

Chilika Lagoon, India: Reflections of Community Conservation

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Key Messages

- Fisher communities in the Chilika Lagoon should be an integral part of policy creation for lagoon governance.
- Current community based institutions can be revived and reengaged in the management of capture fishery in order to strengthen fishery-based community livelihoods and food security.
- In Chilika Lagoon the majority of outmigration is temporary or seasonal in nature which makes it possible for migrating fishers to reoccupy their customary fishing spaces if aquaculture is vacated.

Community Introduction

Connected to the Bay of Bengal in the south, with the Eastern Ghats Mountain ranges forming most of its catchment on the north and the west, Chilika Lagoon is a Ramsar Site of international conservation importance and a biodiversity hotspot (Figure 1).

Rare, vulnerable, and endangered species inhabit the lagoon. It is the largest wintering ground for migratory waterfowl found anywhere on the Indian subcontinent and home to Irrawaddy dolphins and the Barkudia limbless skink. The total

number of fish species is reported to be more than 225. Along with a variety of phytoplankton, algae, and aquatic plants, the lagoon region also supports over 350 species of nonaquatic plants and over 800 species of fauna⁽¹⁾. This represents the ecological subsystem of the lagoon and offers a solid ecological foundation to the lagoon's small-scale fisheries system.

The Chilika Community

The regional biodiversity is an integral part of sustaining the culture and livelihoods of the roughly 400,000 fishers and their families, who live in more than 150 villages. People in these villages have been engaging in customary fishing occupations for generations. The fishery consists of traditional fisher groups whose vocation is



Figure 1: A map of the study villages located in the Chilika Lagoon, in Orissa State in India.



identified by their membership in certain Hindu castes: there are seven different types of fisher castes and five sub-castes in Chilika. The lagoon ecosystem also indirectly supports 0.8 million non-fisher higher caste villagers (e.g., Brahmins, Karans, Khandayat, and Khetriyas) in the watershed areas, whose occupants traditionally engage in farming, forestry, and other livelihood occupations.

Conservation and Livelihood Challenges

Due to large-scale forest and land degradation, subsistence based on agriculture and forestry is on the decrease. Consequently, a number of non-fisher caste members have now turned to aquaculture, and in some cases regular capture fishing, as a growing source of income.



Figure 2: Chilika Aquaculture.

One example of this was the growth of shrimp aquaculture in the 1980s, which led to questions about access, usage rights, and changes to the rules of the game in the lagoon fish economy. Another detrimental force on the Chilika lagoon was the opening of a new sea mouth to the Bay of Bengal in 2001, which has had a direct impact on biophysical processes and, by extension, associated livelihood systems. Some of the key challenges resulting from the above two scenarios are described here.

Conservation Consequences

- Disturbance of the salinity regime and the fresh water/salt water balance.

- Random changes in water depth.
- Increase in sand deposits, especially in the lagoon's outer channel areas near the new sea mouth.
- Changes in the nature of the water inflow and outflow during high and low tides.
- Infestation of barnacles affecting both fishers and their equipment.
- Sudden appearance of what local people call sea creatures, such as the stingray, octopus and jelly fish.

Social Consequences

- Fish production reached an all-time low, and the small-scale fisher economy, efficiently run by caste-based fishers and their organizations for centuries, began to collapse.
- Household incomes dropped as a result of the decline in fish production, contributing to the loss of fishery-based livelihoods.
- Local subsistence and household economies came under stress, severe food insecurity in fisher communities became evident, increasing fishers' dependence on staggering amounts of cash loans with interest rates of 60-120% per annum.
- More than one-third of adult fishers and their families were occupationally displaced from fishing and either migrated to urban centers as unskilled workers or took up daily wage labor.
- Elite capture of customary fishing areas through encroachment acted as a vehicle for the growth of aquaculture in Chilika. Influential people took control of the lagoon resulting in serious issues around fishers' access rights and entitlements.



Community Initiative

Fishers use a well-known metaphor which best explains the level of their response to these challenges and initiatives: “For the poor, when hunger becomes unbearable, movement and protest becomes our last resort⁽²⁾.” This suggests that social and political struggles and movements are the ultimate options for the fishers when social, economic, political and environmental problems become rampant. Fishers realize that when everything seems to be going against them and nothing really works in their favour, coming together to protest the acts of the external forces becomes an obligation.



Figure 3: Chilika fisher protest movement.

In the past such protest movements have been effective. For example, the Tata Industrial Group withdrew in 1992 due to massive protest and lobbying by fishers which resulted in a denial of environmental clearance to the corporation from the central environment ministry. Legal activism gave rise to successful court cases in the State High court and federal Supreme court, leading to a ban on aquaculture in and around the Lagoon. In 1999 an anti-aquaculture protest movement was launched by the Fisher Federation with support from the National Fish-workers’ Forum (India) and the World Forum of Fish-harvesters and Fish-workers. The Chilika Fisher Federation continues to play a leadership role in fighting for fishers’ rights.

Livelihood reactions from fishers include efforts at diversification of occupation such as seasonal outmigration and non-fishing income activities. Traditional village institutions have taken initiative to fill the gap created by the gradual dysfunctionality of the primary fishing cooperative societies due to recent policy changes and decrease in fish production.

Practical Outcomes

During several community meetings and policy workshops (Figure 4), fishers expressed their desire for priority to be given to community level institutions, while also recognising that other institutions at multiple levels can work together with local institutions. Further, communities feel that the dominance of higher level government institutions can be minimised and bottom level institutions that often do not get an opportunity to participate in fishery related decision-making should gain some much required political space. The fishers also noted the need to revise some of the earlier institutions that have been dissolved by the government (e.g., Central Fishermen Cooperative Marketing Society) or those that have become dysfunctional (e.g., Primary Fishermen Cooperative Societies at the village level).

All of this is contained within a possible solution to the issues faced in the Chilika lagoon: introduction of a polycentric system, one involving multiple governing authorities at differing scales rather than one monocentric unit. Each governing authority within a polycentric system can exercise considerable independence to make norms and rules within a specified domain. This system contains overlapping domains to encourage communication between governing authorities. For example, information about what has worked well in one setting of the lagoon can be shared with others. Additionally, if one governing authority fails there are others that can be relied upon.



For the lagoon, many of the required institutions are already present, but a shift to a polycentric arrangement will make the responsibilities and the authorities of each institution clear, making it easier to hold institutions accountable when they detract from their responsibilities. Suggestions for polycentric arrangements came from the fishers, with a key element being that the fishery institutions in the Chilika lagoon would have some authority to create regulations, so the community could take advantage of local knowledge and learn from others engaged in similar systems.



Figure 4: Fisher presentation at a policy workshop.

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Additional Reading on Chilika Lagoon

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