

# Peoples' attitude towards plantation among three ethnic communities in eastern Kathmandu Valley, Nepal

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This study was conducted to evaluate the role of socio-economic status, education and attitudes towards plantation programmes among three ethnic communities viz. Chhetry, Tamang and Magar of Nasikasthan Sanga village, Kavrepalanchok District using semi-structured questionnaire substantiated by visual observation and rapid rural appraisal method. From the study, it was found that landholding size, education level and forestry extension media were playing as an important motivational factor in varying degrees in plantation programmes among three ethnic communities.

**Key words:** Ethnic communities, peoples' attitude, plantation, Nepal

The importance of trees in maintaining hill-farming system has been widely recognised in the tropics. Scarcity of forest products and increased price of wood and wood products in market and the regulatory policies of the forest products in the adjoining areas, etc. have led to an increase in tree cultivation (Kanel, 1995). Nepal's rural people depend on natural resources for their daily requirements of fuelwood, animal bedding and fodder. The increase in population has led to an inability of the forested land to supply their needs on sustainable basis (Pokharel, 1992). The perceived shortage of trees and forest products has changed the attitude of farmers towards tree planting which increased tree cover in many private farms of eastern and central Nepal (Carter, 1991; Carter and Gilmour, 1989; Hopley, 1990; Carter and Gronow, 1992). In Nepal, tree growing on private farmland and terrace ridges by hill farmers for fodder and fuel wood is not a new concept (Sherpa, 1996). In recent years, tree component has emerged as a primary focus of rural development efforts in Nepal (Mahat, 1987; Gilmour and Nurse, 1991; Thapa, *et al.*, 1991). Nepal's Master plan for forestry sector has also given emphasis to private forestry and community forestry programme (HMGN, 1988).

Nepal is a multi-ethnic and multi-lingual country (Pradhan *et al.*, 1996). Sixty-five major ethnic groups have been reported in Nepal (Statistical Pocket Book, 1998). There have been considerable differences in profession, land holding, education, income level, etc. among them. In this context, the objective of the present study was to explore the role of extension media, and socio-economic status of three ethnic groups viz., Tamang, Chhetry and Magar towards tree growing on private land.

## Materials and methods

The study was conducted at Nasikasthan Sanga village of Kavrepalanchok District. It is about 20 km east from Kathmandu valley which lies between 27° 20' to 27° 35' North latitude, and 85° 24' to 85° 59' East longitude. The district covers an area of 1396 square kilometer and elevation ranges from 1007-3018m from mean sea level. Tamang, Chhetry and Magar communities dominate Sanga village. Therefore, these three ethnic communities were selected purposively for the present study.

These three communities possessed 55, 40 and 47 households respectively in the village, totaling 142 households altogether. In selecting households, a detail list of total households among the three ethnic communities living in the village was prepared. For the study, a total of 72 households were selected randomly and proportionately from these communities irrespective of their social status.

The respondents' homesteads were surveyed during October-November, 2000 for data collection on tree composition, peoples' attitude towards tree growing by interview method using semi-structured questionnaire substantiated by visual observations. Related socio-economic information were also collected through rapid rural appraisal method. The collected data were analysed and presented in different functional ways.

## Results and discussion

The rural population of the eastern Kathmandu valley is mostly distributed in small villages or hamlets that are sometimes parts of larger, dispersed

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Table 1: Percentage distribution of family members based on occupation, landholdings, literacy and income among three ethnic groups

Variables	Ethnic Groups		
	Tamang	Chhetrys	Magar
Occupation			
Farming	100	80	100
Business	-	20	-
Landholdings			
< 10 <i>ropani</i> *	80	15	100
10-20 <i>ropani</i>	20	85	-
Literacy			
Illiterate	58	20	50
Sign only	42	60	50
Graduate	-	20	-
Monthly income (NRs)			
< 2000	-	-	17
2000-3000	43	40	50
3000-4000	43	40	17
> 4000	14	20	16

Note: \* one *ropani* = 0.052 ha. Figures indicate the percentage value of 28, 20 and 24 households for Tamang, Chhetry and Magar ethnic groups, respectively

settlements. A common pattern of forest-land distribution in these hills is for small patches of forests to be scattered throughout larger areas of cultivated land. These are vital sources of fuelwood, fodder and leaf litter for animal bedding and composting, especially in the winter months when agricultural residues are exhausted. Across the ethnic communities, almost all the rural people were farmers except 20 percent of Chhetry who were involved in business (Table 1). Among these population across three communities 50 percent could sign only while in Chhetry 20 percent people completed their graduation. The majority of the farmers, who were smallholders, owned less than 10 *ropani* practiced intensive organic farming. On the contrary, most of the Chhetry group having landholdings more than 10 *ropani* (one *ropani* = 74 x 74 feet) and whose monthly income were more than NRs. 3000.00, practiced inorganic farming system. The rich and literate farmers purchased chemical fertilizer. Sharma (1999) also observed that the increased purchase of chemical fertilizer was related to income, wealth class and literacy of farmers in Lalitpur District of Nepal.

Awareness and education are needed in order to empower the people at the grass-root level. The radio programme could play an important role in awareness generation. The important role played by radio programmes in community forestry development is felt beneficial by many stakeholders of community forestry projects in Nepal. When investigated about the possession of radio in the study area, it was found that almost all households across the ethnic communities possessed radio and those people listen forestry extension programmes (Table 2). Through listening the radio programme, users of one area are greatly benefiting from the successes and problems of another area. They listen to the voices of the users, people like themselves very enthusiastically and believe them. Radio programme is bridging very useful information to the users in all the nooks and corners of the country. If the users listen to a success story or report about new initiatives taken by forest users in other places, they will be motivated to do the same in their forests. In addition to extension activities run by forestry organisations, activist media have been playing an important role in convincing forest users to manage and utilise their forest resources.

Table 2: Percentage distribution of households having radio, and listener of forestry extension programmes.

Variables	Ethnic groups		
	Tamang	Chhetry	Magar
Radio Possession			
Yes	86	100	100
No	14		
Forestry Extension			
Listeners	86	60	83
Non-listeners	14	40	17

Figures indicate the percentage value of 28, 20 and 24 households for Tamang, Chhetry and Magar ethnic groups, respectively.

Table 3: Average number of woody perennials found on private lands among three ethnic communities.

Species name	Ethnic communities		
	Tamang	Chhetrys	Magar
<i>Alnus nepalensis</i>	12 (75)	28 (46)	5 (72)
<i>Betula alnoides</i>	-	1 (2)	-
<i>Choerospondias axillaries</i>	-	4 (7)	-
Orange	-	25 (41)	-
<i>Fraxinus floribunda</i>	-	-	1 (14)
<i>Michelia champaca</i>	1 (6)	-	-
<i>Schima wallichii</i>	3 (19)	3 (5)	1 (14)

Figures indicate the average value of 28, 20 and 24 households for Tamang, Chhetry and Magar ethnic groups, respectively. Figures in parenthesis indicate the percentage value.

Table 4: Percentage distribution of respondents in response to the preference of plant species for plantation among three ethnic communities.

Plant species	Ethnic groups		
	Tamang	Chhetry	Magar
<i>Alnus nepalensis</i>	86	100	83
<i>Betula alnoides</i>	-	20	-
<i>Choerospondias axillaries</i>	-	40	-
Orange	-	20	17
<i>Michelia champaca</i>	14	40	-
<i>Schima wallichii</i>	86	40	33
<i>Dendrocalamus hamiltonii</i>	29	60	50
<i>Bambusa tulda</i>	14	40	-
<i>Bambusa nutans</i>	-	20	-
<i>Dendrocalamus</i> sp. (type D6)	-	20	33

Figures indicate the percentage value of 28, 20 and 24 households for Tamang, Chhetry and Magar ethnic groups, respectively.

The commonly grown woody perennials in the study area are given in Table 3. In general, multipurpose tree species have been introduced by farmers. The multiple production of any single tree species was an important criterion of selection. Most of these woody perennials are important sources of fruits and timber than fuelwood or fodder. However, they are also a source of fodder and fuel during scarcity. Tree species grown are also a considerable source of income. As there is a shortage of timber and other forest products, the interest of tree planting, including bamboo which take a short time to grow and establish, has considerably increased in recent years. Those with larger farms have more woody perennials than smaller farms.

Because of forest degradation, restricted access to forest and with exceeding demand, the interest in tree planting has considerably increased in recent years. The other driving force is the increased market value of construction materials. The choice of species might have been affected by these factors. The other factor governing the choice of species is the ethnic composition and cultural practices. A number of woody perennials were found to grow in the study area. The most commonly distributed woody perennial was *Alnus nepalensis* (Table 4). It was noted that farmers in the study area were

practicing multiple cropping of maize with Soyabean. They further intensified land use by planting *Choerospondias axillaris* on the field boundary. The commonest place to grow woody perennials was the land near settlements, usually the edge of *bari* (homestead) and gullies where they could be regularly supervised. The other common places were the edge of terraced land and some scattered trees on *khet* (cultivable low land). Bamboos were considered valuable in terms of construction materials and income they provide during hardship. Chhetry ethnic group preferred to grow bamboo more than other two ethnic groups (Table 4). The commonest place for growing bamboo was gullies followed by the edge of *bari*. The introduction of more than one bamboo species seemed related to different uses. For example, *Dendrocalamus hamiltoni* was meant for making vegetable from new shoots and *Bambusa tulda* for construction and fencing.

The findings suggest that rural households grow a number of tree species or woody perennials on the farmland for meeting their various needs. Such species are important sources of timber, construction material, fodder, fuelwood, fruits and vegetables. Woody perennials are also an important source of income. Different ethnic groups prefer

different species. Landholdings, education level and forestry extension media played an important motivational factor in plantation activities.

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