Non-Timber Forest Products (NTFPs) in Community Forests of Dovan, Palpa: Diversity, Population Status and Patterns of Utilization

A Dissertation Submitted for the Partial Fulfillment of the Requirements for Masters of Science in Botany

Submitted By

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CERTIFICATE

This is to certify that the dissertation work entitled "**Non-Timber Forest Products (NTFPs) in Community Forests of Dovan, Palpa: Diversity, Population Status and Patterns of Utilization**" submitted by **Mr. Munesh Ratna Gubhaju** has been carried out under my supervision. The entire work is based on the results of his research work and has not been submitted for any other degrees. I recommend this dissertation work to be accepted for the partial fulfillment of Masters of Science in Botany (Plant Systematics and Phytogeography).

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APPROVAL LETTER

The dissertation work submitted by **Mr. Munesh Ratna Gubhaju** entitled "**Non-Timber Forest Products (NTFPs) in Community Forests of Dovan, Palpa: Diversity, Population Status and Patterns of Utilization**" has been accepted as a partial fulfilment of the requirements for Masters of Science in Botany (Plant Systematics and Phytogeography).

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January 13, 2009 Munesh Ratna Gubhaju

CONTENTS

CHAPTER 1

CHAPTER 2

CHAPTER 3

CHAPTER 4

CHAPTER 5

CHAPTER 6

LIST OF ACRONYMS

ANOVA	Analysis of Variance
ANSAB	Asia Network for Small Scale Bio-resources
asl	Above sea level
CAMP	Conservation Assessment and Management Plan
cbh	Circumference at breast height
CBS	Central Bureau of Statistics
CF	Community Forest
CFUGs	Community Forest User Groups
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
DFO	District Forest Office
DNPWC	Department of National Parks and Wildlife Conservation
DFRS	Department of Forest Research and Survey
ESON	Ethnobotanical Society of Nepal
GDP	Gross Domestic Product
ICIMOD	International Centre for Integrated Mountain Development
IUCN	International Union for Conservation of Nature
KATH	National Herbarium and Plant Laboratories, Godawari, Kathmandu
NARC	Nepal Agricultural and Research Council
NAST	Nepal Academy of Science and Technology
NTFPs	Non-timber Forest Products
SPSS	Statistical Package for Social Science
TAL	Terai Arc Landscape
TUCH	Tribhuvan University Central Herbarium
VDC	Village Development Committee
WWF	World Wide Fund for Nature

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Patterns of diversity, distribution and utilization system of Non timber forest product species (NTFPs) were studied in three community forests of Dovan Bottleneck Area in Palpa. Richness of total plant species and NTFP species was compared in different community forests in relation to forest size, altitude, human disturbance and other physical factors. Ecological sampling, ethnobotanical survey and interview methods were employed to collect field data. Use pattern of NTFPs by three ethnic/caste groups *viz*. Brahman/Chhetri, Magar and Gurung was studied.

A total of 143 vascular plant species have been documented from the study area among which 114 species were identified as potentially useful species (NTFPs). Among three ethnic/caste groups interviewed, Magars and Brahman/Chhetri had comparatively high knowledge on the medicinal uses of NTFPs, while the Gurungs had high knowledge about the fodder value of NTFPs. Several factors, including peoples' origin and history of attachment to the land, socio-cultural practices, etc. have been attributed for such variation in knowledge and utilization pattern of NTFPs. The gamma diversity of all species as well as NTFP species was high in large-sized community forest and low in smaller-sized community forest indicating area-based increase in habitat heterogeneity in maintaining overall landscape level species diversity. But species richness (alpha diversity) showed pattern related more with the level of human disturbance associated with the management practices. The results of the present study also showed species specific pattern of plant density of different life forms in different community forests.

Key words: *Species richness, diversity, altitude, disturbance, ethnobotany.*