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Community and Conservation: A Study in A Wetland Area Near Guwahati City

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Abstract

Wetlands are valuable ecosystems playing many integral roles of economic, social and environmental concerns, also supporting aquatic and terrestrial biodiversity. Dependence of indigenous communities on the resources procured from wetland provides livelihood, thus strengthening the connection between the two. Lately, unprecedented urban growth and development have jeopardized the value of wetlands. The clarion call from conservationists to protect a wetland from shrinkage due to human activities, many times seem to alienate local communities from benefits of a wetland. Restricting human use of wetland resources or activities in the wetland for conservation purpose results in a rift between conservation policies and beliefs of the local communities. The present research had been carried out in a village near Deepor Beel, a Ramsar wetland in the city area of Guwahati, Assam, India. In this work, an attempt has been made to study about the dwelling community of the village and the relation shared with the wetland which is being questioned by impacts of urbanization and the demands of conserving the wetland.

Keywords: Wetland, Community, Conservation, Urbanisation.

Introduction

The cooperation and participation of a community in conserving a wetland or any other natural resources is essential to restrict any detrimental cause affecting the environment of the wetland or any natural resource. Community participation may vary from being motivated to be stakeholders in conservation or it may also result in consequent withdrawal of community participation from conservation strategies and procedure depending on the nature of relationship shared by the community, public and private partnership. Community involvement in protecting a wetland from eroding into harmful effects of urbanization, get limited when decision-making process tumble into weak communication skills and lack of capacity of the public-private stakeholders to monitor the participation process throughout. Conservation planning process faces the problem of negotiating plans and stages of conservation when the local community departs from the opinions of the conservation systems. In order to process the successful implementation of systematic conservation planning and to get the positive behavior of the local communities, attention may be drifted towards the community conservation approach. The "community conservation approach" seeks to accommodate local peoples' needs and aspirations by empowering them, promoting their active participation in local resource management and improving their economic welfare (Songorwa, 1999; Infield and Namara, 2001; Mehta and Heinen, 2001; Vodouhe et al, 2010).

Numerous factors can influence the level of community participation present at different stages of conservation projects (E. Rodriguez-Izquierdo et al, 2010). One potential factor can be referred to the use and issue of power. In many cases, to achieve a more participatory model of conservation, governments must be willing to cede at least some power (Barrow & Murphree 2001; Berkes 1994; E. Rodriguez-Izquierdo et al 2010). Hurdles to community participation in conservation may also surface when dependence of the community on the resources come to limelight. Greater local dependence on resource extraction can increase vested interest in conservation action and influence levels of local participation in management activities (Adams & Hulme 2001; Barrow & Murphree 2001). Imposition of restrictions on the local communities in access to the natural resources within the periphery of the local communities may give rise to social tensions and lead in disrupting the health of the population residing in and around the wetland or any natural biodiversity. Likewise, certain conservation costs, including loss of land or

resources use rights, place acute strains on local livelihoods, and can lead to strong feelings of resentment towards any conservation agenda (Agrawal et al. 2008). Notions of community participation in conservation at many times may differ from actual levels of participation.

Wetland ecosystems maintain a region's landscape by providing numerous ecological benefits and also support natural habitats for innumerable species of birds, flora, and fauna. The value of wetlands are immensely high as they store and release surface water, they serve as rainwater harvesting sites and are associated with livelihood and sources of food and economic advantage. Species of algae and myriad plants garner the capacity to accumulate remnants of metallic pollutants, thus providing wetlands the scope to maintain and regulate climate, temperature, and moisture. However, they are ecologically sensitive and adaptive systems (Turner et al., 2000) and because of unplanned urban growth and land conversions wetlands in most urban and suburban areas are in danger (Bhattacharya and Kapil, 2009; Han et al., 2009; Mea., 2005; Prasad et al., 2002; Mozumder and Tripathi, 2014). Mitsch & Gosselink (2000) opine that "wetland functions and thus values have the potential to last for a very long time. Modern agriculture or industrial/commercial activity are generally unsustainable and resource depleting (soil loss; use of fossil fuels) so the lifetime of these human-based alternatives is short lived. Even public works projects have time spans of 50-100 years. A corollary of this point is that once wetlands are lost through developments, the loss of their functions and values is often irreversible".

Deepor Beel, a freshwater lake located about 10 km southwest of Guwahati, is one of the large and important riverine wetlands in the Brahmaputra valley of lower Assam (Mozumder and Tripathi, 2014). In 2002, it was recognized as one of the most significant wetland systems in the world under the Ramsar International Convention on wetlands as reported by the World Wildlife Fund (WWF) on the fulfillment of 5 out of 8 Ramsar criteria (RIS, 2002; Mozumde and Tripathi, 2014). It is believed that the wetland is an abandoned channel of the Brahmaputra river situated in a wide U-shaped valley rammed between two cliffs on the north and the south (MoEF, 2008; Mozumder and Tripathi, 2014). A perennial stream originating from the Basistha basin runs through the wetland and finally joins the Brahmaputra River at Khanamukh. The wetland stands 4-5 m deep during the monsoon season and up to 1 m deep in the dry season where the major sources of water to the wetland are monsoon precipitation and some inflows from bharalu and kalmini rivers (tributaries of the river Brahmaputra) adjoining the wetland (RIS, 2002; Mozumder and Tripathi, 2014).

Deepor Beel is listed as one of the threatened Ramsar sites (declared as the only Ramsar Site in the state of Assam on November 2002), which has undergone degradation in biological aspects, water quality and quantity and spatial extent (RIS, 2002; Mozumder and Tripathi, 2014). The Ministry of Environment and Forests (MoEF) has identified several major threats to the wetland, namely (1) the construction of a railway line along the southern boundary of the Deepor Beel, (2) industrial development within the periphery of the Beel, (3) large scale encraochment and state-run as well as private settlements within the Deepor Beel area, (4) alloting vacant public land to private parties by the governments's settlement departments, (5) brick factories and soil cutting within the wetland system, (6) uncontrolled fishing practices without limiting mesh size and water pump use, (7) municipal garbage dumping site in the southwestern part of the Beel, etc. (MoEF, 2008; Sharma et al, 2012; Mozumder and Tripathi, 2014).

Deepor Beel humbly maintains its relationship with the fourteen villages by being a major source of livelihood for the dwelling communities. Also, it has been recognized as a National Bird Sanctuary. More than 19,000 birds migrate to the wetland Deepor Beel every year, thereby making the wetland one of the renowned staging site for bird viewing. During monsoon, a huge part of the wetland is covered by aquatic vegetation, mainly water hyacinth and aquatic grasses, Nymphaea, hydrilla, water lilies and other submerged, emergent and floating vegetation (Saikia, 2005; Mozumder and Tripathi, 2014).

Aim of the Study

This study intends to examine the relationship between community and conservation with respect to a wetland near Guwahati city, Assam.

Importance of the Problem

Heavy human development mitigates the values of the wetland. The conservation of wetlands calls for participation of local communities and the authorities assigned to take care of the wetland management. The local people live by the resources and harness the benefits offered by the wetland. They engage in activities like traditional fishing in order to upkeep the family or community heritage. In the bid to protect a wetland, many times the local people are forced to abandon their relation shared with the values and functions of the wetland. The problem lies in the fact that local people and natural resource (wetland is referred to in this context) are often seen as disconnected and separate entities, which calls for human alienation and exclusion, thereby ignoring the interests of the local people and forbidding them to use the resources. With an aim to integrate conservation measures and protect a wetland from human interferences, public-private stakeholders and local community fall into a conflict of ideas.

Local communities need to be seen as an equal entity in conserving a wetland. Representing their voices and opinions in decision-making process shall enrich wetland conservation, sustainable development, and livelihood for the communities. Distributing power to indigenous communities shall recognize traditional rules and conservation practices which in turn will encourage self-organization, capacity building and restore communication among local communities, public authorities, and private enterprises.

Objective of the Study

1. To study about the dwelling community and their problems.
2. To study the impact of urbanization on the wetland and the community.
3. To study about community participation in conserving the wetland.

Review of Literature

Mitsch & Gosselink (2000) in the study "The value of wetlands: the importance of scale and landscape setting" found that wetland value increases with human development in form of agriculture and urban plans but wetland value drastically falls with unchecked heavy human development.

E. Rodriguez-Izquierdo et al, (2010), in the study "Barriers and triggers to community participation across different stages of conservation management" observe that community participation in natural resource management involve various levels of participation which may at times facilitate eager community involvement and at other times lower levels of committed community indulgence.

Vodouhe et al, (2010), in the study "Community perception of biodiversity conservation within protected areas in Benin" found that considering perceptions of local residents have been vital in encouraging the positive behavior of local community in managing the protected area in contrast to forcing non-indulgence of the local community by coercion.

Bassi et al, (2014), in the study "Status of wetlands in India: A review of extent, ecosystem benefits, threats and management strategies" reviewed that wetlands are fragile ecosystems which are under grave stress of urban development and has suggested that immediate attention and conservation strategies are required to save the wetlands from vanishing from sights.

Mozumder & Tripathi (2014) in the study "Geospatial scenario-based modelling of urban and agricultural intrusions in Ramsar wetland Deepor Beel in North-East India using a multi-layer perceptron neural network" used an artificial neural network (ANN) to predict the future of the wetland where the different zoning policies shall help to reduce the impact of urban growth on the wetland in future.

Sharma & Sarma (2014) in the study "Issues of Conservation and Livelihood in a Forest Village of Assam" has highlighted the conflict among the forest village and their rights with the forest department and the conservation approach of the state in protecting the reserved forest.

Bhatta et al, (2016) in the study "Ecosystem Service Changes and Livelihoods Impacts in the Maguri-Motapung Wetlands of Assam, India" identified that wetland ecosystem has been affected by over-exploitation of wetland resources and consequent decrease in availability of fish, storks, and tourism, thereby calling for actions needed to sustain livelihood and flow of wetland service.

Williams (2002) in the study "Community Participation in conserving and managing inland waters" have stressed the importance of community support in order to make management implementation effective. He opined that the responsibility lies in the community to realize the importance of natural resources and the need to inculcate environmental education since childhood.

Research Design

Universe of the Study

The study has been carried in a village named Keotpara (northern fringe of the wetland, Deepor Beel) in Azara, Guwahati near the wetland Deepor Beel, a Ramsar site and a National Bird Sanctuary, now threatened by the burgeoning impacts of unsystematic urban planning. This village is adjacent to the wetland Deepor Beel and the community dominant in the area is Keots, who are recognized as the traditional fisherfolks. The distance between Azara and Keotpara is about 0.55 km. Azara is a locality in the north-western part of Guwahati in Assam in North-Eastern India. Azara is located about 4 kilometers from the Lokapriya Gopinath Bordoloi International Airport of Guwahati.

Research Instruments

The research has been carried on the base of qualitative method precisely exploratory research design. The study has been conducted using primary data involving fieldwork comprising semi-structured interview, observation method, and stratified random sampling. Semi-structured interview has been conducted on a total of 12 villagers of the Keot community of Keotpara. Secondary data comprising the review of the literature has also been referred too.

Analysis and Discussion

One of the dwelling communities near the wetland is the Keots, a social community of traditional fisher folks. The keot community belonging to the village Keotpara depends on the wetland for their sustenance and engages in the occupation of fishing in the wetland. The collection of fish from the wetland and consequent selling of fishes in the local markets as well as in the residential areas of the Guwahati city, the community has been carrying on the legacy of fishing since the time of their ancestors. The wetland serves as an important ground for freshwater fish population and many other water plants and flowers of medicinal value. The community has been apprehensive about the status of the wetland and their source of livelihood. In a bid to conserve the essence of the wetland, the Forest Department had sanctioned a notification on January 2011 to annul the activities of fishing by the local community residing within the periphery of the wetland. Extensive fishing on the wetland has been said to be a factor of wetland degradation. In retaliation to the decision of the forest department, the Keot community continued to engage in fishing to curb the risk of livelihood. The community calls the attention of the public-private stakeholders to address the former's grievance regarding the decision of the Guwahati Municipal Corporation (GMC) in 2006 to use the wetland as a dumping ground. Tons of household refuse and industrial wastes are being generated by the city of Guwahati which is being disposed on the margin of the wetland. This has exposed the human population to severe health hazards and environmental risks thereby weakening the nutritional value of the wetland. The community

refers to the dichotomous role to the public departments. On one hand, attempts had been made to ban fishing justifying that it is detrimental to the health of the wetland and on the other hand, the fringes of the wetland are being used as grounds of garbage disposal. Industrial effluents in the wetland have aided in contaminating the water of the wetland, devastating the aquatic life as well as lowering the rate of migratory birds and questioning the consumption of water by the human population. The community felt agitated on being denied to be the beneficiaries of any fishing rights which according to them has defamed their ancestors engaged in fishing.

Urbanisation has assisted in bringing social change. The community residing by the wetland had shifted from rural-based occupation (Fishing) to urban-based services (Airport ground duty, Working in defense jobs) to supplement more earning to the livelihood of families. Traditional gender roles turned to a new dimension. Women had been seen to participate in work that interests them (Weaving with a free-standing loom) and partially abandoning the role of assisting their male counterparts in fishing.

Community participation in managing the wetland calls for assuming new roles both by the local community and government-private agencies which in turn shall benefit them. The local community residing within the margin of the wetland shares a harmonious rapport thus holding the wetland in high esteem. The community has the willingness to preserve the wetland and desires that the traditional occupation of fishing should be inseparable from them. They aspires the need for conservation policies and strategies to be implemented which also requires focusing on unplanned urban growth, garbage dumping and not simply gazing on their fishing activities. The community opined that any conservation plan enclosing the wetland and curbing relation with the community shall invite hostile consequences from the community.

Summary and Conclusion

The present research intended to shed light on the relationship shared by the local community and the conservation strategies with regard to the wetland. Keeping a balance of environmental quality and reaching the needs of the human population is a challenge to cope with. On the face of growing urbanization, efforts are to be taken to control the dreaded consequences of recurring urban plans. Willingness on part of the community to restore the balance of the wetland can be induced with the help of alternative means of livelihood to lower the pressure on wetland produced by intensive fishing. As the wetland is a threatened Ramsar Site, efforts are to be taken to motivate and assimilate the local community to explain them about threats posing to the wetland and secure their involvement in conserving solutions. The attitude of the public-private enterprises in regard to conservation could have a significant impact on the community which shall further determine positive cooperation or negative withdrawal from conservation and management systems. The community has the potential to be an effective tool in conserving by the use of local historical conservation procedures which can be merged with active modern conservation process.Gender equality could be enhanced when effective participation of women of the region in “wetland management” is encouraged and supported.

Suggestion

To ensure sustainable use of wetland resources, a sustainable policy in Assam must be incorporated to facilitate the speedy implementation of conservation methods and communities are to be regarded as equal partners of conservation. Regarding the community as important stakeholders in conservation, they need to be consulted and made active members of every development phase. In the better interest of the wetland and community's traditional way of sustaining livelihood even in the face of incessant changes, the community is to be encouraged to use wetland resources under proposed norms. The conservation policymakers need to direct attention towards exploitation of wetland or land within its fringes by human intervention.

Prospects of eco-tourism, developing the weaving sector within the locality of the community, training the people of the village to inculcate skills of self-employment, allocating the land area to grow kitchen garden and other measures to procure livelihood and reduce conflict are to be ensured. Conveying the community of the uses and non-uses of the wetland resources through public awareness could be adopted. As the beliefs of the community are influenced by traditional outlook, whereby they are to realize the changes required in conservation which can include both conservation objectives and the historical practices if any.

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