Mountain Environmental Management

Discussion Paper No. 8

Population Dynamics, Environment, and Development in the Arun Watershed, Nepal

Pitamber Sharma

International Centre for Integrated Mountain Development

1992

The opinions expressed in this publication are those of the author(s) and do not necessarily reflect the views of the International Centre for Integrated Mountain Development.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever, on the part of the International Centre for Integrated Mountain Development, concerning the legal status of any country, territory, city, or area of its authorities; or concerning the delimitation of its frontiers and boundaries.

Pitamber Sharma is a reader at Tribhuvan University and is currently on deputation to ICIMOD where he is the Acting Division Head of the Mountain Population and Employment Division

ICIMOD
The Himalayas to the
PARDYP LIBRARY

Preface

The present discussion paper is an outcome of a study on Population Dynamics and Development Linkages in the Arun Watershed which was sponsored by ICIMOD in 1987. Revision and updating were carried out for this publication but the structure of the report remains essentially the same.

I am grateful to Prof. Suresh Raj Chalise, Mountain Environmental Management Division, ICIMOD, whose interest in the study has made the publication of this paper possible. Acknowledgements are due to Mr. Narendra Khanal for his assistance in computation of land use data, and to the Publications' staff for processing the manuscript.

2	POPULATION, ENVIRONMENT, AND THE DEVELOPMENT PROCESS	20
	Land Use	22
	Agricultural System	25
	Agricultural Production and Productivity	28
	Development Infrastructure and Institutions - the CHANDRAKOTI ZONE	31
	Impact Potential on Population and Development	33
3	SUMMARY AND CONCLUSIONS	36
	Index	38
	References	40

CONTENTS

		Page
1.	POPULATION DYNAMICS IN THE ARUN WATERSHED	1
	Introduction	1
	Objective, Scope, and Limitations of the Study	2
	Population Growth in the Arun Watershed	3
	<i>Population Growth, 1952-1981</i>	3
	<i>Age and Gender Structure of the Population</i>	3
	<i>Household Size</i>	6
	<i>Fertility and Mortality</i>	6
	Population Distribution	7
	<i>Pattern of the Density of Population</i>	8
	<i>Pattern of Density on Arable Land</i>	8
	<i>Vertical Distribution of Population</i>	11
	<i>Structure of Settlements</i>	12
	Socioeconomic Characteristics of the Population	13
	<i>Ethnicity</i>	13
	<i>Literacy</i>	14
	<i>Occupational Structure of the Population</i>	15
	<i>Mobility of Population</i>	15
	Population Projections for the Arun Watershed	19
	Issues Related to Population Growth and Distribution	20
2.	POPULATION, ENVIRONMENT, AND THE DEVELOPMENT PROCESS	22
	Land Use	22
	Agricultural System	28
	<i>Agricultural Production and Productivity</i>	29
	Development Infrastructure and Institutions - the KHARDEP Effort	31
	Issues Related to Population and Development	33
3.	SUMMARY AND CONCLUSIONS	36
	ANNEX	38
	REFERENCES	42

List of Tables

POPULATION DYNAMICS IN THE ARUN WATERSHED

1:	Population Growth Rates and Density in Districts of the Arun Watershed	4
2:	Population by 5 year Age-Groups, 1981	5
3:	Vertical Distribution of Population in the Arun Watershed, 1981	11
4:	Mother Tongue of Population, 1971 and 1981	14
5:	Literacy of Population, 1981	16
6:	Occupational Structure of Economically Active Population, 1981	17
7:	Population Absent Outside the Country from Households by Reasons for Absence, 1981	18
8:	Population Projection for the Arun Watershed	20
9:	Land Use in the Arun Watershed, 1978/79	22
10:	Land Use by Altitudinal Range in the Arun Watershed, 1978/79	26
11:	Ratio of Hectarage under Agriculture to Forests by Elevation, 1978/79	28
12:	Yield of Major Crops, 1969-1989	30

List of Figures

1:	Population Density	9
2:	Density on Agricultural Land	10
3:	Percentage of Area under Agriculture by <i>Panchayat</i>	24
4:	Percentage of Area under Forest by <i>Panchayat</i>	25
5:	Land Use in the Arun Watershed	27