

People in Conservation

Biodiversity Conservation and Livelihood Security

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Editorial

This special issue is exclusively devoted to the cause of Marine Conservation and Livelihoods.

No one who is concerned about ecological balance will be unaware of the Deepwater Horizon¹ oil spill in the Gulf of Mexico - the largest marine oil spill in the history of the petroleum industry. The spill stemming from a sea-floor oil well, resulted from a drilling rig explosion on April 20, 2010-killing 11 platform workers and injuring 17 others. On July 15, the leak was stopped by capping the gushing wellhead, but not before it had released about 4.9 million barrels of crude oil at the rate of 35,000 to 60,000 barrels per day. The spill is an environmental disaster due to factors such as petroleum toxicity, oxygen depletion, etc. Eight U.S. national parks are threatened. The area of the oil spill includes over 8,000 species of flora and fauna. There were immediate negative impacts on livelihoods dependent on fisheries and tourism. On May 24 the federal government declared a fisheries disaster for the states of Alabama, Mississippi and Louisiana. Initial cost estimates to the fishing industry were \$2.5 billion. The U.S. Travel Association estimated that the economic impact of the oil spill on tourism across the Gulf Coast over a three-year period could exceed \$23 billion, in a region that supports over 400,000 travel industry jobs generating \$34 billion in revenue annually.

Closer home, two merchant ships MSC Chitra and MV Khalijia-III collided off Mumbai coast on August 7, 2010, resulting in an oil spill. MSC Chitra was carrying 2,662 tones of fuel oil and 1,219 containers of which 350 slipped into the sea, raising safety concerns for other vessels. While the Minister of Environment and Forest has termed the situation "grave", the denouement also points to India's increasing dependence on imported fuel as a source of power for an increasingly fossil fuel based economy. And yet, hardly had this bad news sunk in, when more arrived from Lakshdweep islands – where local communities have been discussing effective ways of community based conservation of marine habitats. A cargo ship, Nand Aparajita, ran into a coral reef off the Kavaratti Island in Lakshadweep, damaging 400 square meters of the pristine reef that is home to thousands of marine species. It may also be noted that an accident that happens in a matter of minutes, will have repercussions lasting a number of years.

Despite the fact that the people of Maharashtra have been at the forefront of the anti-SEZ struggle, the state government is proposing an even more anti-people, and hence undemocratic, state SEZ bill that will guarantee an income tax free haven to developers for 25 years. It seems that even coastal areas will now not be free from

1. Deepwater Horizon was an ultra-deepwater dynamically positioned, semi-submersible offshore oil drilling rig.

the draconian influence of this bill if it becomes an act. People from Gorai village, Mumbai and surrounding areas are up in arms against the allotment of about 14,183 acres of Gorai's coastal stretch to Essel Group as a tourism and entertainment zone that portends large-scale destruction of mangroves. Protests against the bill are spreading across the state of Maharashtra.

To no avail have more than 150,000 letters been sent by individuals and organization protesting the construction of the Dhamra port in Orissa by Tata Sons. The project will put the survival of the Olive Ridley turtle and mangrove plantations in serious jeopardy. There is an urgent need for the exclusion of large infrastructural projects and coastal development from ecologically fragile areas. The Coastal Regulation Zone (CRZ) notification was issued in 1991 to protect India's coasts. In the 19 years since then, it has been progressively weakened to suit industrial and political interests, and most violations have been ignored. And yet, MoEF has responded to pleas by environmentalists, national politicians, etc. to take steps to make the CRZ notification more stringent, with a resounding silence. Nay worse! Over 300 ports are planned for the coast of mainland India. That's approximately one port for every 25 km stretch of the Indian coastline!!

*So what, if anything, is going right? It seems very little! Yet, while some of the aforementioned issues of concern have been covered in this edition of **People in Conservation**, it is also hoped that the two case studies, one from Orissa and the other from Maharashtra, will give enough indication that while a sense of doom may pervade the atmosphere, it is not exactly the right time to buckle and give in to the season of despair. Maybe we can seek inspiration from home grown and international examples of community based initiatives, also called **Community Based Marine Protected Areas** or **CMPAs**, in marine conservation.*

In Solidarity!

Milind

1. News and Analysis

Beacons of the Sea - Fishing communities struggle to save India's coast

Back in 1990, a fishworker leader from Chile referred to fishermen as 'beacons of the sea' at an international meeting of fish workers organized by the International Collective in Support of fish workers (ICSF) in Thailand.

Starting in the early 1970s - when they challenged the introduction of trawlers into Indian seas for their negative impact (given the fact that trawlers comb the deep sea bottom area - exploiting nearly everything, including habitats and species in the benthic² ecosystems), to ongoing struggles across the Indian coastline, challenging degradation and pollution of coastal and marine ecosystems due to 'developmental' projects, etc. – the fishing communities in India have surely played their role as 'beacons', drawing attention to what is happening to our coasts and our seas. Fishing communities have been among the first to draw the attention of a predominantly land-oriented society to developments on the coast and sea. That they have played this role is not surprising. After all, they depend for their life and livelihoods on these very resources.

Some of the struggles and campaigns undertaken have yielded results. The anti-trawling agitation, for example, under the banner of the National Fishworkers Forum (NFF) led to the enactment of the Marine Fishing Regulation Act (MFRA) in all coastal States—this also defined inshore areas as zones where trawling and other forms of mechanized fishing is not permitted. It is a different matter, though, that enforcement of these zones, and indeed of all fisheries management measures, remains very weak. This has spawned a situation where pressure on resources using technology and mechanized tools is growing. This has implications for the health of fishery resources.

In more recent times, fishing communities have protested against the proposed draft Coastal Management Zone (CMZ) notification issued in 2008, to replace the Coastal Regulation Zone Notification (CRZ) of 1991. This was seen by communities as a move to dilute the existing regulatory provisions of the CRZ 1991, and to open up spaces for large scale development of coastal areas.

Fishing communities were clear that the need was for more regulation, not less, and for more effective enforcement. This was particularly in view of the growing pressure on coastal areas and resources seen in recent years, by among other things, industry, infrastructure, tourism, expansion of urban spaces, ports, oil and gas explorations, and nuclear and other power plants. This has led to pollution of coastal areas and degradation of coastal habitats. Moreover, in several instances, fishing

2. The benthic zone is the ecological region at the lowest level of a body of water such as an ocean or a lake, including the sediment surface and some sub-surface layers.

Box 1: Travails of the Indian fishing community

Marine fishing communities in India are known to be highly skilled, having fished for generations along the coast. The fishing craft and gear have evolved over time and have, traditionally been in tune with local geographical/ecological features. For these communities the coastal area is *as much a lived space* as an occupational space, encompassing both the land and the sea on which they live and work. The beach has been the space traditionally used for processing, and has been as much a working space as the sea. It is worth noting that even though most of these communities have traditionally lived and fished along the coast, many of them, to date, lack clear titles to the land they live and work on and well-defined access rights to the waters they have customarily fished.

communities have found themselves displaced from lands and spaces they have traditionally occupied.

Protests against the draft CMZ Notification took place throughout the country, with the active participation of fishworker and fishing community groups. The NFF embarked on a massive Yatra—the Machhimar Adhikar Rashtriya Abhiyan—covering all coastal States, demanding, among other things, the scrapping of CMZ 2008. Due to the organized pressure by fishing communities, in collaboration with environmental and other groups, the draft CMZ Notification was allowed to lapse in July 2009—a victory of sorts.

In the subsequent consultations organized across the coast between August 2009 and February 2010, five of which were attended by the Minister for Environment and Forests, Jairam Ramesh, fishing community organizations stressed that any revised notification should (i) use CRZ 1991 as the basic framework and seek to strengthen it, and (ii) protect the traditional rights of fishing communities to coastal spaces and resources.

Box 2: Mangroves and Economic development

According to a recent IUCN/FAO report, one out of every six mangrove species may soon go extinct because of over-exploitation and invasive industries, such as shrimp farming. Mangrove forests are critical to climate change mitigation due to their enhanced ability to sequester large amounts of carbon in their surrounding soils. However, mangrove forest ecosystems are under siege everywhere they're found, from destructive tourism development in Bimini Island in the Bahamas to golf course development in Malaysia; from out of control oil exploitation in the Niger Delta on the western coast of Africa to unmanaged urban expansion in India's Bhitarkanika Wildlife Sanctuary. One percent of our planet's mangroves are disappearing each year- that's 150,000 ha a year lost to unsustainable development.

However, that the battle is not yet over is evident from the pre-draft CRZ Notification 2010 put up by the Ministry of Environment and Forests (MoEF) on its website in April 2010. The general feeling is that the pre-draft

does not meet either of the key demands articulated above. This has been conveyed to the Ministry and further consultation has been sought to ensure that any revised notification strengthens regulatory and enforcement mechanisms on the coast, while protecting traditional rights. The next step that will be taken by the Ministry is being closely watched.

Box3: SEZ Law(s) and India's Coastal Areas

On August 8, 2010, residents of Gorai, Uttan and surrounding areas stopped traffic towards Gorai for 90 minutes to demand scrapping of the central government Special Economic Zones (SEZ) laws and the Maharashtra state SEZ bill. For the past few years, people from Gorai village have been opposing the allotment of about 14,183 acres of Gorai's coastal stretch to Essel Group as a tourism and entertainment zone. Villagers see the move as a threat to the fishing community. It also portends a large-scale destruction of mangroves.

In this context the new SEZ bill that was tabled in the monsoon session (but not yet cleared) of the Maharashtra state assembly, is raising serious concerns. These zones are duty-free enclaves for trade and operations, with developers getting fiscal and regulatory incentives. According to Ulka Mahajan, member of the Jagatikaran Virodhi Kruti Samiti, "The bill is lopsided and is a backdoor mode of bringing in privatization and isolation zones without being answerable to anyone".

The new bill will give developers a tax holiday for 25 years, complete governance powers over the area and complete privatization of water and electricity supply with the right to determine their rates. No labor laws will be applicable, so locals who have been employed cannot protest against the developer's decisions. It also gives the developers sweeping powers to appoint the SEZ chairman to head the self-contained zone and not be governed by any local civic body.

Given the role that fishing communities have been playing in challenging developments that are to the detriment of both the environment and their own livelihoods, it is indeed ironical that conservation efforts in marine and coastal areas are being implemented in ways that further marginalize fishing communities, particularly small-scale fisher folks. As a result, thousands of fisher folks are being denied their right to fish and use coastal spaces, as in the Gahirmatha (Marine) Wildlife Sanctuary (Orissa), Jambudwip Island and Sundarbans (West Bengal), and the Gulf of Mannar National Park and Biosphere Reserve (Tamil Nadu). This is even as ports, shipping channels, nuclear power plants, tourist resorts and other developments are mushrooming adjacent to these very areas.

Fishing communities today are thus caught between 'development' on the one hand, and 'conservation' on the other, even as pollution and degradation of coastal and marine ecosystems continues unchecked. Urgent steps are needed to address this situation, in ways that promote

Box 4: Tata tries to silence critics, takes Greenpeace to court

Claiming defamation and trademark infringement, Tata Sons filed a lawsuit against Greenpeace in the Delhi High Court, seeking Rs. 10 crore in damages. In a press release, Greenpeace said that it has been an outspoken critic of the Dhamra Port Project, being co-developed by Tata Steel, on account of the threat it poses to nearby protected areas and endangered species, including the Olive Ridley turtle. According to Ashish Fernandes, Oceans Campaigner, Greenpeace India, "Public opinion is on the side of the turtles - over 150,000 Indians, leading scientists and turtle biologists, politicians and national NGOs have come out against the port. By first ignoring and now trying to silence these voices, Tata is showing that it cares only about its bottom line, and not the environment,"

The Dhamra port in Orissa has been opposed to by researchers and wildlife groups since it was first proposed in the 1990s, on account of its proximity to the Bhitarkanika and Gahirmatha protected areas. Bhitarkanika is India's second largest mangrove forest and the last stronghold of the saltwater crocodile, while Gahirmatha is one of the world's largest nesting grounds for the endangered Olive Ridley sea turtle. The port is less than 5 km from Bhitarkanika National Park and less than 15 km from the mass nesting beaches at Gahirmatha Marine Sanctuary.

Government documents obtained under the Right to Information Act show that the port is being built in violation of the Forest Conservation Act, 1980. Acting on these documents, prominent conservationists have challenged the project in the Supreme Court, where the case is currently pending. Earlier this year, over 20 national politicians wrote to Union Minister for Environment and Forests, Jairam Ramesh, asking him to take action on this issue; the Minister has thus far refused to take a public stand.

Over 300 ports are planned for the coast of mainland India. Many of these new ports are planned in or near mangroves, fish breeding grounds and the habitats of marine turtles and other vulnerable species. These areas are classified as CRZ1 under the Coastal Regulation Zone (CRZ) notification.

In 2009, the UPA government and Jairam Ramesh promised to strengthen the CRZ to ensure it served its original purpose - protecting our coastal spaces and the traditional fishing livelihoods they support. It's time to ask the government to live up to its promise!

Sources

1. Tata sue NGO over turtle game, DNA, 18th July, 2010 http://www.dnaindia.com/money/report_tatas-sue-ngo-over-turtle-game_1411245
2. Wildlife activists move Supreme Court, The Times of India, 10th Oct, 2010 <http://timesofindia.indiatimes.com/NEWS/City/Bhubaneswar/Wildlife-Activists-Move-Supreme-Court-/articleshow/5110555.cms>

both environmental sustainability and equity. Indeed, experience has proved that coastal fishing communities can be powerful allies in the efforts to conserve, restore and protect coastal and marine biodiversity. It is time that the views, perspectives and livelihood interests of India's fishing communities are integrated into marine and coastal area management and fisheries management decision-making. The environmental, social, cultural and economic rationale for this is very strong.

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2. Workshop and Dialogue

Sea Turtle Conservation - International Sea Turtle Symposium, April 2010, Goa

Every year, the **International Sea Turtle Society**, an organization of people from around the world who are linked by their interest in sea turtle biology and their

dedication to sea turtle conservation, conducts its annual symposium on Sea Turtle Biology and Conservation. For the first time in 30 years, the annual symposium was brought to South Asia, a region home to globally significant populations of marine turtles. The event was held between the 27th and 29th of April at the Kala Academy in Panaji, Goa, with associated workshops, and regional and thematic meetings being held over the span of the entire week from the 24th to the 30th of April.

This year's theme, 'The World of Turtles', drew attention to the ecology and issues concerning a wide range of ecosystems that sea turtles inhabit including coastal, near-shore and oceanic ecosystems, from sandy beaches to coral reefs and sea-grass meadows, and pelagic³ habitats. An important focus of the symposium was also to draw attention to the human communities that sea turtles interact with, mainly resource dependent coastal fishing communities.

3. Any water in the sea that is not close to the bottom or near to the shore is in the pelagic zone.

Box 5: Limitations of the Legal Paradigm for coastal conservation in India

Prof. Kartik Shankar of Centre for Ecological Science, in his paper entitled "Deconstructing Sea Turtle Conservation in India"⁴, observes that, "conservation in India has been bound by terrestrial paradigms, both in action and analysis...For example, there is not a single paper on marine conservation in a pioneering synthesis of conservation policy and practice in India...There has been overwhelming focus on PAs such as national parks and sanctuaries in national policies. These have had some success in terrestrial contexts, but are of doubtful value in a wider marine context. Considering that India's entire coastline is densely inhabited and near-shore waters are used extensively by traditional and modern communities, it would seem that the exclusionary paradigm of terrestrial conservation cannot work for the coast. However, this has not automatically led to an inclusive participative approach to marine conservation. On the other hand, fishery management laws in many states, though they were conceived to protect the rights of traditional fishermen, and ostensibly to protect fish stocks, can be viewed as conservation laws of a sort, and...have been instrumental in protecting endangered vertebrates that are of conservation concern."

Dedicated thematic sessions reflecting the main concern of the symposium included over 125 oral presentations and 250 poster presentations. Two special meetings were held at this year's symposium: The Fisheries Forum on the 25th of April and the South Asia Mini-Symposium on the 26th of April. The Fisheries Forum drew attention to various dimensions of the interaction between fisheries and conservation. The symposium was instrumental in achieving the objectives of conducting the forum; those of enabling greater interaction between participant groups with species conservation objectives, and those with an interest in fisheries (management, livelihoods and rights) and highlighting the culture and diversity of various South Asian fisheries at the 2010 Sea Turtle Symposium to promote awareness on its diversity and complexities. The Forum was successful in its endeavor to foster greater interaction at the symposium between those with a primary interest in sea turtles and those with a primary interest in fisheries. These interests may and indeed do converge in many areas, and there are substantial gains from an interface of both these 'cultures'. The Forum also drew attention of the conservationists to the ground reality of fishing communities, the rights of traditional fishers to coastal and marine systems, and the concerns of traditional fishers in the conservation paradigm, that arise from denial of access to the ecosystems that they depend on for survival, especially across the South Asian region. Presentations made by representatives of fishworker unions, traditional fishworker communities and turtle conservationists, among others, highlighting specific

4. Please see, Making Conservation Work, (eds) Gazala Shahabuddin and Mahesh Rangarajan, Permanent Black.

aspects of the conflict, provided a fertile platform for discussion and debate. A key outcome of such an effort was the commitment to enable a platform to continue dialogue with local communities impacted by and contributing to conservation efforts beyond the duration of the symposium.

Box 6: Turtle Action Group—An NGO Network for Turtle Conservation

Several of the non-governmental and community based organizations carrying out conservation and outreach activities along India's coastline have been working towards the cause of conservation of sea turtles and their habitats. Some are focused on conserving the endangered species while others attempt to engage stakeholders involved in conserving and managing their resources, of which the sea turtle is a flagship species.

Five of the seven extant species of sea turtle are found in Indian coastal waters and at least four have significant nesting beaches and feeding areas along the Indian coastline. All species are listed under Schedule 1 of the Indian Wildlife Protection Act. Sea turtle populations throughout the coastal waters of India face a range of threats including those due to unplanned coastal development and incidental catch in fisheries, particularly the Olive Ridley population in Orissa, where over 100,000 turtles have drowned as incidental catch within the last decade.

Effective sea turtle conservation requires several factors to coalesce. Collaboration between agencies and various stakeholders, and cooperation between the political states whose habitats the turtles utilize, are important in ensuring long term survival of the species and sustainable use of the resources of the habitats they represent. In January 2009, twenty organizations from various parts of the country came together at a workshop conducted in Chennai to explore the need for establishing such a network of organizations for more effective conservation of sea turtles and their habitats through collective, collaborative action. The Turtle Action Group was thus formed. The network has since established a set of objectives that help achieve individual goals of member organizations and enhance efforts towards conservation of sea turtles on a nationwide scale. TAG, presently constituted of over 25 organizations, will focus on enhancing of research and monitoring capacity and arranging for training programs and workshops. For more information on the Turtle Action Group, visit www.seaturtlesofindia.org/tag.

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The South Asia Mini-Symposium was held to fulfill a 'need to initiate integrated and coordinated conservation actions', and brought together stakeholders and representatives of conservation groups and research organizations from Bangladesh, India, the Maldives, Pakistan and Sri Lanka.

A petition by a collective of individuals and organizations, expressing serious concern over the proliferation of large-scale coastal development in close vicinity of ecologically critical coastal areas and calling for protection of such areas by introducing effective legal safeguards, was submitted to the Minister of Environment and Forests, Government of India, Jairam Ramesh. In particular, it asked that no ports be permitted within 25 km of turtle mass-nesting areas and other important feeding, migratory and refuge habitats. The other key demand was for declaring no-development zone(s) for all industrial activities within at least a 10 km radius around the mass nesting beaches in Orissa. Over 300 participants present at the symposium signed this petition.

Box 7: Oil spill off Mumbai coast sparks fear of depleted fish catch

Two merchant ships MSC Chitra and MV Khalijia-III collided on August 7, 2010, resulting in an oil spill that threatened to affect the fish catch of the season. Almost 879 metric ton of oil had leaked out. Authorities are worried about the oil slick seen near Colaba, Uran, Mandwa and Rewas. There were 512 containers on the deck MSC Chitra of which 37 contained hazardous chemicals and pesticides. The oil slick off the city’s coast have caused serious environmental and safety concerns. State Environment Minister Suresh Shetty said, “The situation will be serious if pesticides like organophosphorous and sodium hydroxide gets offloaded”.

Marine plant and animal life along the 100- kilometer coastline of Maharashtra are threatened. Environmentalists said that if the oil reaches the Alibag coast and it could percolate to the floor of its fragile mangrove patch that could choke the roots and kill the plants. Mangroves are also important fish breeding sites. Deepak Apte, assistant director, Bombay Natural History Society, said that the flora and fauna of inter-tidal areas and shallow water would be affected and the “oil and toxins will accumulate in smaller fish, which will enter the food chain because larger fish feed on them”. Apart from marine life, scientists are worried that oil would obstruct light from penetrating the water: “The absence of photosynthesis will affect the growth of floating plants” said C.S. Purshottam of Central Institute of Fisheries Education. The Minister for Environment and Forest himself admits that “The damage done to the mangrove cover is quite tangible...Crude oil vaporizes, but fuel oil is thick and environmentally damaging...The younger mangroves [less than two years old] have been destroyed”. Though the older ones may live through a process of natural regeneration, this will take a few years.

According to Rambhau Patil, general secretary of the National Fish Forum (the apex body of Fishermen’s Federation of India), the immediate danger is to pelagic life – fish and other organisms living at the surface of the ocean. July- August is when the hatchlings are feeding

(after breeding season) and the spill could prove fatal. He wanted the existing ban on trawling during the monsoon to be effectively implemented to prevent contaminated fish from being sold in the market. The oil spill threatens to affect the fish catch of the season and will certainly affect the livelihood of the fishing community in the coming months. And yet there is little talk of compensation.

With over 250 participants from India, and 53 from neighboring countries of Sri Lanka, Myanmar, Bangladesh and Pakistan, this year’s symposium achieved one of its primary objectives, that of enabling the participation of as many individuals as possible from the region.

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Box 8: Saving the Olive Ridley – Local endeavor initiated in coastal Maharashtra.

In the year 2002 while on a survey of the White-bellied Sea Eagle, Vijay Mahabal, an active member of Sahyadri Nisarga Mitra⁵ (SNM), Chiplun, had photographed empty egg shells scattered on the beach of Velas (Konkan, Maharashtra). Bhau Katdare, founder of SNM, on viewing these photographs, enquired with the locals who revealed that these egg shells were from nests of Olive Ridley turtles that arrive on the beach of Velas⁶ for nesting purposes.

Velas is a very small village situated in a remote stretch on the western coast of Maharashtra. The female Olive Ridley lays about 100-150 eggs in a nest dug in and 18 inches deep hollow beyond the high tide line. Before leaving the nest it is filled up with sand, where the eggs incubate. Emerging from the nest in 50-55 days, the hatchlings immediately begin to crawl over the sand towards the sea.

Members of SNM, while patrolling the coast, noticed the shocking phenomenon that the eggs were being poached by local miscreants, village dogs and wild predators. The turtle was also being killed for consumption by the local people. The population of Olive Ridley turtles was also diminishing due to destruction of coastal habitat and trawling activities. This stimulated members of SNM to meet the challenge of protecting this species from poaching and predation. The aim was to establish a program of community based conservation for the endangered Olive Ridley species by linking conservation to the livelihoods of local the community. As the marine turtle is a source of income as well as a food item for the locals, ensuring that the conservation work took off was a tough challenge. SNM rose to the same by arranging meetings, exhibitions, lectures, slide shows, etc.

A hatchery was erected on the Velas beach (for protection of the eggs). SNM members began to patrol the 3 km beach over the entire breeding season. Eggs were shifted to the hatchery and the emerged hatchlings were released into the sea. In the first year SNM successfully protected eggs from 50 nests at Velas and released 2734 hatchlings into

5. Sahyadri Nisarga Mitra (SNM) is a leading non-government organization (NGO) in India, engaged in education and research on conservation.
6. Please note that the aforementioned oil spill off Mumbai’s coast also threatens the safety of the Olive Ridley Turtle found in Velas.

the sea. Locals also started supporting this activity. SNM then extended the nest protection work to the entire coast of Maharashtra. It has so far succeeded in protecting 871 nests, releasing nearly 26,000 hatchlings during the last 8 years. From 2007 SNM has started organizing a yearly Turtle Festival at Velas. Tourists visit Velas to see the hatchlings, while locals arrange for their home stay and meals, thus earning a livelihood. They have now realized that only if the turtles survive will the tourists visit Velas, generating an income for them.

With support from UNDP, GEF, SGP and CEE, SNM has facilitated the formation of a group called Kasav Mitra Mandal (KMM) at Velas last year. Members of the KMM provide lodging and boarding facilities to the tourist at reasonable charge. They contribute approximately 10% of income generated from this activity to the Turtle Conservation Fund. This fund is utilized for the conservation of turtles at Velas. This is probably the first example of livelihood security through Turtle conservation in India.

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3. Community Conserved Marine and Coastal Areas

Green Warriors of Gundalba, Orissa

Tears roll down the cheeks of Sukanti Dei, the secretary of Pir Jahania Jungle Surkhya Mahila Samiti, Gundalba village, when she describes the devastating impact of the 1999 super cyclone that had ravaged their village. However, Gundalba, along with seven neighboring villages, bravely faced the wrath of nature and today these gallant warriors have successfully protected and conserved around 15 sq kms of casuarina forest and 5 sq km of mangrove forest.

The Devi River mouth (Astaranga block, Puri district), about 60 km from Bhubaneswar, the capital city of Orissa has great ecological, historical and economic significance. Around 15000 traditional fisher folk from 36 fishing villages are directly dependent on the river mouth for their daily livelihood. It also provides an important nesting ground for Olive Ridley turtles (*Lepidochelys olivacea*).

The super cyclone of 1999 had almost completely destroyed the coastal bio-shield, leading to hyper soil salinity and reduced agricultural productivity. Soil tests in the area showed the salinity levels up to 15 ppm (parts per million) as a result of which the villagers had to face severe crop loss. The villagers who earlier were not very conscious of the need for protecting the casuarina and mangrove forest became aware of the importance of doing so. The mishap prompted villagers to protect the

casuarina forest primarily to check ingress of salinity and to minimize the intensity of destruction in future. Moreover, it was necessary to conserve the forest in order to meet daily livelihood requirements.

Box 9: Concerns about Casuarina

Casuarina is an exotic and has been reported to also have many negative effects on the coast. There have been anecdotal accounts of its impact on aggravating erosion. Prof. Kartik Shankar cites studies⁷ by Bivash Pandav of WII on the impact of the super-cyclone. The studies indicate that Casuarina did not adequately protect the coast during the super cyclone. Casuarina has also been reported to change beach slope and width and negatively affect beach vegetation. For sea turtles, it can have further impacts by harboring egg predators such as jackals.

Gundalba pioneered the cause in the area by forming the 'Pir Jahania Jungle Surakhya women committee' for protecting the casuarina forest and for the conservation of the coastal ecosystem.

Local youths have also formed groups that have come forward for the protection of the Olive Ridelys⁸, during their breeding season. The committee has set up an interpretation/learning centre and is now struggling to earn some livelihood through regulated tourism in the nesting/hatching season (Nov–March). The villagers not only protect the turtles during the nesting and hatching season but also have special fishing norms during the mating and nesting times to prevent turtle deaths in the sea.

Box 10: Ecological importance of Devi River mouth

Devi river mouth is an important nesting ground for Olive Ridley turtles. It is also a habitat for a good population of Indo-pacific Humpback dolphins (*Orcaella brevirostris*) and sightings are very common near the river mouth. Among the other aquatic mammals, the Finless Porpoise (*Neophocaena phocaenoides*) is also sighted not far off from the river mouth. The area also supports Mangrove vegetation (*Avicennia officinalis*, *Avicennia alba*, *Aegiceras corniculatum*, *Ceriops decandra*, *Acanthus illicifolius*, and *Bruguiera gymnorrhiza*). Mangrove cover in the Devi estuary in 1985 was 2.58 sq km. In 1999, this cover was reduced to 1.999 sq km due to the impact of the super cyclone. The mangrove vegetation along the Orissa coast is especially important because the coast is highly vulnerable to cyclones, storm surges, and floods, which cause considerable damage to life and property.

A strong commitment from local people has yielded results and recently the area has regenerated mangrove

7. Pandav, B. 2000. Post cyclone impact in Orissa with reference to marine turtle conservation. A GOI-UNDP sea turtle project report. Wildlife Institute of India, Dehradun, India.

8. The group in Devi mouth that protects sea turtles is called Sea Turtle Action Programme. There is also another group called Green Life Rural Association.

vegetation. The forest cover has also gone up by 63% from 2.58 sq km in 1985 to 4.21 sq km in 2005. Mangrove vegetation has attracted a lot of residential as well as migratory birds, which are a tourist attraction as well. Mangroves are also important fish breeding sites.

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Box 11: Marine Protected Areas (MPAs)

Marine protected Areas (MPAs) are gaining attention in the world. In 2002, the World Summit on Sustainable Development (WSSD) called for establishing a global system of MPA networks by 2012. This resolution was reaffirmed at the Conference of Parties (COP) to the Convention on Biological Diversity (CBD) and other international meetings. The International Union for Conservation of Nature (IUCN) defines an MPA as “any area of inter-tidal or sub-tidal terrain, together with its overlying waters, and associated flora, fauna, historical and cultural features, which have been reserved by law or other effective means to protect part or all of enclosed environment”.

Sato-umi or Marine Protected Areas (MPAs) in Japan

A survey identified at least 1,161 candidates for the MPAs in Japan. These are evenly distributed across the coast of Japan. Of these, around 1,055 locations take the form of no-take zones in fishery operations. Information on the names of species subject to protection is available for 599 locations out of the 1,055 no-take zones. It was found that more than 30% of the individual MPAs in Japan were established by non-binding instruments such as voluntary agreements among the fishers of Fishery Co-operative Associations (FCAs). Officials in prefectural governments generally predict high level of compliance rates for self-imposed no-take zones. The tendency for compliance is explained by a governance mechanism that assumes that:

1. Self-imposed no-take zones have certain economic relevance that necessitates the implementation of peer monitoring among members in the same FCA. The Socio-economic background is also taken into account. Most of the self-imposed MPAs in Japan are situated near coastal residential areas where peer monitoring can be implemented at a relatively low cost;
2. As community-based coastal fisheries management started more than 250 years ago in Japan there already is a cultural acceptance. Hence self-imposed no-take zones are perceived as being just as legally binding as other no-take zones among the FCA members for historical reasons.

It can however be argued that the Japanese style self-imposed MPAs would be difficult to replicate across

other countries unless they have similar tenure systems based on strong territorial use-right guarantees by the governments. To this end, the role of the government in keeping the non-stakeholders from gaining access to the no-take zones is also important.

Recently the term “Sato-umi” has been spreading in Japan. The Sato-umi concept refers to “Traditional practices of coastal communities co-existing with nature”. According to the Shinchiro Kukuma from the Agriculture and Fisheries Department of the Okinawa prefectural government, the Sato-umi is “greatly related to ICCAs”. According to Dr. Grazia Borrini-Feyerabend, Coordinator Global ICCA Consortium, such MPAs “possess many of the characteristics of ICCAs (voluntary, self-ruled, community-based, etc.). It seems that this abundance of ICCAs is possible because Japan has— since long ago— assigned to local communities exclusive fishing rights in their local marine areas.”

Note: for more on this please refer to: Yagi N, et al. Marine protected areas in Japan: Institutional background and management framework. *Marine Policy* (2010), doi:10.1016/j.marpol.2010.06.001

Coron island in the Philippines

The Tagbanwa people in the Philippines inhabit a stunningly beautiful limestone island for which they have established strict use regulations. The forest resources are to be used for domestic purposes only. All freshwater lakes but one are sacred and entry there is strictly restricted, except for religious and cultural purposes. The only lake accessible for tourism is Lake Kayangan, albeit with strict regulations concerning garbage disposal, resource use, etc. Until recently, the Tagbanwas’ territorial rights were not legally recognized, leading to encroachment by migrant fishers, tourism operators, politicians seeking land deals and government agencies. This caused a number of problems, in particular the impoverishment of the marine resources, essential for local live lihoods. In the mid-1980s, the islanders organized themselves into the Tagbanwa Foundation of Coron Island (TFCI) and applied for a Community Forest Stewardship Agreement (CFSA). In 1990, the stewardship agreement was granted over the 7,748 ha of the island of Coron and a neighboring island called Delian, but not over the marine areas. In 1998 the islanders managed to obtain a Certificate of Ancestral Domain Claim (CADC) for 22,284 hectares of land and marine waters, and in 2001, with the help of a high quality map and an Ancestral Land Management Plan (ALMP), gained a Certificate of Ancestral Domain Title (CADT), which grants collective right to land. Despite successful community management, in 2001 the Tagbanwa CATD was put under review, as the national policies⁹ and systems were being restructured.

9. National/Federal Policy changes affect the governance at a site whether an ICCA or a shared management arrangement. Such decisions should not be taken without taking those being impacted in account.

A governmental proposal was also advanced to add Coron Island into the **National Integrated Protected Area System (NIPAS)**. The Tagbanwas resent these moves, as they fear that they would engender losing control of their natural resources. From being owners and protectors of their territories, they would become only one of the management actors.

Note: For more on this, you can read a paper entitled "Mapping the Ancestral and Waters of the Calamian Tagbanwa of Coron, Northern Palawan" at http://www.iapad.org/publications/ppgis/coron_best_practices.pdf.

4. International News

Marine protected Areas as Community Conserved Areas: A review of status and needs in Melanesia and Polynesia

Melanesia and Polynesia have seen an impressive increase in the number of **Marine Protected Areas (MPAs)** over the last decade, almost entirely due to the recognition of Community Conserved Areas based on regional specificities of traditional tenure and governance mechanisms. The same time period has seen the virtual demise of any other form of marine protected areas in the independent countries of the South Pacific. CCAs account for over 500 sites covering over 12,000 sq km of which more than 1,000 sq km is no-take area.

Box 11: Vueti Navakavu LMMA¹⁰, Fiji Islands (Melanesia)

Navakavu LMMA is located on Fiji's main island of Viti Levu near to the capital city of Suva. The Locally Managed Marine Area (LMMA) was established in 2002 by the clan (yavusa) of Navakavu residing in the four villages of Muaivusu, Nabaka, Waiqanake and Namakala. With support from Institute of Applied Science of the University of the South Pacific and other partners in the Fiji Locally Managed Marine Areas Network, yavusa Navakavu has established a community-based **tabu or no-take zone** and wider marine managed area under customary traditional authority. Governance and enforcement is undertaken by a committee answerable to the "meeting of chiefs" and decisions are enforced by the community through customary mechanisms and honorary fish wardens. Formal legal support is inadequate and the court system provides no support at all. The community perceives a number of benefits from the project including increased fish stocks in the no-take zone and increased value of the fishery overall. In addition the Vueti Navakavu approach exemplifies traditional stewardship in which caring for the resources is a duty towards future generations.

The characteristics of the CCAs in Melanesia and Polynesia can be summarized as follows:

- **Extent:** May sometimes involve management of the entire marine area under customary tenure but usually comprise (or include) a small closed area.

10. Locally Managed Marine Area.

- **Purpose:** Usually the CCAs are explicitly used for sustainable livelihood purposes – i.e. conservation through sustainable use.
- **Benefits:** The benefits derived by communities from CCAs may include increased or more predictable harvests but may also include one or several of various alternative benefits – these may outweigh the fishery or biodiversity benefits.
- **Impacts:** anecdotal evidence and increasing scientific evidence suggests that CCAs see rapid increases in some species and are likely to have beneficial biodiversity impacts.
- **Networks:** The majority of CCAs are part of support networks through which government or NGOs provide advice and other technical support to individual CCAs.
- **Legal support:** In most cases CCAs operate under situations in which strict interpretations of existing legislation may not be supportive (or indeed possible) but de facto customary tenure is so far an adequate basis. CCAs have been recognized owing to their empirical success rather than any concerted strategy on behalf of governments.

Box 12: Aroko/Muri Ra'ui, Rarotonga Island, Cook Islands (Polynesia)

Ra'ui or traditional bans have been a resource management and governance system in the Cook Islands for centuries. Ra'ui may be total bans on access to an area or bans on particular resources and may be permanent or more frequently may be periodic or temporary. While these continue in much the same way in the outer islands, the use of Ra'ui declined in the 1970's in the main and most developed island of Rarotonga. The late 1990's saw a revival of the Ra'ui system promoted by the Koutou Nui (the Lower House of traditional Chiefs) and Ra'ui were reinstated in 6 different lagoon areas around Rarotonga. The Aroko-Muri Ra'ui is the largest of these and though it has waxed and waned, it still exists today.



Aerial view of the Avana Muri Lagoon (Credit: Ewan Smith)

The wide proliferation of CCAs seems set to define the site-based agenda for marine conservation in the South Pacific. Governments are slowly gearing up to increasing support for such initiatives. However, in many ways the very success of the phenomenon poses its biggest threat as large investments and institutionalization of CCAs may undermine their sustainability by decreasing their self reliance or even introducing excessive dependencies such as on incentives or external policing.

In conclusion, that CCAs are being revitalized in the South Pacific is a unique global phenomenon. One of the untapped riches of the Pacific has begun to show its true potential; villages, communities, tribes, clans and districts are planning, implementing and enforcing management at the local level based on customary tenure. The challenge for policy-makers, scientists, government and non-government institutions is to move beyond the emphasis on protected areas in isolation and support and promote such initiatives as a vital foundation in a truly regional approach to **Integrated Island Management** that can address the pressing issues associated with sustaining the region's biodiversity and livelihoods.

Note: This is an excerpted version of the report entitled "Community Conserved Areas: A review of status & needs in Melanesia and Polynesia". It appears here with the kind permission of its main author Hugh Govan (hgovan@gmail.com). The full report is available at http://www.sprep.org/att/IRC/eCOPIES/Pacific_Region/422.pdf

Note to the reader

We hope that you enjoyed this issue of **People In Conservation**. Starting with the present issue, we are beginning a new section called Letters to Editor. We will be happy to receive feedbacks and suggestions from you. Please tell us how we can improve. Moreover, if your interest is more than cursory, if you have stories to tell or experiences to recount, please feel free to contribute the same (in about 150 words) and we will publish them. You could post your feedbacks/contributions to kvoutreach@gmail.com/milindwani@yahoo.com. Please ensure that while posting your feedback/letter/contribution you write "For People in Conservation" in the subject area of your email. You can also send letter via post at the following address:

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Documentation and Outreach Centre,
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908, Deccan Gymkhana,
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India.

Letters to Editor

Greetings from ARAVALI!

We are pleased to receive a copy of your Publication/ Newsletter Samudaya Evam Sanrakshan (Hindi). It is indeed an informative Newsletter, which addresses the need for information and experience sharing in the field of livelihood. Looking forward to your continued association with ARAVALI.

Best Regards,

Anil K. Jain
ARAVALI,
Patel Bhawan, HCM-RIPA, J.L.N. Marg,
Jaipur - 302 017.

Many thanks for sending the KV Guidelines for Selection and Management of Biodiversity Heritage Sites. - interesting and informative.

Grateful,

Joanna Van Gruisen

It is indeed a pleasant surprise to see this article (pertaining to Markhor trophy hunting in Pakistan) being published in your magazine (People in Conservation). I have been for many years advocating a serious look at policies like CAMPFIRE (Zimbabwe) for protecting wildlife habitat from commercial interests. Some of my papers are on record with your organization. One of the examples I always quoted to skeptics who said it would not work here was the WWF/IUCN project for Markhor hunting in Pakistan as also sheep hunting in Nepal. It is good to see this being acknowledged in an Indian environmental journal. Perhaps forest communities with their new rights can in the future look at this as a way to conserve the forests for wildlife. For the record, I was Hon Sec of WWF Kolhapur division for about 10 yrs. Am attaching an old paper on record with you which your colleague in Pakistan may find interesting.

Kind regards,

Karnasingh Ghorpade
Kolhapur

New Publication from Kalpavriksh

**Title: The Jarawa Tribal Reserve Dossier:
Cultural and Biological Diversities in the Andaman Islands.**

Edited by Pankaj Sekhsaria and Vishvajit Pandya.

Prepared by Kalpavriksh under the Local and Indigenous Knowledge Systems (LINKS) Program of UNESCO.
No of Pages: 212; 12 color plates; 11 color maps.

The dossier is made up of 10 original or previously published papers and a comprehensive set of annexure(s) that includes the entire text of the Andaman and Nicobar Protection of Aboriginal Tribes Regulation (ANPATR) – 1956; the policy on the Jarawa tribe as approved by the Kolkata High Court; rules of the Andaman Adim Janjati Vikas Samiti (AAJVS) and a compilation of conflict incidents involving the Jarawas.

The document also has 11 color maps that provide detailed and comprehensive insight into the changes in the Jarawa Reserve boundary, vegetation, vegetation density; land cover classification and the location of Jarawa camps within the forests of the Jarawa Reserve.

If you would like to contact Pankaj Sekhsaria, editorial address, Email: psekhsaria@gmail.com.

A PDF version of the dossier can be downloaded
from the following link:

<http://unesdoc.unesco.org/images/0018/001876/187690E.pdf>.

If you would like to procure the above book or order any other Kalpavriksh publication, please contact our Publications Head, Ms. Suniti Kulkarni at kvbooks@gmail.com.

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