

Introduction

Human exploitation of biodiversity and conservation: a question of balance?

The sustainable use of the components of biodiversity is one of the three key objectives of the 1992 Convention on Biological Diversity¹. But this far from a new idea. The need to strike a balance between human utilization and conservation is at the heart of the UNESCO Man and the Biosphere (MAB) Programme launched in 1971; there are now 482 Biosphere Reserves in 102 countries, “living laboratories for people and nature”. Is not *the* key to conserving biodiversity long-term securing the commitment of those who use it? Local peoples are the front-line of the exploitation *vs.* conservation conflict, whether in Amazonas, Kalimantan, the Pacific North-West, or the Camarge. Sound conservation practice has to be recognized as beneficial and implemented by the people who use it from subsistence farmers to skiers and pharmaceutical bioprospectors. Fortunately, there is now a heightened concern over biodiversity conservation and the state of the environment than ever before. Voluntary groups undertake work to protect endangered species, create and maintain new biodiversity reserves, and prevent the destruction of natural habitats. But, more critically, the numbers of conservation- and environmentally-aware has passed a “tipping point” and is influencing policy from the global to the local level.

At the same time, indigenous peoples utilize enormous numbers of plants, fungi, and fish particularly for foods and medicines. This has to be allowed for in conservation planning, and is a source of potentially new food sources. The world’s staple foods, of which potatoes and rice are prime examples, were first exploited by indigenous groups. Yet over-exploitation can drive species towards extinction, from tigers in south-east Asia to North Sea Cod, the South Indian Lady’s Slipper orchid and Giant Pitcher plants, and even perhaps to Matsutake mushrooms. Use of particular species has to be monitored and controlled, and fortunately such cases are increasingly the subject of international agreements, for example under the Convention on Trade in Endangered Species of Wild Fauna and Flora (CITES).

The range of issues of concern on this theme is enormous, and this issue gathers together a wide range of papers submitted to *Biodiversity and*

¹ The other two are the conservation of biological diversity, and the equitable sharing of benefits

Conservation, contributions addressing diverse aspects of front-line human involvement in biodiversity exploitation and conservation. Collectively, they provide a snap-shot of on-going action and state-of-the-art research, and as such it is envisaged that having these together in one number of the journal will be particularly convenient to those running courses including biodiversity and/or conservation issues, and to advanced students and researchers working in related fields. The scope of the included papers embraces cases involving, birds, crop plants, invertebrates, land use changes, livestock, mammals, marine organisms, and medicinal plants. Issues related to the importance of gardens, hedges and green lanes, housing developments, hunting, invasive species, local community involvement, sacred groves, socioeconomic factors, and trade. Examples presented here come from studies in 17 countries including ones in Africa, Asia, Europe, and North and South America.

In my experience, specialists on one group of organisms can find solutions or approaches to problems they are addressing by looking at the methods used in other groups of organisms. This compilation provides an opportunity to see a wide range of original papers in which methodologies that may be pertinent to, or have analogues with, research in another, and hopefully stimulate research in this critical aspect of the conservation of biodiversity. Advances in science paradigms in a particular field are commonly a result of knowledge transfer from one area to another, and I learnt long ago that this is especially relevant in issues related to biodiversity and conservation studies where so many papers are embedded in organismal focussed journals. Indeed, this is why I have found *Biodiversity and Conservation* of such value to me personally in my own work on fungi since it was launched in 1992.

The papers included here on topical cases will I hope stimulate your thoughts and future work programmes. Collectively such work is critical to attaining a sustainable balance between the conservation and sustainable exploitation of biodiversity, and ultimately a positive prognosis for the long-term prospects for human societies on planet Earth.

DAVID L. HAWKSWORTH

The Yellow House, Calle Aguila 12,

Colonia La Maliciosa,

Mataelpino, Madrid 28492, Spain.

E-mail: myconova@terra.es