

## **Diversity and Conservation of Small Indigenous Freshwater Fish Species of India**

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### **Abstract**

Biodiversity conservation in general and fish genetic resources in particular have become an issues of great concern both globally and nationally. India is one of the 17 mega biodiversity hot spots contributing 60-70% of the world's biological resources. In India, out of 765 native freshwater fish recorded by NBFGR, about 450 may be categorized as small indigenous freshwater fish species (SIF) which grow to the size of 25-30 cm in mature or adult stage of their lifecycle. Of the 450 SIF about 23% are highly important as food and local significance and play a significant role in the aquarium trade and in providing local livelihood security. Although rural population depend highly on indigenous species of fish for nutrition in many parts of India, very little attention has been paid on their role in aquaculture enhancement, nutrition, biology, captive propagation and biodiversity conservation research. They are quite invisible, absent from statistics and indigenous knowledge about the SIF and their benefits has been poorly documented. Consequently, many small indigenous fishes have become threatened and endangered due to pollution, over exploitation coupled with habitat destruction, water abstraction, siltation, channel fragmentation, diseases and introduction of exotic varieties. In order to achieve sustainable utilization, appropriate planning for conservation and management strategies are of utmost importance. The greatest challenge is to secure the IPRs related to SIF's so that the country is able to maintain its stake on its indigenous resource and their potential benefits. Conservation of SIF is also essential to maintain ecological/nutritional and socio-economic equilibrium. Species diversity and genetic variability are necessary for the long term maintenance of stable, complex ecosystem and species. The potential areas for future research includes integrated system approach and adopting *in-situ* and *ex-situ* measures including conservation aquaculture, live gene banking, tissue banking, valuation, evaluation and registration of the genetic resources, monitoring critical parameters and replacement of natural stocks through ranching, community participation, HRD and capacity building. The present paper addresses the challenging issues for sustaining aquatic biodiversity, management of freshwater resources, and highlights the research priorities and needs to develop appropriate conservation strategies for small indigenous freshwater fish species.