

THE IMPORTANCE OF NON-COMMERCIAL FISH

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Keywords: Larvae, juveniles, subsistence fisheries, coastal zone, artisanal fisheries, bycatch.

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Summary

This article deals with the importance of finfish that are not sold on any market. We detail two major points of view: the ecological significance of larvae and juveniles for future harvests, and the importance of subsistence fisheries as a food supply, particularly in the tropics. In the first case, we show that larvae and juveniles of many commercially important species are linked to estuarine and coastal environments and to their quality; they are also dependent on other species of no commercial interest. Although they do not target juvenile fishes, trawl fisheries may exert a significant negative role on their survival and therefore on future catches. However, in all cases, the relationship between juveniles and adults is difficult to quantify. In the latter case, available data show that gleaning, family fishing, and other usually neglected types of fish catch can result in surprisingly high yields not far from those of artisanal fisheries. Both these concerns require an ecosystem approach to ensure the sustainability of the resource.

1. Introduction

This article aims to overview fish resources that are not subject to trade and thus are not accounted for in economical statistics. This comprises fish harvested by subsistence fisheries (e.g.; gleaning or spear fishing, excluding artisanal fisheries) but also ontogenic stages of no commercial interest. We only consider finfish resources (other marine products being treated in other articles), and their importance is understood in terms of effective or potential food supply.

In addition to surveying adult fish of interest to commercial fisheries, a comprehensive approach to the resource must also integrate larval and juvenile fishes as an indissociable part of it. The first section of this article addresses the importance of this often cryptic component. Larvae and juveniles usually grow in coastal and estuarine waters, making these zones particularly important for the sustainability of the resource.

Ichthyoplanktonic studies show that unfished taxa account for the majority of fish larvae and play an important role in trophic food webs. Although the relationship between proportions of young and adult fish has been poorly quantified, fish trawlers discard huge amounts of young fish, which might adversely affect the sustainability of commercial fish stocks.

In the second part of this article, the importance of non-commercial fish for human consumption is pointed out. In developing countries, population expansion combined with poor economic conditions and limited employment opportunities lead to a development of low-cost subsistence fisheries. The extent of this sector has scarcely been assessed, although available information shows that it is significant. An excerpt from Blaber (1997) summarizes the importance of subsistence fisheries in certain tropical countries, the gender and inter-generational issues involved, and the unknown importance of their yields: the hilsa fishery in the Bay of Bengal “has subsistence, artisanal and commercial sectors, although there is considerable overlap between all three, and very large numbers of people are dependent on the fishery [which produces more than 100 000 tons per year]. The subsistence sector comprises mainly the fishing activities of women and children who catch juveniles in the estuaries and rivers [...]. There are conflicts of interest between the sectors, with the commercial fishers believing that the catching of juveniles by the subsistence sector adversely affects adult stocks [...].”

These two aspects of non-commercial fish highlight the necessity of a comprehensive approach of the fish resource at the ecosystem level.

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Biographical Sketch

Eric Baran is a fish biologist specialized in tropical communities and statistics. His Ph.D. in Biological Oceanography (University of West Brittany and ORSTOM, France) dealt with estuarine and mangrove fish assemblages in West Africa. He deepened the multivariate statistical approach of fish communities at Lyon-1 University (France). He worked as a biology lecturer in that University, then as a consultant for the IUCN, the UNEP, the WHO, etc. He is currently a Project leader at ICLARM-The World Fish Center, and focuses on global management of the Mekong River fish resource. His publications cover tropical fish biology, coastal ecology, resource management and statistical analysis.