

## **Conserving Inland Aquatic Biodiversity in the Tropics: The Needs for a Strong Foundation with Databases and Information Network**

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The inland aquatic ecosystems account for a very high proportion of the Earth's total biodiversity, disproportionate to their total geographical area. The tropics lying within 35°N and 35°S are particularly rich in aquatic biodiversity despite the fact that a significantly large part of the tropics and subtropics are arid to semi-arid. The diversity of aquatic ecosystems ranges from billabongs to the mighty Amazon and the large Rift Valley lakes. The large expanse of northern peatlands and the numerous large lakes of the temperate and boreal regions are easily surpassed by the tropical seasonal water bodies in their biodiversity. The aquatic biodiversity in the tropics supports both the economics of these countries and livelihood of millions of people. Local communities throughout the tropics have traditionally used many aquatic organisms (other than fish) for health and nutrition, and there exists considerably large economic potential that is yet to be fully explored. However, not only the conservation has received least attention but the unique biodiversity is also the most threatened because the aquatic ecosystems are seriously impacted by large-scale regulation of rivers and growing levels of organic and toxic pollution. Alien invasive species both from within and outside the tropics are another major threat to the tropical aquatic biodiversity.

In most parts of the tropics, our understanding of the aquatic biodiversity is based largely on the expeditions and investigations by researchers from temperate Europe. Indigenous expertise is rare and very little only a few countries. Interestingly, complete inventories of the entire range of aquatic biodiversity have probably never been attempted for any water body. For most of the taxonomic groups, the latitudinal gradients in the aquatic diversity are not clear but the identification of most organisms (other than fish and birds) remains a serious handicap in its assessment and monitoring. The genetic diversity within the species is also least investigated among the aquatic organisms.

The need for training and capacity building together with the creation of national or regional databases and networking among researchers within tropics and all those with experience in the tropics cannot be underestimated in the wake of all tropical countries having joined the Biodiversity Convention. In many countries there are no national collections of specimens of plants, animals or microorganisms that are essential to the correct identification of the taxa. In vast majority of cases, there is no expertise available to identify the organisms (particularly algae and benthic invertebrates) to the species level that is required for proper assessment of biodiversity and monitoring of the changes in aquatic ecosystems under anthropogenic impacts. The networking through online databases and publications will help the planners, policy makers and researchers alike and contribute to improved policies for conservation.