

Participatory Approaches to Reservoir Fisheries Management: Issues, Challenges and Policies (M.J.S. Wijeyaratne & U.S. Amarasinghe eds). pp. 17-29. © Sri Lanka Association for Fisheries and Aquatic Resources, 2008

Development of participatory approaches for the management of culture-based fisheries in the oxbow lakes of Bangladesh

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Abstract

Oxbow lakes (local name: *baors*) are semi-closed water bodies, which occupy the dead channels of the rivers in the moribund delta of the Ganges in the south-western part of Bangladesh. They are formed when some meandering rivers became old and changed their watercourses through hydrodynamic processes isolating the cutoff oxbow bends. They differ markedly from lakes and reservoirs in having connections with the parent rivers through channels at least in the monsoon with a fresh supply of riverine water carrying fry, fingerlings and adults of various fish species. Moreover, the oxbow lakes are an abode of non-stocked indigenous fish species most of them breed and thrive there throughout the year. Open water capture-fisheries of the oxbow lakes have been converted into culture-based fisheries by screening the inlets and outlets and stocking of carps. Carp stocking i.e. releasing of fingerlings of three species of Indian major carps (catla, *Catla catla*; rohu, *Labeo rohita*; and mrigal *Cirrhinus cirrhosus*) and three species of exotic carps (silver carp, *Hypophthalmichthys molitrix*; grass carp, *Ctenopharyngodon idella* and common carp, *Cyprinus carpio*) of desired species, size and number is a major technical intervention to increase yield of the oxbow lakes. Different stocking and harvesting regimes are practiced in the oxbow lakes. The management regimes include high, moderate and low stocking rate; multiple, continuous and single stocking, and continuous and periodic harvesting. There was also variation in the management system like private management system, public management system and community based management system. The paper reports strengths and weaknesses of the different management systems adopted at different times for the management of the oxbow lakes of Bangladesh.

Institutional management with active participation of all stakeholders has been identified as one of the key components for successful implementation of the culture-based fisheries management in the oxbow lakes. The success of participatory management, as demonstrated in case of the Oxbow Lakes Small Scale Fishermen Project, Second Phase (OLP-II), lies in its approaches to ensure community participation. The project was successful in transferring and institutionalizing fisheries management of 20 oxbow lakes to the fishers themselves by ensuring their participation in management. Thus the success of co-management of OLP-II can be attributed to the following key components:

a) Long-term security of tenure was guaranteed. Twenty three oxbow lakes were handed over by the Ministry of Land to the Department of Fisheries (DoF) for exploitation by the Lake Management Group for a period of 50 years, on a 10-year renewable lease, based on satisfactory performance of Fisheries Management and timely payment of the annual lease fee.

b) Enlisted fishers were given fishing rights through annually renewable licensing system.

c) Ensured participation of all stakeholders (fishers, NGOs, DoF officials and local government) in the culture-based oxbow lake fisheries management process.

d) Developed appropriate institutions for implementation of the biological and social management tools of fisheries.

e) Developed appropriate stocking and harvesting strategies.