

**KNOWLEDGE AND UTILIZATION OF NON-TIMBER FOREST PRODUCTS  
AND THEIR CONTRIBUTION TO MID-HILL FARMING SYSTEMS  
OF THE SHIVAPURI MASSIF, NEPAL**

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**THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL  
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## ABSTRACT

The sustainable utilization of biological resources is an important field for development so that rural communities are better able to generate sustainable incomes. The Non-Timber Forest Product (NTFP) sector in Nepal has been identified as a major source of livelihood for many rural populations.

This study investigated the role of NTFPs in the farming systems of 46 households in two Village Development Committees (VDCs) in the mid-hill agro-ecosystem of Nepal. Farming communities on the Shivapuri massif were selected because they are uniquely situated between major urban markets and a biodiversity hotspot. Two different communities of a similar number of households were selected. One on the south face with easy access to urban markets and the other on the north face of the massif, which is more isolated and has no direct road links to Kathmandu. Structured household interviews were conducted to determine the economic situation and cultivation practices of the communities. From these interviews key informants in regards to knowledge of biological resources were identified. Key informants were asked semi-structured open ended questions and assisted in the collection of herbarium specimens. Participatory Rapid Appraisal (PRA) activities were also carried out to gather community level information about the importance of NTFP species.

Type 1 and 2 farming systems are the dominant farm types of the research sites. They represent 87% of the households. Additionally, there is 1 Type 3 farm and 5 non-farm households. Site 1 is a peri-urban location with limited agricultural land available, thus villagers rely more on the near by city markets. While Site 2 is more isolated, with no direct market links, but farmers have more land available to meet their sufficiency needs.

A total of 107 different plant species from 59 different families were identified. 50 and 68 species were identified from Site 1 and Site 2, respectively, with 21 of the same species identified by both communities. While there is still knowledge of useful medicinal, food, craft, and veterinary plants, with the exception of firewood and fodder plants in both sites, Non-Timber Forest products play only minor roles in the farming systems of the area. There is a differentiation in knowledge about NTFP species and uses between communities, with knowledge holders from Site 2 able to identify and utilize a greater range of species.

Fodder and firewood, the most important and widely used NTFP resources, are also mostly gathered by female members of the household. Additionally, wealthier households with access to urban markets are less dependent on firewood as they can afford cooking gas. While there is knowledge of NTFP value adding processes for various species, communities lack investment capital, technical assistance, and market access for value adding entrepreneurial activities to that could increase their income from NTFPs,