Area Development Planning and Implementation

Discussion Paper Series

10th Anniversary
1993

**AN ECONOMIC EVALUATION OF THE NEPALESE
MANUFACTURING ESTABLISHMENT**

A CROSS-SECTIONAL STUDY

**Kamal Banskota
and
Bikash Sharma**

ADPI Series No. 3

September 1993

International Centre for Integrated Mountain Development

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.

AN ECONOMIC EVALUATION OF THE NEPALESE MANUFACTURING ESTABLISHMENT

A CROSS-SECTIONAL STUDY

**Kamal Banskota
and
Bikash Sharma**

ADPI Series No. 3

**Dr Kamal Banskota was working as a resource economist and Mr Bikash Sharma
an agricultural economist at the time of writing this paper at ICIMOD.**

September 1993

International Centre for Integrated Mountain Development (ICIMOD)

Kathmandu, Nepal

PREFACE

INTEGRATED ECONOMIC
AND ENVIRONMENTAL
DEVELOPMENT PLAN
FOR THE BAGMATI ZONE

This paper was prepared as part of the background analysis for preparing the Integrated Economic and Environmental Development Plan for the Bagmati Zone. While the study examined the country-wide manufacturing sector, it has strong relevance to the Bagmati Zone because of its high share in manufacturing establishments in the country.

Some of the results of this analysis are very interesting. The critical role of the new and rapidly growing textile industry as a source of employment and foreign exchange has been confirmed. There is evidence that firms appear to be substituting capital for labour and this indicates that many policy biases against labour still remain, and these need to be corrected if manufacturing is to generate more employment. The growing demand for skilled labour and the current supply constraints should be noted. The absence of strong inter-linkages within the manufacturing sector suggests that more serious attention should be given to industries utilising more domestic resources. The findings with respect to energy also identify the difficult situation encountered by manufacturing and emphasise the need for a more aggressive energy development policy in Nepal.

Nepal's industrial development is in a very early stage and it is analyses of this type that can indicate the areas where corrective measures are needed as well as the nature of future priorities.

	Page
1 INTRODUCTION	1
Objectives	1
Organisation of the Study	1
2 DATA SOURCE AND VARIABLES	1
Data	1
Description of the Variables	2
Labour	2
Material	2
Capital	2
Energy	2
Output	2
Profit	3
3 CHANGE IN THE NUMBER OF FIRMS AND INPUT-OUTPUT RELATIONS	3
Growth in Firms	3
Selected Indicators by Groups of Industries	3
Input and Output Composition per Firm	5
Labour	5
Capital Stock or Fixed Assets	10
Inputs	11
Gross Output Value and Value-added	11
Composition of Fixed Assets	12
Factor Intensities	13
Output-labour Ratio	13
Capital-output Ratio	13
Capital-labour Ratio	14
Material-output Ratio	14
Energy-output Ratio	14
Energy Budget Share	15
4 INDUSTRIAL LINKAGES	16
5 INPUT DEMAND AND OUTPUT SUPPLY OF THE MANUFACTURING SECTOR	18
Production Theory	18
The Empirical Model	19
Model Estimation and Validation	20
Input Budget Shares	21
Discussion of Results	22
Input Demand Elasticities	22

<i>Output Supply Elasticities</i>	23
<i>Effect of Dummy Variable</i>	24

6 SUMMARY AND CONCLUSION	24
--------------------------	----

Summary of Major Findings	24
----------------------------------	----

Conclusion	26
-------------------	----

List of Tables

1: Number of Firms Between 1986 and 1990	4
2: Gross Output Value, Value-added, Fixed Assets, and Employment: Aggregate across Industries, 1986 and 1990	5
3: Selected Variables Based on Per Firm by Industry: 1986 and 1990	10
4: Ownership Per Firm of Capital by Type of Capital: 1986-1990 (Rs in '000)	12
5: Share Composition of the Value of Capital by Type of Capital Per Firm: 1986-1990	13
6: Selected Indicators of the Manufacturing Firms (1986-1990)	14
7: Energy Requirement Per Unit of Output	15
8: Energy Budget Share Per Firm	15
9: Ranking of Industries in Terms of Their Forward and Backward Linkages	16
10: Input Share in the Total Cost by Group of Industry	21
11: Estimated Coefficients and T-Ratios of the Translog Profit Function - Nepalese Manufacturing Sector (1987-1990)	21
12: Input Demand Elasticities Based on the Translog Profit Function	22
13: Output Supply Elasticities Based on the Translog Profit Function	24

List of Figures

1: Share of Value of Gross Output by Industry: 1986	6
2: Share of Value of Gross Output by Industry: 1990	6
3: Share of Value-added by Industry: 1986	7
4: Share of Value-added by Industry: 1990	7
5: Share of Value of fixed Assets by Industry: 1986	8
6: Share of Value of Fixed Assets by Industry: 1990	8
7: Share of Employment by Industry 1986	9
8: Share of Employment by Industry 1990	9