



**Discussion Paper**  
**Series No. MEI 95/4**

## **Mountain Tourism and Environment in Nepal**

**Tirtha B. Shrestha**

Copyright © 1995

International Centre for Integrated Mountain Development

All rights reserved

Published by

International Centre for Integrated Mountain Development  
G.P.O. Box 3226,  
Kathmandu, Nepal

Typesetting at ICIMOD Publications' Unit

The views and interpretations in this paper are those of the author(s). They are not attributable to the International Centre for Integrated Mountain Development (ICIMOD) and do not imply the expression of any opinion concerning the legal status of any country, territory, city or area of its authorities, or concerning the delimitation of its frontiers or boundaries.

# Mountain Tourism and Environment in Nepal

Tirtha B. Shrestha

MEI Series No. 95/4

---

Dr. Tirtha B. Shrestha is Coordinator, Heritage and Biodiversity Conservation Programme, IUCN - World Conservation Union, Nepal

---

# PREFACE

## Contents

Tourism has the potential to bring about changes in mountain environments which are fragile and vulnerable to irreversible damage. Mountain communities in the Himalayas are even more vulnerable to various sociocultural impacts and economic disorders resulting from tourism, while at the same time the mountain environment and culture create a unique resource for tourism development. Environmental management then becomes the central theme for using this resource for development, in general, and for tourism in particular.

Present trends in tourism are oriented towards increasing tourist volume. As a result, certain destinations are crowded while other potential areas, in part due to their remoteness, have remained neglected by national development processes. Trekking tourism could, therefore, be seen as a potential factor for the creation of improved facilities and infrastructures for development. In addition the local economy could also be strengthened. Benefits from tourism become sustainable if environmental management capabilities are in place.

The present study, focussed on mountain tourism for local development, examines the main issues involved in tourism and mountain environment. The objectives of this study are (1) to review, on the basis of secondary information and selected field visits, the environmental impact of tourism on mountain environments in general (and the Nepalese mountain environment in particular) and synthesise the main issues involved in tourism and mountain environment; (2) to develop a preliminary environmental carrying capacity framework (including indicators of environmental health) that can act as a policy and programme guide in dealing with the negative environmental consequences of tourism in mountain environments; and (3) to provide a participatory environmental monitoring framework of relevance to mountain communities and related institutional arrangements for facilitating environmental management in tourist areas.

The study is largely based on secondary information and the previous field experiences of the author. Inputs from the first Review Meeting, held on 10 - 13 August, 1994, in Pokhara, have been very valuable in revising the report. This report attempts to review the tourism development pattern in the Nepal Himalayas, to provide a framework for assessing carrying capacity, to prescribe communicable and simple indicators for environmental impact assessment, and to define an institutional set up for environmental monitoring.

In the present paper, Dr. T.B. Shrestha, a noted plant ecologist, describes the implications of tourism on the environment through an analysis of the processes that have been taking place in the Nepalese mountains. On behalf of ICIMOD, Dr. Pitamber Sharma is the Project Coordinator as well as the technical editor of these papers.

# Contents

	Page
<b>Introduction</b>	1
<b>Mountain Tourism in Nepal</b>	1
<b>Tourism Attractions in the Mountain Environment</b>	2
<b>Tourist Types</b>	6
<b>A Simplified Framework For Assessing Carrying Capacity in Mountain Tourism</b>	7
<b>Introduction</b>	7
<b>Tourism Activities and Their Impact on the Environment</b>	9
<b>Tourist and Host Population Interaction</b>	10
<i>Neutralism</i>	10
<i>Competition</i>	11
<i>Amensalism</i>	12
<i>Commensalism</i>	12
<i>Proto-cooperation</i>	12
<i>Mutualism</i>	12
<i>Parasitism and Predation</i>	13
<b>Key Processes and Indicators in the Mountain Environment</b>	13
<b>Environmental Monitoring</b>	14
<i>Limiting Factors</i>	15
<i>Environmental Indicators</i>	21
<i>Communicable Indicators</i>	22
<i>Natural Indicators</i>	23
<i>The Trans-Himalayan Region</i>	23
<i>Cis-Himalayan Region</i>	25
<i>Minimum Data Set for CCA</i>	31
<b>Eco-Tourism as a Means to Improve Tourist Carrying Capacity</b>	35
<b>Institutional Framework for Environmental Monitoring</b>	38
<b>General</b>	38
<b>Existing Institutions</b>	38
<b>Proposed Institutional Framework</b>	39

<b>Conclusion</b>	<b>44</b>
-------------------	-----------

<b>Literature Cited</b>	<b>46</b>
-------------------------	-----------

## List of Tables

1:	Tourist Growth by Decades	2
2:	Preferred Rate of Tourism Development	20
3:	(i) Minimum Data Set - for a Natural System	32
	(ii) Minimum Data Set for a Human System	34
	(iii) Minimum Data Set for Tourism Activities	34

## List of Figures

1a:	Tourist arrival percentage by purpose of visit, 1992	3
1b:	Tourist arrivals in 1962-1995	3
2:	A framework for environmental carrying capacity analysis in mountain tourism	8
3:	The theoretical interaction types between two groups	11
4:	Comparison of CIS - Himalayan and Trans-Himalayan Regions	24
5:	Trans-Himalayan birds and mammals as environmental indicators	25
6:	Vegetational Changes in the Jumla - Humla Region	26
7:	Vegetational Changes Caused by Human Impacts in the CIS-Himalayan Region (Eastern/Central Nepal)	28
8:	Birds and Mammals as Environmental Indicators in the South of the Main Himalayan Range (CIS-Himalayas)	29
9:	Existing Institutional Structure in Tourism in Nepal	40
10:	Institutional Framework for Environmental Monitoring	42
11:	Physiographic Regions and Protected Areas	45