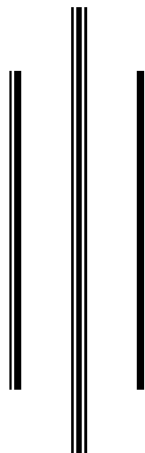
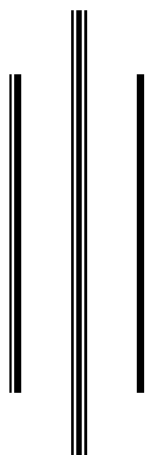


**QUANTITATIVE ANALYSIS TEMPERATE CONIFEROUS  
FOREST AT CHAME, MANANG,  
CENTRAL NEPAL**



**A Dissertation Submitted for the Partial Fulfillment of  
M.Sc. Degree in Botany**



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INSTITUTE OF SCIENCE AND TECHNOLOGY  
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OFFICE OF THE HEAD OF DEPARTMENT

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Ref. No

**Kirtipur, Kathamndu, Nepal**

**LETTER OF APPROVAL**

This is to certify that the dissertation work entitled “ **Quantitative Analysis of temperate coniferous forest at Chame, Manang, Central Nepal**” submitted by Minghta Maya Gurung has been accepted as a partial fulfillment of Master’s Degree in Botany.

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**CERTIFICATE**

This is to certify that dissertation work entitled “ **Quantitative Analysis of Temperate Coniferous forest at Chame, Manang, Central Nepal**” submitted by Miss. Mingta Maya Gurung for the partial fulfillment of M.Sc Degree in Botany, has been carried out under my supervision. The entire work is based on the results of her own work and has not been submitted for any other degree to the best of my knowledge.

Date:

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## ABSTRACT

A quantitative vegetation study was undertaken in the forest of Chame located between Bagarchhap and Bratang. It is a head quarter of Manang district which lies on northern part of Annapurna Conservation area. The study was carried out in both north and south facing slopes ranging from 2400m asl to 2800m asl. Field sampling was conducted in two seasons, one in July and other in November. Random sampling method was used and altogether 49 quadrates of size (10m X 10m) were laid in four sites. In total 55 species were recorded from all four sites. Number of species was found higher in site II (2500m-2600m) & IV (2700m-2800m). Frequency, density, coverage, Importance Value Index, species diversity and soil parameters were analyzed. Considering the Importance Value Index, *Pinus wallichiana* was most dominant one followed by *Picea smithiana*. Species richness was calculated in terms of number of species and diversity index values, which were found highest in site IV. Similarity index was found highest between site I (2400m-2500m) & IV (2700m-2800m). Soil analysis showed moderate acidic in nature.

Statistical analysis showed that there was significant positive relation between total density and total basal area of trees but negative correlation between total densities of shrubs/sapling. Similarly negative relation was obtained between shrub density and herb species richness. However species richness increased with increase in radiation index. On the whole present study revealed that biotic factor plays a leading role in composition and vegetation distribution other than factors such as soil characters, nutrients, climate, temperature, etc.

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## ABBREVIATIONS AND ACRONYMS

|        |  |
|--------|--|
| a.s.l. | Above Sea Level  |
| ACA    | Annapurna Conservation Area                              |
| ATC    | Agricultural Technical Center                            |
| BA     | Basal Area   |
| Cbh    | Circumference at Breast Height                           |
| CBS    | Central Bureau of Statistics                             |
| CDB    | Central Department of Botany                             |
| dbh    | Diameter at Breast Height                                |
| DHM    | Department of Hydrology and Meteorology                  |
| DNPWC  | Department of National parks and Wildlife Conservation   |
| ICIMOD | International Center for Integrated Mountain Development |
| IVI    | Importance Value Index                                   |
| K      | Potassium  |
| NTNC   | National Trust for Nature Conservation                   |
| LRMP   | Land Resource Mapping Project                            |
| m      | Meter  |
| MFSC   | Ministry of forests and soil Conservation                |
| N      | Nitrogen   |
| NE     | North East   |
| P      | Phosphorus   |
| OM     | Organic Matter   |
| RA     | Relative Abundance                                       |
| RD     | Relative Density   |
| RF     | Relative Frequency                                       |
| SPSS   | Statistical Package for Social Science                   |
| SW     | South West   |
| TU     | Tribhuvan University                                     |
| TUCH   | Tribhuvan University Central Herbarium                   |