Manual of Rural Technology with Implications for Mountain Tourism

INTERNATIONAL CENTRE FOR INTEGRATED MOUNTAIN DEVELOPMENT
AND
CENTRE FOR RURAL TECHNOLOGY

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1. Solar collectors on top of appartments, Kunming, China - *K. Rijal*
2. Wind energy demonstration site, Badling, China - *K. Rijal*
3. Toilet attached biogas (drum type), Panchkhal, Nepal - *K. Rijal*
4. Biogas (floating drum) plant, Peshawar, Pakistan - *K. Rijal*
5. Solar photovoltaic panel on a monastery roof, Lubra Valley, Ladakh, India
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6. A housewife cleaning an improved mud-built stove, Gorkha, Nepal - *CRT*

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We would like to thank the Centre for Rural Technology (CRT), particularly Mr Ganesh Ram Srivastha, Executive Director of CRT, and Ramesh Behar Singh, Consultant to CRT, who have done a commendable job in preparing this Manual. The Manual was externally reviewed by Prof. S. K. Bansal, Centre for Energy Studies, Indian Institute of Technology, New Delhi, India, and by Dr Kamal Raj Tiwari, Specialist at ICIMD.

On behalf of ICIMD, Dr Kamal Raj Tiwari is the Project Coordinator.

INTERNATIONAL CENTRE FOR INTEGRATED MOUNTAIN DEVELOPMENT
AND
CENTRE FOR RURAL TECHNOLOGY
DECEMBER 1997

Foreword

This manual of Technology with Implications for Mountain Tourism presents environmentally friendly, life-supporting renewable energy facts.

The present Manual of Rural Technology with Implications for Mountain Tourism is part of a series of studies resulting from the NORAD-funded Project entitled 'Mountain Tourism for Local Community Development'. One of the major objectives of the Project is to develop training modules/materials for mountain tourism for local community development for policy-makers, programme managers, private sector agencies, and local community-based entrepreneurs and impart training to these audiences on a pilot basis. As part of the Project, thematic studies and training manuals on mountain tourism for local development have been prepared. The present Manual provides pertinent and succinct information on energy-related technologies their characteristics, possible usage, limitations, and other relevant information appropriate for rural mountain areas. It also includes guidelines on environmental management as well as tourist facilities' management. We hope it will be of use to individuals, agencies, and institutions dealing with mountain tourism and also to rural development agencies, in general, working in the mountain tourism areas all across the Hindu Kush-Himalayas.

We would like to thank the Centre for Rural Technology (CRT), particularly Mr. Ganesh Ram Shrestha, Executive Director of CRT, and Ramesh Bahadur Shrestha, consultant to CRT, who have done a commendable job in preparing the manual. The Manual was externally reviewed by Prof. N.K Bansal, Centre for Energy Studies, Indian Institute of Technology, New Delhi, India, and by Dr. Kamal Rijal, Energy Specialist at ICI-MOD.

On behalf of ICIMOD, Dr. Pitamber Sharma is the Project Coordinator.

Thanks are due to Mr. Ganesh Shrestha and Ms. Sano Shrestha for their editorial assistance and to Mr. B. Paudyal for computer setting and layout.

Egbert Pelinck
Director General

We wish to express our thanks to the Landmark Hotels and large owners in Kathmandu and the officials of the Agriculture Department, Agriculture Project (ICAP), Pokhara, and other training agencies in Pokhara and Kathmandu for sharing their experiences and help in providing us with the related information and valuable suggestions.

December 1987

Ganesh Ram Shrestha
Executive Director

Preface

This manual of Technology with Implications for Mountain Tourism presents environmentally-friendly, alternative renewable energy technologies and basic management guidelines with respect to campsites and other tourist facilities. It is thus hoped to augment mountain tourism through the mobilisation of local resources and community and tourist-based organizations and enterprises, while minimising negative environmental impact. It also presents a brief background on mountain tourism, its importance, and impact.

We hope the manual will be useful for the development of training modules and materials intended for awareness raising and training for tourism-related institutions and individuals.

We would like to thank the International Centre for Integrated Mountain Development (ICIMOD) for entrusting the Centre for Rural Technology (CRT) with the preparation of this Manual. We would like to extend our special thanks to Dr. Pitambar Sharma and Dr. Kamal Rizal of ICIMOD and Dr. Kamal Banskota of the Centre for Resource and Environmental Studies (CREST) for their valuable comments and suggestions.

We highly appreciate the efforts and contributions made by Mr. Ramesh B. Shrestha, Energy Technologist (Team Leader), and Mr. Yogendra B. Kayastha, Eco-tourism Specialist, to the preparation of this manual. Thanks are due to Ms. Joanne Cheeseman and Ms. Sama Shrestha for their editorial assistance and to Mr. R. Pachhai for computer setting and typing.

We wish to express our thanks to the campsite owners and lodge owners at Ghandruk and the officials of the Annapurna Conservation Awareness Project (ACAP), Pokhara, and other Trekking Agencies in Pokhara and Kathmandu for sharing their experiences and ideas and providing us with the related information and valuable suggestions.

Abstract

This manual is a useful guidebook to rural technologies suitable not only for mountain areas involved in tourism but for other areas of the mountains also. It commences by examining tourism and its impacts and the relevance of alternative technologies in this context. The second chapter deals with energy-related technologies and the implications of their use in mountain areas. The third chapter deals with the disposal of human and other waste and institutional arrangements for application of disposal technologies. The final chapter deals with the management of tourist facilities such as campsites, hotels, and lodges. The Annexes give some of the current regulations for mountain tourism in Nepal. This volume has 58 useful, practical figures illustrating the rural technologies given.

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II. OBJECTIVES OF THIS STUDY

The primary objective of the study was to prepare a two-part manual as per the terms of Reference (TOR), on the basis of the review of existing literature, identifying and related technologies that have emerged recently, relevant tourism and health related aspects (applicable).

- A review of established and emerging technology involving energy, the lighting, water and space heating, cooling, and motive power, mounted on any of the HKH region that would help to improve tourist facilities.
- Management guidelines and a list of technology were also to determine management of composting, other tourist facilities and the technology related

aspects of health and safety, and the cost and energy of the technology, as well as information and data from the related literature were gathered.

The study team spent a week and a half on site study visit to the Pokhara Lake area and Ghorahi area to investigate the energy-related situation, as being used and to assess the problems and prospects in the water supply management.

The information and data extracted from the existing literature and on-site study visit were then put in perspective in the reporting format that was developed by the study team to best fit into the CURRICULUM.