



## Preface

“How can we live fulfilled lives without destroying the life-supporting systems, the very foundations on which our societies depend?” This is the vital question that responsible human beings have asked themselves throughout history, particularly since we have recognized our power to alter our environment profoundly, for better or worse. It is also the guiding question behind the current debate on sustainability.

Biological diversity is an essential part of those foundations that we rely on. The diversity of life on earth provides essential “ecosystem services”; these were a key concept to evaluate the healthy functioning of ecosystems in the Millennium Ecosystem Assessment. Ecosystem services stand for all benefits that human societies receive from both unmanaged “natural” ecosystems and managed “cultural” ecosystems. Research in this field has increased considerably over the past years, and first attempts to express the value of ecosystem services in monetary terms have pointed at the fact that wetlands are among those ecosystems that have the highest value for human societies.

The debate on sustainability and biological diversity has developed because our lifestyles often do not meet the basic requirement as it is laid out in the Convention on Biological Diversity: we are not using biological diversity “in a way and at a rate that does not lead to its irreversible decline, thereby maintaining its potential to meet the needs and aspirations of present and future generations.” Indeed we have lost over the past decades much of the diversity that was there until fairly recently – in the case of certain wetland ecosystems, losses are estimated at 70% to 99% *e.g.* in Japan and Central Europe.

Consensus is growing that it is not enough to try to protect small remnants of ecosystems in reserves, but that we need to provide additional space to restore them to a favourable, healthy state. This will increase their resilience to cope with further environmental change and give them the evolutionary capability to develop dynamically through time. The management of degraded ecosystems and the creation of conditions that allow the development of certain ecosystem types in areas from which they have disappeared are commonly called “ecological restoration” or “nature restoration.” These activities are the main topic of this special issue of “Global Environmental Research.”

Most articles focus on wetlands. This is due to several reasons: 1) wetlands are extremely important habitats for a large number of organisms; 2) they are essential for human well-being via vital ecological services; 3) they have been altered severely by human activities; 4) numerous research projects are being undertaken to understand how they function, and 5) a significant number of restoration projects are underway to counter the enormous losses that have occurred.

Nature conservation and restoration are based on values that are not necessarily shared by all stakeholders, and therefore it is essential to include the socio-economic background in any discussion of scientific approaches to the topic. Originally it had been intended to collect contributions in particular from Japan and Europe; parallels in socio-economic conditions between these regions let it seem likely that comparing the respective approaches would be interesting for readers of various backgrounds. However, we were able to also include articles that cover further regions in southern, eastern and South-East Asia, thus widening the geographical scope considerably. As a consequence, the topics of the articles have become more diverse, and not all relevant aspects could be covered for all geographical regions. The contributions range from general overviews and papers on philosophical or historical aspects to the results of field studies on vegetation succession and habitat use by birds. We hope that readers with an interest in ecological as well as policy-related aspects of nature restoration will find useful information in this issue. If its publication helps to stimulate further research and to support the practice of biodiversity conservation and restoration, its purpose would be fulfilled.

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