

Green Warriors: Women's Initiative towards Conserving Local Bio-diversity in Odisha

Sweta Mishra

The State of Odisha is one of the most resource-rich states in Eastern India, with diverse ecosystems that boast a wide variety of flora and fauna. In a way, Odisha symbolizes the contradictions in modern India between very high ecological and social diversity and extreme poverty and destructive processes of industrialization. Efforts by Government agencies to conserve wildlife in strictly protected national parks and sanctuaries often create conflicts with local communities who reside in and around these areas, because the physical presence of human is considered to be harmful. This exclusionary approach to protected areas inhibits the fair and equitable sharing of benefits of conservation with local communities and imposes the disproportionately costs of conservation upon them. Lack of recognition of or respect for their fundamental rights contributes to hostility towards Government conservation initiatives, which reduces the overall efficacy of conservation efforts and, ironically, further exacerbates degradation and local poverty.

Despite these complex challenges, local communities are driving their own initiatives to conserve wildlife and biodiversity in general and to generate sustained livelihoods (see Box)¹. Across community-owned lands, government-owned lands, and lands whose ownership is

Box

- CCI's play a crucial role in the conservation of vital ecosystems, critical wildlife habitats, and threatened species. Many CCI's function as wildlife corridors and establish linkages between official State protected areas.
- Some CCI's are responsible for the maintenance of essential ecological services, such as soil conservation, water security, and conservation of traditional crop varieties.
- They integrate links between traditional agricultural systems and forest ecosystems, thereby conserving at the landscape level.
- Some CCI's are crucial aspects of local economies; thousands of people depend upon them for survival and social and cultural values and uses.
- CCI's can be seen as community-based models of development built on local ecological knowledge systems that integrate traditional knowledge with current advancements in conservation science.

disputed, these initiatives are helping conserve a variety of ecosystems and habitats of wild flora and fauna through a wide range of institutional mechanisms, rules, and regulations. Eventhough these Community Conservation Initiatives (CCI's) are much older than the Government-managed

protected areas, they remain unrecognized in federal and state law. While they have been functioning effectively without legal recognition, there are arguably some instances in which recognition of CCIs would further enable them to support biodiversity conservation and sustainable livelihoods.

The Social and Ecological Resilience of the Mouth of the Devi River

The mouth of the Devi River, located about 60 kilometers from Bhubaneswar, the capital city of Odisha, has great ecological, historical, and economic significance. The Devi River mouth is one of the three mass nesting sites of the Olive Ridley turtle in Odisha². It also provides habitat for the Indo-Pacific humpback dolphin (*Orcaella brevirostris*), the finless porpoise (*Neophocaena phocaenoides*), and the smooth-coated otter (*Lutra perspicillata*)³, as well as many species of residential and migratory birds. The surrounding forest area is also home to many wild animals such as chital, hyena, and jackal. This rich diversity in flora and fauna adds immeasurable value to local communities' livelihoods and well-being.

Around 15000 traditional fisher-folk from 36 fishing villages are directly dependent on the river mouth for their daily livelihoods⁴. The traditional fisher folks live in small 'tandas' or hamlets adjoining the main revenue village. They collect fishes and crabs from the river mouth and do the fishing within 5-10 kms from the shore. On an average a traditional fisher folk can earn around Rs.10,000 – 12,000/-month from the fishing activities. The traditional fishermen use fibre boats or motorized boats (kattamarams) and they usually do the fishing within 5-10 kms from the shore. They use monofilament nylon or plastic and make large meshed nets which do not strangle the turtles.

Apart from the fisher folks living in the tandas the villages located along the Devi River Mouth are also dependent on fishing activities for their livelihood. Agriculture and Fishing are the prime source of livelihood of these villages. Those who do not practice fishing or agriculture work as wage labourers for their living and for this they even have to migrate to places outside the State.

Survey conducted in this area shows that the average landholdings of each household is about 1 acres and the floods in 2003 and 2009 in Kadua and Devi river has seriously affected several hundreds of acres of crop in Gundalba⁵ as well as neighbouring villages. Fisher folk and other farmers have not received any compensation for their losses and many of their lands still lie inundated with water.

Further it is to be noted that during the turtle breeding season, ban on fishing is imposed by the Orissa State Government for a period of six months from 1st November to 31st May. Out of 240 fishing days in a year, 180 fishing days (1st Nov to 31st May) has been restricted for turtle conservation, which has been affecting the livelihoods of traditional fisher folks, who are directly dependent on the river mouth for their livelihood. The total amount of loss incurred by the marginalized communities in each year is around 40.37 crores. The ban is imposed during the turtle breeding season and during the ban period the fisher community are **provided with no alternate source of livelihood**.

Apart from being a mass nesting site for olive ridley turtles, the area has a good mangrove forest cover. The many species of mangrove vegetation⁶ play a vital role in the coastal ecosystem because of their role in the mitigation of coastal erosion, as nurseries for variety of fish and prawns, and as natural barriers to tidal and storm surges associated with tropical cyclones,

which cause considerable damage to the ecosystem and communities' livelihoods. Good mangrove cover thus increases the resilience of the surrounding and constituent social and ecological systems.

However, the situation was much different a mere ten years ago. In 1985, mangrove cover in the Devi estuary was 2.58 square kilometers (km²) (K.Kathiresan, 2005). In 1997, the mangrove forest cover was reduced to 1.999 km² (Kar and Chaddha, 1997) by one cyclone; the super cyclone of 1999 hardly left any trace of mangroves in the area. The super cyclone of 1999 almost destroyed the coastal casuarina and mangrove coverage, leading to high soil salinity (up to 15 parts per million) and reduced agricultural productivity. Villagers who were previously not very conscious of the need to protect the surrounding forests were driven to do so in order to prevent high salinity, minimize the intensity of future natural disasters, and ensure the ability to meet their daily livelihood requirements. The female residents of seven villages⁷ in particular have emerged resolutely from the destruction and have successfully managed to protect and conserve around 15 km² of casuarina forest and

5 km² of mangrove forest in and around the mouth of the Devi River.

The Development of Women's Committees for Ecosystem Conservation

In the face of these multiple challenges, women's groups from these seven villages have driven successful initiatives to conserve the forest and coastal biodiversity. This social revolution started in the year 2000 with many of the women coming forward and resolving to conserve their adjoining forest areas and other natural resources. Today, the positive impacts of the CCIs on the protection and conservation of the rich biodiversity of the area are quite evident. For example, the women of each village have formed Community Forest Protection Groups or Committees and have adopted the practice of *thengapalli* or regular patrolling to protect the nearby Astarang Forest. They have successfully protected and regenerated around 15 km² of casuarina forest. The regenerated casuarina forests have also helped provide a barrier against the saline wind and sand particles that enter the village from the beach.



The women of the village of Gundalba have pioneered the CCIs in the area by forming the *Pir Jahania Jungle Surakhya* (Pir Jahania Forest Protection Women's Committee) *Women's Committee in 2000*. The village has 60 households and one woman from each household is part of the *Pir Jahania Women's Committee*. With this strong foundation of 60 members, the Committee adopted the practice of rotational patrolling of two to four women at a time to protect the forest within their traditionally identified boundary. The extent of the forest boundary has been demarcated mutually between the villages and the boundaries are identified by physical landmarks of the forest. At their monthly meetings, the Committee formulated and passed resolutions for a set of regulations for the management of the forest. With the meetings presided over by the President or Secretary of the Women's Committee and attended by the local forest officers as special invitees, the resolutions were passed only when the decision was accepted by two-thirds of the Committee members. Once a resolution is passed, it is then shared with the rest of the villagers in a *palli sabha* (village meeting). For example, the Women's Committee has fixed one day each month during which all 60 households in the village are allowed to collect fuel wood from the forest. Similarly, a different day (usually after three or four days after the villagers of Gundalba have collected) has been fixed when the neighbouring villages dependent on the same patch of forest resources can collect fuel wood from the forest. There is no conflict between these villages over the shared resources, as the boundaries and forest protection rules and regulations have been defined by mutual agreement of all seven neighbouring villages, many of which also have women's committees. Those from outside Gundalba have been given this privilege on the promise that they refrain from

cutting or chopping any trees, which they used to do prior to the women-initiated forest protection system. During the remaining days in the month, the Women's Committee patrols the forest and nobody is allowed to collect additional firewood. The regulations established by the Committee are strictly adhered to and respected by the villagers. The Committee has also fixed different levels of fines, as a sort of localized compliance mechanism. For example, if a member of the Committee does not fulfill her patrolling duty, then she must be a fine of 50 Rupees. If anyone is found to be chopping trees or collecting firewood on any day other than the fixed one, the guilty party faces a fine of 200 Rupees. For minor offence, the defaulters are left with strict warning of not repeating the act.

The strong commitment of the community members has yielded rapid and positive ecological results. Since the widespread destruction in 1999 spurred their initiatives, newly regenerated mangrove vegetation and the forest cover (especially of mangroves) has gone up 63% from 2.58 km² in 1985 to 4.21 km² in 2004, even after the super cyclone decimated nearly all mangrove cover. This is due to natural regeneration within newly formed mudflats and the concerted efforts of the local communities to restore the forest. The mangrove vegetation has attracted a lot of residential and migratory birds, which are also a tourist attraction. Furthermore, the mangrove forest serves as a coastal buffer against natural disasters. Buoyed by these results, the Women's Committee plans to expand the mangrove cover in their area even further.

In addition to the effects of this well-organized social institution on the regeneration of the forest, the initiatives of the Women's Committee have also influenced the local youth and children of their village and adjoining villages.

The local youth have formed groups to help protect the Olive Ridley turtles (a Scheduled I species under the 1972 Wildlife Protection Act) during their breeding season. The Women's Committee has constructed an interpretation and learning centre and aims to earn some income through regulated tourism during the breeding season. The youth are also engaged in maintaining an eco-friendly ambience for the tourists and suitable habitat for the local wildlife by collecting garbage and segregating the degradable and non-degradable waste. The degradable waste is converted into organic manure and used in the agricultural fields, but due to lack of technical knowledge and support, the non-degradable waste is left as such. The villagers not only protect the turtles during the breeding season, but also have special fishing norms during the mating and nesting times to avoid contributing to sea turtles' already high mortality rates.

The youth groups and Women's Committee, in addition to elders and others from the community, have recently started thinking beyond environmental protection and have plans for the sustainable development of their village and conservation of the whole coastal ecosystem. They have come together to develop a People's Biodiversity Register of their area and have started devising their own community management plans. All of the above mentioned activities demonstrates the social resilience of the villagers around the mouth of the Devi River and the mobilizing effect that CCIs can have within and among villages towards collective aims of biodiversity conservation.

Lack of legal security threatens to undermine community conservation initiatives

Government initiatives⁸ for the regeneration and restoration of mangroves along

the entire coastline of India tend to involve huge financial investments and are arguably not sufficiently adapted to unique local contexts. In addition, the existing conservation efforts of communities such as the ones described above are unrecognized and may be undermined by large-scale Government initiatives.

The coastal communities around the mouth of the Devi River rightly claim that they had carried out the conservation activities on their own accord after surviving the 1999 cyclone disaster that left not a single tree in their area. After years of concerted efforts, the mangroves and casuarina have regenerated, but the communities now feel betrayed when the Forest Department claims it as Government property and restricts the mobility and access of the communities to the resources. Since the land is legally classified as forestland, it is under the control of the Forest Department but the people were protecting the stretches of casuarina forest. After the super cyclone of 1999, the Forest Department had done the casuarina plantation in 15 sq km stretch. At that time, realizing the need of casuarina forest in their area, the people had *suo motu* given apart some portions of their private land for the plantation purpose. Then the villagers, particularly the women groups of seven villages along the Devi River Mouth formed forest protection committees and started protecting the forest patch with all zeal and vigil. After 10 years of protection, their initiatives had led to growth of well stock casuarina forest, which the Forest Department claims as their forest and does not recognise the initiative of the communities.

In July 2010 the Forest Department started the coupe felling operation and leased out to Orissa Forest Development Corporation for felling of casuarina trees. The women groups who have been protecting the forest vehemently opposed this action of the Forest Department and

they snatched away the axe and embraced the trees, not allowing the Forest Department to chop away the trees which they considered priceless for their livelihood as well as a strong protection barrier against natural hazards, but the opposition of the women group was vain.

Frustrated with the move of the Forest Department, these communities now demand legal recognition of their self-driven conservation initiatives. The communities have now started applying for community rights under the recently enacted 'The Scheduled Tribes and Traditional Forest Dwellers (Recognition of Forest Rights) Act' 2006 (commonly known as Forest Rights Act) over the forestland and the forest resources over which they were depending since generations. They are also demanding for the recognition of their 'rights to protect, conserve and manage their own community forest resources which they have been traditionally protecting and conserving for sustainable use' as mentioned in Sec 3 (1) (i) of the Forest Rights Act. They firmly believe that such recognition would enable them to better manage and conserve the coastal resources and ecosystem⁹.

In addition, there is no law or policy in India that recognizes the customary rights of traditional fisher-folk and other coastal communities that depend upon the coastal land and water for their livelihoods and well-being. The communities demand that the Coastal Regulation Zone Notification, 1991¹⁰ should be amended accordingly. Till date there are no guidelines indicated in the CRZ Notification for the preparation of Coastal Zone Management Plans. The communities demand that Coastal Zone Management plans should be prepared by the government in consultation and repeated discussions with the local communities depending upon the coastal waters. The management plans

thus prepared by the Government should be passed by the village councils or Gram Sabhas so that the plans of the communities are duly reflected in the national or state level management plans. Importantly, they also call for the enactment of a separate Act in line with the recently enacted Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006¹¹, which arguably set a legal precedent for the recognition of the customary rights of tribal and other traditional forest dwellers over their forest resources¹². There are other existing provisions in Indian law and policy that indicate a trend towards recognition of CCIs^{13,14}, but they arguably have limited scope in and of themselves. A separate Act that explicitly recognizes the CCIs of traditional fisher-folk and coastal communities would grant them the right to continue their livelihoods that contribute to the conservation and sustainable use of biodiversity. This would also assist India in fulfilling its obligations under the United Nations Convention on Biological Diversity¹⁵, particularly Articles 8(j) and 10(c), which call on Parties to protect and support indigenous peoples' and local communities' traditional knowledge and customary ways of life that contribute to the conservation and sustainable use of biodiversity. To implement such an Act, *Gram Sabhas* (village council) should be given the authority to develop, implement, and monitor and evaluate their own coastal management plans and the local authorities (*Panchayats*) should be given the power to take punitive action against activities deemed illegal by Federal and State law and by the local management plan.

The need for appropriate recognition and support

The conservation and sustainable use of biodiversity require the full and effective participation of local communities whose

livelihoods depend directly on these resources in decision-making and governance processes. The above example of the initiatives of the Women's Committee near the Devi River mouth illustrates the need for appropriate legal recognition and support of CCIs. In order to do so, the following points need to be addressed:

- CCIs must be legally recognized through elaboration and further amendments of existing laws, including recognition and support of local governing institutions and rights of the local communities over the resources upon which their livelihoods depend;
- Local communities should devise clear guidelines for external agencies who want to support and engage with them to ensure that any interactions are according to locally defined values and priorities;
- Technical and financial support must be provided to local communities contributing to the conservation and sustainable use of biodiversity, including through promotion of sustainable livelihood options (such as value addition and marketing of non-timber forest products and community based ecotourism), scientific monitoring and research, and capacity building to help local communities understand and engage with relevant laws and policies; and
- A holistic approach to development is required in order to take into consideration communities' rights over resources that they have been conserving for generations. Transparent and participatory planning processes would also enable communities to prevent and mitigate activities that are detrimental to their livelihoods and surrounding biodiversity.



It is worth mentioning here that the concerted and continuous efforts of the Pir Jahania women's forest protection committee has been recognized by the Ministry of Environment and Forest, Government of India and very recently the Committee was felicitated by the **India Biodiversity Award** under the category of **Community Stewardship** by MoEF, GoI and UNDP. The Award was given by Ms. Jayanti Natarajan, Hon'ble Minister, Ministry of Environment and Forest, GoI in the **11th Conference of Parties to CBD (Convention to Biological Diversity) held at Hyderabad in October 2012**. The Award ceremony was organised by UNDP and MoEF, GoI on 17th October 2012 which was participated by high level dignitaries from different countries. This recognition has instilled a lot of confidence within the women group and they have resolved to take forward the forest conservation initiative in a much more sustainable and scientific manner.

Community conservation initiatives at the mouth of the Devi River and elsewhere in Odisha illustrate clearly that traditional systems of resource management have conservation values and principles ingrained within them that officially recognized or managed areas often lack. Rather than imposing alternate models on the local communities and undermining their conservation

efforts, it is critical to better understand the values of these initiatives and provide locally appropriate legal recognition and support at the national and international levels.

References :

1. Pathak N, Bhatt S, Tasneem B, Kothari A and Feyerabend, G.B, *Community Conserved Areas; A Bold Frontier for Conservation*, briefing note 5, November'04, Pg.1, 2004.
2. Three mass nesting (*arribada*) sites in Orissa are the Gahirmatha Sanctuary, Rushikulya, and Devi River mouth.
3. The smooth-coated otter is listed in Schedule II, Part II, of the Indian Wildlife (Protection) Act, 1972, Appendix II of CITES, and VU A2cd in the IUCN Red List.
4. Survey conducted by 'Sea Turtle Action Programme (STAP)', a local group working in and around Devi river mouth, in the year 2005.
5. Gundalba is one of the villages located along the Devi river mouth and it is from this village the initiative of community conservation of casuarina forest started in the area.
6. Examples include *Avicennia officinalis*, *Avicennia alba*, *Aegiceras corniculatum*, *Cerriops decandra*, *Acanthus illicifolius*, *Bruguiera gymnorrhiza*, and *Excoecaria agallocha*.
7. The villages include Daluakani, Anakana, Gundalba, Aisinia, Siddikeswar, Sohana and Sribantapur.
8. In May 2010, World Bank aided 'Integrated Coastal Zone Management Project' for Orissa has been approved for its implementation for two coastal stretches i.e. from Gopalpur to Chilika and from Paradeep to Dhamra. The Budget outlay of the project is Rs 227.63 crores (Rupees two hundred twenty-seven crores sixty-three lakhs only). The basic objective of the project is to promote sustainable management of coastal area on a long-term basis to balance environmental, economic, social, and cultural as well as address the livelihood issues of local communities.
9. The Preamble of the Forest Rights Act, 2006 clearly says that 'whereas the recognized rights of the Scheduled Tribes and other traditional forest dwellers include the responsibility and authority for sustainable use, conservation of biodiversity and maintenance of ecological balance and thereby strengthening the conservation regime of the forests while ensuring livelihood and food security of the forest dwelling Schedule Tribes and other traditional forest dwellers.'
10. Keeping in view the importance of the coastal environment and the need to protect the coastal ecosystems from the pressures of developmental activities, the Ministry of Environment and Forests had issued the Coastal Regulation Zone (CRZ) Notification, 1991 under the Environment (Protection) Act, 1986. This Notification, which is still in force, seeks to protect and regulate the use of the land within 500mts of the coast and 100mts along the tidal influenced water bodies. All developmental activities proposed to be located in this zone are regulated under the Notification. It classifies the coastal stretch of the country into CRZ-I (ecologically sensitive areas), CRZ-II (built up municipal areas), CRZ-III (rural areas) and CRZ-IV (Islands of Lakshadweep and Andaman & Nicobar).
11. The Scheduled Tribes and Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006, was notified in 2006. The Act of the Parliament received the assent of the President on the 29th December 2006 and this Act recognizes and vest the forest rights and occupation in forest land in forest dwelling Scheduled Tribes and other traditional forest dwellers who have been residing in such forests for generations but whose rights could not be recorded; to provide for a framework for recording the forest rights so vested and the nature of evidence required for such recognition and vesting in respect of forest land.
12. The Scheduled Tribes and Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 is considered to be one of the most revolutionary acts in the legislative history of India. This Act is intended to redress historical injustice faced by forest dwellers. In addition to the right of community over land and forest produces, in Section 3(1)(k), it also imparts upon communities the right to access biodiversity and the right over related traditional knowledge and intellectual

property rights. For the first time in the legal history of India, the traditional rights of forest dwellers to conserve and nurture their forest resources are recognized.

13. Under Section 36 of the Wildlife (Protection) Amendment Act 2002, Conservation Reserves, which are Government-owned, biodiversity rich areas (particularly areas important as corridors), are recognized as protected areas. In this section, there is also a provision to recognize Community Reserves as protected areas, which includes private and community-owned areas (though most of the common land is taken over by Government) that are imbued with conservation values and/or areas in which the community has voluntarily conserved wildlife. Since most of the CCIs are located on Government-owned lands, these provision are not enough to provide them legal recognition. Furthermore, it is difficult to accommodate diverse, situation-specific institutional arrangements in a uniform configuration such as Community Reserves. The Ministry of Environment and Forest has yet to draft guidelines for implementation of Community Reserves, which would indicate the potential usefulness of the stated provisions.
14. Driven by thousands of self-initiated forest-protecting groups in Orissa, the State government passed a resolution regarding the involvement of communities in forest protection in 1988, and national guidelines were followed under the National Forest Policy 1988 through JFM resolutions that came into practice in 1990. The National Forest Policy is the first national scheme wherein villagers are involved in protection of Reserved and Protected forest. Now thousands of *Vana Samrakshan Samitis* operating in Orissa enjoy recognition of their usufruct rights and share in the benefits of conservation, including through funds to support their efforts.
15. The Convention on Biological Diversity (CBD) entered into force on 29 December 1993. The objectives of this Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.