ICIMOD

Landscape Change in the Nepal Hills

Evidence from Lamjung

Harka Gurung

About ICIMOD

The **International Centre for Integrated Mountain Development** (ICIMOD) is an independent 'Mountain Learning and Knowledge Centre' serving the eight countries of the Hindu Kush-Himalayas – Afghanistan  , Bangladesh  , Bhutan  , China  , India  , Myanmar  , Nepal  , and Pakistan  – and the global mountain community. Founded in 1983, ICIMOD is based in Kathmandu, Nepal, and brings together a partnership of regional member countries, partner institutions, and donors with a commitment for development action to secure a better future for the people and environment of the Hindu Kush-Himalayas. The primary objective of the Centre is to promote the development of an economically and environmentally sound mountain ecosystem and to improve the living standards of mountain populations.

Landscape Change in the Nepal Hills
Evidence from Lamjung

by
Harka Gurung

International Centre for Integrated Mountain Development (ICIMOD)
Kathmandu, Nepal
August 2004

Credits: All the photographs were taken by the author except 11A which was taken by D. Messershmidt

Cover: The study area, Taranche (945m), is 25km south of Himalchuli (7,893m) on right. On the left is Ngadichuli (7,513m) labeled as Peak 29 by surveyors of 1925-27 and officially named Ngadichuli in 1983. Thulnagi (3,115m) in middle distance and Usta ridge on right foreground. December 2001.

ISBN 92 9115 877 1

Published by
The International Centre for Integrated Mountain Development (ICIMOD)
G.P.O. Box 3226
Kathmandu, Nepal

Editorial Team
Greta Rana (Editor)
Dharma R. Maharjan (Technical Support and Graphic Design)
Asha K. Thaku (Maps)

Printed and bound in Nepal by
Hill Side Press (P) Ltd.
Kathmandu, Nepal

Foreword

Landscape change in the mountains, including changes in land use, forests and agriculture, architecture, and dwelling areas continues to be the subject of debate and the basis for development investment. Uncertainty over past conditions and rates - and even directions - of some landscape change continue to fuel discussion and drive the need for better documentation and analysis.

Juxtaposing views of the past with the present provides a fascinating method to uncover historical change and speculate on future trends. Repeat landscape photography, especially when done by the same observer, and especially when done by a highly trained and keenly observant professional, provides us with this unique opportunity.

Dr. Harka Gurung, renowned geographer, historian, planner, policy-maker, author, adventurer, and spokesperson for the excluded ethnic groups of the Himalaya, has brought together this extraordinary collection of repeat photographs and observations. A native of the area featured in the documentation, this publication draws on over forty years of his work in the Himalaya.

Photographs and observations such as those presented in this publication give us an objective basis for testing our current theories of land degradation, deforestation, and urbanisation. In this context, lack of change where we expected it can be as revealing as confirmation. While the sample of publications does not claim to be based on anything other than Dr. Gurung's personal and professional interest and opportunity, we believe that it represents a valuable contribution to our understanding of the on-going changes in the Himalayan mountains. ICIMOD is pleased to publish this work.

J. Gabriel Campbell, Ph.D
Director General
ICIMOD

ACKNOWLEDGEMENTS

The field research for this study was supported by ICIMOD. I wish to thank Dr. Gabriel Campbell, Director General, and Dr. Binayak Bhadra, Director of Programmes, for their interest in the present study. In Lamjung, Til Bahadur Gurung of Tanklichok and Sant Kumar Bhandari of Taranche assisted in the field work. Narendra Khanal helped in airphoto interpretation and Pawan Ghimire in cartographic work. New ERA staff, Bhoj Kumar Shrestha, Sanu Raja Shakya, and Geeta Shrestha, provided secretarial assistance. I thank them for their cooperation. I also would like to thank Greta Rana for her editorial support, Dharma R. Maharjan for layout design, and Asha K. Thaku for the maps.

- Harka Gurung

Abstract

There has been much discussion on the state of the Himalayan environment with a tendency to highlight increasing land degradation. This investigation focussing on a hill area in Lamjung presents a very different ground reality regarding landscape dynamics in central Nepal. The study findings are based on evidence from repeat photographs and field observations extending over four decades. The monograph includes numerous maps and diagrams dealing with geology, geomorphology, climate, vegetation, and land use in the study area. The approach is oriented more towards visual and graphic presentation than verbal description.

Glossary / Abbreviations

bari	The term is derived from bar (fence) to refer to the enclosed area of homestead for fruit and vegetable production. It literally means in-field, therefore, it is wrong to equate it with pakho (unirrigated field)
bazaar	A settlement with commercial services
bensi	Valley bottom
caste	Hindu social division according to the ritual status of a person by birth
Central Hills	Subtropical hill zone
danda	Hill range or ridge
deorali	Saddle, convergence of two ascents
ethnic	A social group with a distinct language, religious tradition, culture, and native area
FINNIDA	Finnish International Development Agency
gaon	Village or rural settlement
Higher Himalaya	Geological term for structural formations over-riding the Main Central Thrust
Himal	A mountain range with permanent snow
kharchari	Tax on alpine pasture
kharga	Alpine pasture for summer grazing
khet	Irrigated land with horizontal terraces
khola	River, stream
LRMP	Land Resource Mapping Project
lekh	High ridge with snow in winter
Lower Himalaya	Geological term for structural formations below the Main Central Thrust and above the Main Boundary Thrust
Main Boundary Thrust	Major geological fault or unconformity that separates the Sub-Himalaya (Siwalik Zone) from the Lower Himalaya
Main Central Thrust	Major geological fault or unconformity that separates the Lower Himalaya from the Higher Himalaya
Midland	This refers to the hill zone of Nepal across the country. Kawakita* called it 'Lowland' with reference to its low elevation relative to the main Himalaya and Mahabharat Lekh. Hagen** referred to it as 'Midland', and this definition has been adopted by many others. It can be equated with the pahar (hill) zone.

* Kawakita 1957, p. 7

** Hagen 1961, pp. 38-39

muri	Volumetric measurement for grain, equivalent to 2.40 bushels
Ngadi	The name of a river that has been spelled diversely. The quarter inch (1:253,000) map of the Survey of India (1925-27) rendered it as 'Musi' (Figure 13). The one inch map (1:63,360) of the Survey of India and that of the Land Resource Mapping Project render it 'Nyadi'. The FINNIDA map (1:50,000) spells it as 'Nadi' (Figure 5). The name is derived from a combination of Nga (ritual hand-drum) and 'ti' (broken) to mean 'broken drum' according to a Gurung legend.
pahar	Hill with no snowfall
pahara	South-facing or sunny aspect (comparable to the the French term 'adret' and the German 'Sonnenseite')
pakho	Unirrigated or rain-fed field with outward sloping terraces
ropani	Area measurement equivalent to 5,476 square feet, 1 hectare = 19.7 ropani
sinyala	North-facing or shady aspect (comparable to the French term 'ubac' and the German 'shattenseite')
Sardar	Originally a term for an army commander, later it became the term for the highest ranked official in the Nepalese bureaucracy.

Note: In general throughout this text the Sanskrit term Himalaya, normally used specifically geographical/ geological area, rather than the English language derivative, Himalayas, is used.

Editorial note

Page numbers for references cited are given in the reference list, not in the text. An exception is made in the case of op. cit. citations.

Contents

List of Tables

List of Figures

List of Annexes