ENVIRONMENTAL MANAGEMENT IN THE MOUNTAINS

Report of the

**International Symposium on Mountain Environmental
Management in the Hindu Kush-Himalayan Region**

Organised jointly by ICIMOD and UNESCO/MAB

**Kathmandu, NEPAL
11-14 April, 1989**

ICIMOD Workshop Series

The International Centre for Integrated Mountain Development began professional activities in September 1984, with the first objective of reviewing development and environmental management experience in the Hindu Kush-Himalayan Region. International Workshops were planned in several major fields to review the state of knowledge and practical experience, and also to provide an opportunity for the exchange of professional expertise with regard to integrated mountain development.

Workshops held included :

- **International Workshop on Watershed Management in the Hindu Kush-Himalaya**
14-19 October, 1985, Chengdu, China
- **International Workshop on Planned Urbanisation and Rural Urban Linkages in the Hindu Kush-Himalaya Region**
25-29 March, 1986, Kathmandu, Nepal
- **International Workshop on District Energy Planning and Management for Integrated Mountain Development**
3-5 May, 1986, Kathmandu Nepal
- **International Workshop on Off-farm Employment Generation in the Hindu Kush-Himalaya**
17-19 May, 1986, Dehra Dun, India
- **International Workshop on Mountain Agriculture and Crop Genetic Resources**
16-19 February, 1987, Kathmandu, Nepal
- **International Workshop on Women, Development, and Mountain Resources: Approaches to Internalising Gender Perspective**
21-24 November, 1988, Kathmandu, Nepal
- **International Symposium on Mountain Environmental Management**
11-14 April, Kathmandu, Nepal
- **International Expert Meeting on Horticultural Development in the Hindu Kush-Himalayan Region**
19-23 June, Kathmandu, Nepal
- **International Expert Meeting on Apicultural Development in the Hindu Kush-Himalayas**
21-23 June, 1989, Kathmandu, Nepal

These Workshops were attended by experts from the countries of the Region, in addition to concerned professionals and representatives of international agencies. A large number of professional papers and research studies were presented and discussed in detail.

Workshop Reports are intended to represent the discussions and conclusions reached at the Workshop and do not necessarily reflect the views of ICIMOD or other participating institutions.

Copies of the reports are available upon request from :

The Publications' Unit
International Centre for Integrated Mountain Development (ICIMOD)
G.P.O. Box 3226
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Cover photographs: Top Left : A Bio-engineering approach on the Lamosangu-Jiri road
Bottom Left: Slope Failure on the Kodari Road
Both from the Central Development Region of Nepal
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Top Right: The Success of Afforestation in the Sindhupalchowk Area of Nepal.
Bottom Right: A Slope Awaiting Afforestation in the Kabhre Palanchowk Area of Nepal
Photographs by: Suresh Raj Chalise

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In the preparation of this report an attempt has been made to reflect the views and interpretations expressed by the participants at the workshop. These views and interpretations are not attributable to the International Centre for Integrated Mountain Development (ICIMOD), and do not imply the expression of an opinion concerning the legal status of any country, city, or area of its authorities, or concerning the delimitation of its frontiers or boundaries.

FOREWORD

The Mountainous regions of the Hindu Kush-Himalayas are no longer as isolated and inaccessible as they were before, and the interaction between the mountain communities and the outside world has grown enormously during the last few decades. Many mountain areas and communities are thus passing through a phase of rapid transformation. In addition, continual population growth is exerting considerable pressures on the natural resource base of the mountain ecosystems, often leading to their depletion and degradation.

Integrating economic development with the needs of environmental conservation is of primary concern to ICIMOD and is also an area of major concern to UNESCO/MAB who jointly organised an International Symposium on Mountain Environmental Management, with primary focus on the Hindu Kush-Himalayas, held in Kathmandu from the 11th to 14th of April, 1989. The central theme of the Symposium was the impact of growing population and developmental activities on mountain environments.

Major highlights of the Symposium were the five Case Studies representing the various ecosystems and levels of management across the countries of the Region. Theme Papers and other contributions focused on specific issues such as the management of watersheds, forests, pastures, and risk engineering and infrastructural development in the Region. Nearly 50 experts from the Region and outside participated in the deliberations and about 30 papers were presented dealing with the above issues.

The Symposium provided an excellent opportunity to discuss at length major issues related to the management of mountain environment as brought out by various studies. The Symposium also produced recommendations for a collaborative programme on mountain environmental management for possible joint implementation by UNESCO/MAB and ICIMOD focusing on:

- o mountain environmental monitoring,
- o research on management of mountain ecosystems, and
- o integrated area management.

I would like to express my sincere thanks to Dr. Bernd Von Droste, Director, Division of Ecological Sciences, UNESCO for the excellent support provided by UNESCO/MAB and for his thoughtful address and active participation in the deliberations. I would like to express my appreciation for the efforts of the former Director of ICIMOD, Dr. Colin Rosser, for the efficient organisation of the Symposium.

I also express my sincere thanks to Prof. Suresh Raj Chalise of ICIMOD, who acted as Convenor of the Symposium and prepared this Symposium Report. Thanks are also due to all the ICIMOD staff, both professional and administrative, who provided support in the preparation of this publication.

E.F. Tacke
Director

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