INTRODUCTION AND ACKNOWLEDGEMENTS

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Human Ecology has served as a discipline, as a paradigm and as a frame of analysis on a diversity of themes and features that link people to their environment. Human Ecology made the aggregation possible of a variety of thoughts, concepts and disciplines on specific and general environmental questions. To the extent that the gaps between the great branches of learning can be narrowed, diversity and depth of knowledge will increase (Wilson, 1998). Certainly, Human Ecology has contributed to diminish gaps between disciplines and to increase knowledge by allowing the interlacing of questions and answers among disciplines.

During the last decade, conservation issues were often integrated in Human Ecological research and Ecological Economics and Ethnobiology, as long as management depended on users, especially those who live in 'hot' biodiversity spots. Works such as Berkes and Folke's (1998) demonstrated how to integrate such ecological questions and disciplines. Tropical countries include most hot spots of the world. The opportunity to develop a symposium on native, local and indigenous knowledge in a congress on tropical biology is very special.

The Annual Meeting of the Association for Tropical Biology will be held in Bangalore, India, July 15-18, 2001. The theme is 'Tropical Ecosystems: Structure, Diversity and Human Welfare'. This volume includes the full papers of the contributions to the Symposium on 'Indigenous knowledge and its relevance to conservation and management of Tropical Ecosystems' (A. Begossi and M. Gadgil, organisers). This issue includes papers on human ecology, ethnobiology and local management of natural resources. Case studies on the interactions between terrestrial (invertebrates and plants), aquatic organisms (fish), and land use changes in different continents (Africa, Asia, America) show the diversity of topics and areas included in this volume. After receiving the contributions, we decided to entitle this symposium *'Local Knowledge in the Tropics: Relevance to Conservation and Management'*. By doing so, we avoid misinterpretations, and we take into account any category of local knowledge that has implications for conservation and management, in spite of being traditional, recent or

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consistent to just one culture (Figure 1).[1] We take into account that inhabitants of hot spots often include different populations (especially migrants), even when they are natives of a same country or when they speak the same language. In Brazil, e.g., inhabitants of the Upper Juruá Extractive Reserve include native caboclo and north-eastern migrants (Begossi *et al.*, 1999).

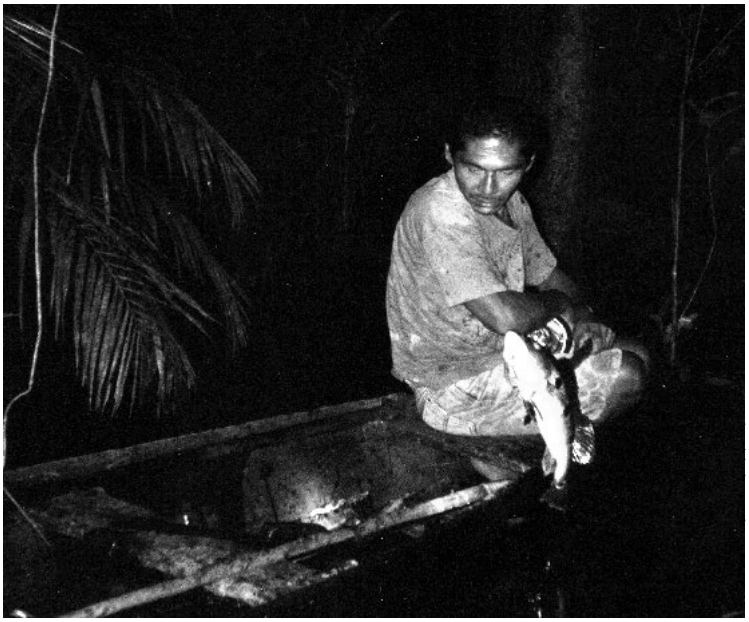

Figure 1. Fishing at night at the igapó (flooded forest) at the Negro River, Amazon. The fish locally called tucunaré (*Cichla* sp.) was caught using a zagaia (a type of trident). This kind of fishing tactic and technique is possible due to a deep knowledge and interaction between fisher-environment. Photo by A. Begossi.

The idea of publishing the papers from the ATB Symposium at Bangalore, India, as a separate volume came after earlier successful experiences, such as the one on Human Ecology, organised by Hens, Borden, Suzuki, and Caravello (1998) at the Intecol Conference, held in Florence, Italy (July, 1998). Having the opportunity to meet L. Hens in Jackson Hole, Wyoming (USA) at the Conference of the Society for Human Ecology (October 18-22, 2000), we decided that the information resulting from this rare opportunity, a symposium on indigenous knowledge on tropical biology,

[1] According to Berkes (1999: 8) the terms 'traditional ecological knowledge' and 'indigenous knowledge' have often been used interchangeably; it can be argued that indigenous ecological knowledge is a sub-set of local ecological knowledge. Berkes (1999) limits the use of the term 'traditional ecological knowledge' to 'ecological knowledge', considering it as a subset of 'indigenous knowledge'.

should be made available for researchers and students on conservation, human ecology, ethnobiology, ecological economics, and related disciplines.

This volume includes studies from tropical areas in different continents. One study stems from Africa (Mozambique), five from Asia (Mekong Basin, Pacific Coast, the Indian subcontinent, Vietnam and China) and three relate to South America (Amazon Basin, Brazil and Colombia). The subjects focus on the interaction of tropical people and their natural resources in areas of high biodiversity, including their knowledge and use of terrestrial and aquatic habitats. The use of terrestrial habitats includes the use of plants in Brazil and Mozambique, land use in Vietnam, and invertebrates in Amazonia. The knowledge and use of aquatic habitats include the interaction between fishers-fish in freshwater environments, such as in the Mekong River and in Amazonian rivers (such as Araguaia and Negro rivers), as well as in marine environments, such as Atlantic Forest and Pacific coastal fisheries. Local interactions among people towards local management are addressed in studies at South American and Asian sites.

The first three studies (Begossi *et al.*; Paoletti *et al.*; Matavele and Habib) concentrate on the local knowledge and use of animals and plants by South American and African communities. Hens *et al.* concentrate on land uses and changes in Northern Vietnam. Valbo-Jørgensen and Poulsen, and Ruddle deal in particular with the use of fishermen knowledge of the biology of species and its implication on local management, both in freshwater and in marine habitats. Ruddle bridges the last three chapters as he discusses the implications of local knowledge for adaptation and cultural change. The chapter by Cardenas is an ecological-economical analysis of decision-making processes by natural resource users in Colombian rural villages, taking into account current literature on the 'Commons'. The last two chapters (Gadgil; Stendell *et al.*) include interactions between researchers and local people towards management through local and regional programmes.

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