructing port project. *Thaindian News*, 28 April 2008, Bangkok

<<u>http://www.thaindian.com/newsportal/uncategorized</u>/nearly-100-held-for-obstructing-orissa-portproject_10042796.html>.

Anonymous. 2008h. Tension prevails at POSCO project again. *Kalinga Times*, 15 May 2008, Bhubaneshwar

<<u>http://kalingatimes.com/orissa_news/news3/2008051</u> <u>5_Tension_prevails_in_POSCO_project_area.htm</u>>.

Anonymous. 2008i, Orissa villagers resist ArcelorMittal steel project. *Kalinga Times*. 26 May 2008, Bhubaneshwar.

<<u>http://www.kalingatimes.com/orissa_news/news3/20</u> 080526_Orissa_villagers_resist_ArcelorMittal_steel_ project.htm>.

Anonymous. 2008j. Anti POSCO activists start Black Week. *Kalinga Times*, 22 June 2008, Bhubaneshwar <<u>http://www.kalingatimes.com/orissa_news/news3/20</u> 080622_AntiPosco_activists_start_Black_Week.htm>

Anonymous 2008k. POSCO war zone - PPSS claims recovery of arms from school. *SteelGuru*, 26 June 2008, Gurgaon.

<<u>http://www.steelguru.com/news/index/2008/06/28/N</u> <u>TI2MTI%3D/POSCO_war_zonePPSS_claims_recove</u> <u>ry_of_arms_from_school.html</u>>

Anonymous. 2008l. Health camps in Dosinga. *The Statesman*, 30 June 2008, Kolkata <<u>http://www.thestatesman.net/page.arcview.php?clid</u>=9&id=237888&usrsess=1>.

Anonymous. 2008m. Halt Dhamra port work to save turtles. *The Hindu*, 6 April 2008, Chennai <<u>http://www.hindu.com/2008/04/06/stories/20080406</u>55651200.htm>.

Anonymous. 2008n. Massive port in India threatens rare turtle nesting ground, activists charge. *International Hearld Tribune*, 5 April 2008, Neuilly, France

<<u>http://www.iht.com/articles/ap/2008/04/05/asia/AS-</u> GEN-India-Threatened-Turtles.php>.

Anonymous. 2008o. Save turtles. Olive ridley turtles breeding ground needs to be protected. *Deccan Herald*, 8 May 2008, Bangalore <<u>http://www.deccanherald.com/Content/May82008/e</u> <u>ditpage2008050766800.asp</u>>

Awasthi, K. & A. Shanker. 2008. Conservationists divided over Dhamra port. Science and Environment online: *Down to Earth*, 3 June 2008, New Delhi <<u>http://cse.org.in/section.asp?sec_id=4&foldername=</u>20080531>.

Baisya, R.J. 2004. Managing business to discharge corporate social responsibility. In: *Corporate Governance Challenges in a Disparate World: Driving Globalization Without its Discontents.* World Council for Corporate Governance, London. pp 135-141.<<u>http://www.wcfcg.net/ICCG 5.pdf - page=140</u>>.

Cernea, M.M. 2006. Re-examining "displacement": A redefinition of concepts in development and conservation policies. *Social Change* 36: 8-35 <<u>http://conservationrefugees.org/pdfdoc/Cernea.doc</u>>.

Cornelius, S.E., R. Arauz, J. Fretey, M.H. Godfrey, R. Márquez M., & K. Shanker. 2007. Effect of landbased harvest on *Lepidochelys* In: *Biology and Conservation of Ridley Sea Turtles* (ed. P.T. Plotkin), pp. 231-251. Johns Hopkins University Press, Baltimore.

Dash, J. 2008. Indian villagers protest deep-sea port. *Reuters - India*, New York

<<u>http://in.reuters.com/article/topNews/idINIndia-33272620080428?pageNumber=1&virtualBrandChan</u>nel=0>.

DPCL (The Dhamra Port Company Limited) A joint venture of L & T and Tata Steel. 2008.

<<u>http://www.dhamraport.com/default.asp</u>>.

Dutta, S.K. 2007. *Biodiversity assessment of Dhamra port site and surrounding areas, Orissa*. Greenpeace India, Bangalore (available on-line at <<u>http://www.greenpeace.org/india/press/reports/greenpeace-biodiversity</u>>.

Frazier, J. 1997. Sustainable development: modern elixir or sack dress? *Environmental Conservation* 24: 182-193.

Frazier, J. 2003. Why do we do this? *Marine Turtle Newsletter* 100: 9-15.

Frazier, J. 2006. Biosphere reserves and the "Yucatán" syndrome: another look at the role of NGOs. *Landscape and Urban Planning* 74: 313-333 [published online 24 November 2004].

Frazier, J. (Ed.) 2005. Marine turtles as flagships. *MAST (Maritime Studies)* 3/4: 1-303.

Isbister, J. 1993. *Promises Not Kept: The Betrayal of Social Change in the Third World* (2nd Ed.). West Hartford, Connecticut: Kumarian Press.

IUCN (World Conservation Union) 2007. Transforming business risks into conservation opportunities. *Business and Biodiversity Programme, Annual Report 2006*. Gland, IUCN.

<<u>http://cmsdata.iucn.org/downloads/bbp_20annual_2</u> <u>0report_20final_20final_204_20june_2007.pdf</u>>.

IUCN (World Conservation Union) 2008. *Dhamra Port Project: The role of the International Union for Conservation of Nature* (4 June 2008). <<u>http://cmsdata.iucn.org/downloads/dhamra_port_pos</u> <u>ition_paper.pdf</u>>.

IUCN (World Conservation Union) n.d.a [2007?]. Scoping mission to the Dhamra Port project. Bangkok, IUCN, Buisness and biodiversity programme, Asia

<<u>http://cmsdata.iucn.org/downloads/dhamra_port_scoping.pdf</u>>.

IUCN (World Conservation Union. n.d.b [2007?]. *Dhamra port: promoting corporate environmental responsibility in India.*

<http://cms.iucn.org/about/union/secretariat/offices/as ia/asia_where_work/india_programme_office/dhamra _port/index.cfm>.

Johnston, P. & D. Santillo. 2007. *The Dhamra-Chandbali port expansion project, Orissa, India: critique of the Environmental Impact Assessment.* Greenpeace India, Bangalore (available on-line at <<u>http://www.greenpeace.org/india/press/reports/critiq</u>ue-of-the-environmental>).

Kaur, R. 2007. POSCO: Villagers demand 5% of share in company's profits. India Environment Portal., 30 January 2008, New Delhi <POSCO: Villagers demand 5% of share in company's profits>.

Korten, D.C. 1995. *When Corporations Rule the World*. West Hartford, Connecticut, Kumarian Press.

Lutcavage, M.E., P. Plotkin, B. Witherington & P.L. Lutz. 1997. Human impacts on sea turtle survival. In: *The Biology of Sea Turtles* (eds. P.L. Lutz & J.A. Musick), pp. 387-409. CRC Press, Washington D.C, USA.

Marton-Lefevre, J. 2007. Forward. In. Anonymous. *Working for conservation: programme report 2006*. Gland, IUCN. p. 2. <<u>http://www.iucn.org/dbtw-wpd/edocs/2007-007.pdf</u>>.

Menon, M., S.S. Rodriguez, & A. Sridhar. 2007. *Coastal Zone Management Notification '07 – Better or bitter fare?* Ashoka Trust for Research in Ecology and the Environment (ATREE), Bangalore (republished in Economic and Political Weekly. XLII (38): 3838-3840).

Mishra, P.K., J.R. Sahu & V.P. Upadhyay. 2005. Species diversity in Bhitarkanika mangrove ecosystem in Orissa, India. *Lyconia* 8: 73-87. <<u>http://www.lyonia.org/viewArticle.php?articleID=38</u> <u>7&PHPSESSID=b7ff9057abb7f1</u>>).

Mohanty, B. 2000. BPCL project may threaten nesting turtles. *Protected Area Update* 25: 10. (available online at: <<u>http://home.att.net/~spiderhunters/attachments/updat</u>

e25.rtf>).

Pandav, B., B.C. Choudhury & C.S. Kar. 1994. Discovery of a new sea turtle rookery in Orissa. *Marine Turtle Newsletter* 67: 15-16.

Pandav, B. 2001. Rushikulya rookery – A status report. *Kachhapa* 4: 5-7.

Perkins, J. 2004. *Confessions of an economic hit man*. San Francisco, Berrett-Koehler Publishers, Inc.

Poddar, N. 2008. Orissa's Dharma Port project worries environmentalists. New Delhi Television Limited - NDTV Profit, Beta, 27 May 2008, New Delhi

<<u>http://www.ndtvprofit.com/2008/05/27001217/Oriss</u> <u>as-Dharma-Port-project-w.html</u>>.

Prusty, B.G. & S. Dash. 2006. The effect of rookery geomorphology on olive ridley nesting in Gahirmatha, Orissa. In: *Marine Turtles of the Indian Subcontinent* (eds. K. Shanker & B.C. Choudhury), pp. 384-392. Universities Press, Hyderabad, India.

Reddy, C.S. P. Chiranjibi, & M.S.R. Murthy. 2007. Assessment and monitoring of mangroves of Bhitarkanika Wildlife Sanctuary, Orissa, India using remote sensing and GIS. *Current Science* 93: 1409-1415. (available on-line at

<<u>http://www.ias.ac.in/currsci/may252007/1409.pdf</u>>).

Saha, M. 2004. Dhamra Port Project SC committee puts Tata, L&T in dock. and Reliance faces the music too! Projectmonitor, 1-15 December 2004, Mumbai <<u>http://www.projectsmonitor.com/detailnews.asp?ne</u> wsid=8383>.

Salmon, M., M.G. Tolbert, D.P. Painter, M. Goff & R. Reiners. 1995. Behavior of loggerhead sea turtles on an urban beach. II. Hatchling orientation. *Journal of Herpetology* 29:568-576.

Sanyal, S. 2007. Dhamra port looks to secure foreign loan. *The Hindu Business Line*, 25 July 2007, Chennai <<u>http://www.thehindubusinessline.com/2007/07/25/st</u> <u>ories/2007072550500700.htm</u>>.

Sekhsaria, P. 2004a. Caught in a corporate web. *The Hindu*, 28 March 2004, Chennai

<<u>http://www.hinduonnet.com/mag/2004/03/28/stories</u>/2004032800160200.htm>.

Sekhsaria, P. 2004b. Reliance vs the olive ridley turtle. *InfoChange News and Features* – environment, June 2004, Pune.

<<u>http://infochangeindia.org/200406015727/Environm</u> ent/Features/Reliance-vs-the-olive-ridley-turtle.html>.

Sekhsaria, P. 2005. The Dhamra port in Orissa. *Indian Ocean Turtle Newsletter* 1: 14-16.

Sekhsaria, P. 2008. An environmental fig leaf? *Deccan Herald*, 26 June 2008, Bangalore <<u>http://www.deccanherald.com/Content/Jun262008/e</u> ditpage2008062575341.asp>.

Shanker, K., B. Pandav, & B.C. Choudhury. 2003. An assessment of the olive ridley turtle (*Lepidochelys olivacea*) nesting population in Orissa, India. *Biological Conservation* 115: 149-160.

Singh Bindra, P. 2008. Port of disaster. Dhamra port will be the last nail in the Olive Ridley turtles' coffin. *Tehelka Magazine*, 5 (28) 19 July 2008 <<u>http://www.tehelka.com/story_main39.asp?filename</u> =<u>Op190708port_of.asp</u>>.

Singh, J. 2003. Turtles return to nest in India. *BBC News*, 11 March 2003 <http://news.bbc.co.uk/2/hi/south asia/2840485.stm>.

Sridhar, A. 2005. Sea turtle conservation and fisheries in Orissa, India. *SAMUDRA Monograph* International Collective in Support of Fishworkers, Chennai, India. Sridhar, A. 2006. *Environmental governance reforms: Rephrasing the reform process*. International Institute for Environment and Development, New Delhi. 15pp.

Sridhar, A., M. Menon, S. Rodriguez & S. Shenoy. 2008. *Coastal Management Zone Notification '08 – The Last Nail in the Coffin.* ATREE, Bangalore. 81 pp.

Tripathy, B., B. Pandav, & R.C. Panigrahy. 2003. Hatching success and orientation in *Lepidochelys olivacea* (Eschscholtz, 1829) at Rushikulya rookery, Orissa, India. *Hamadryad* 27: 213-220.

Tripathy, B. 2004. A study of the offshore distribution of olive ridley turtles (Lepidochelys olivacea) in the coastal waters of Rushikulya rookery along the Orissa coast, India. Wildlife Conservation Society – India Program Small Grant, Centre For Wildlife Studies, Bangalore, India.

Upadhyay, V.P., R. Ranjan & J.S. Singh. 2002. Human-mangrove conflicts: The way out. *Current Science* 83: 1328-1336.

Utting, P. 1995. States in disarray: The Social effects

of globalization. United Nations Research Institute for Social Development (UNRISD) and London, Banson.

Witherington, B.E. & N.B. Frazer. 2003. Social and economic aspects of sea turtle conservation. In: *The Biology of Sea Turtles Vol II* (eds. P.L. Lutz, J.A. Musick & J.Wyneken), pp. 355-384. CRC Press, Washington D.C..

Valerga, M. & A. Panagopoulou. 2006. Integrating sea turtle conservation in the environmental policy of a tourist business. In: *Book of Abstracts, 26th Annual Symposium on Sea Turtle Biology and Conservation* (compilers M. Frick, A. Panagopoulou, A.F. Rees & K. Williams), pp. 167-168. International Sea Turtle Society, Athens.

Zurita, J. C., R. Herrera, A. Arenas, M.E. Torres. C. Calderón, L. Gómez, J.C. Alvarado & R. Villavicencio. 2003. Nesting loggerhead and green sea turtles in Quintana Roo, Mexico. In: *Proceedings of the Twenty-Second Annual Symposium on Sea Turtle Biology and Conservation* (compiler, J.A. Seminoff), pp. 125-127. NOAA Technical Memorandum NMFS-SEFSC-503.