A STUDY OF THE PRACTICE OF LOPPING OF CHIR PINE IN THE MARGHAZAR VALLEY (SWAT)

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ABSTRACT

A study of the common and age-old practice of lopping of Chir pine (*Pinus roxburghii)* in the Marghazar valley (Swat) was conducted through a social survey of the local population. Factors involved in the practice of lopping such as the purpose of lopping, awareness about the legal status of the practice and its impact on the tree health, tools used in lopping, species preferred and the role of gender were investigated. It was found that the practice was quite prevailing in the area. Main purpose of lopping was to meet the domestic need for fuel wood. Local people were largely unaware of its legal status or lopping's adverse affect on the tree's health. Axe was the main tool used for lopping. The preferred species was Oak but since its availability was scarce, people had no choice but to lop Chir pine. As per local customs, women played no role in this activity.

INTRODUCTION

Haphazard and un-thoughtful removal of branches from trees for various purposes with no regard for health, vigour and quality of wood is known as lopping (Qureshi, 2004).

The Chir Pine (*Pinus roxburghii*) is native to Pakistan, Afghanistan, India, Nepal and Bhutan. In Pakistan it is found in the Himalayas specifically in Azad Kashmir, Hazara, Swat, Murree, Dir, Bajaur, Malakand, Khyber and Orakzai. The western limits of the Chir forests are found in an elevation range of 925 to 1,675 meters on comparatively steep slopes. *Quercus incana* is a broad-leaved associate of Chir (Sheikh, 1993).

Lopping of Chir Pine for fuelwood is a common and age-old practice. As far back as the early twentieth century Troup (1921) reported that large areas of Chir forests had been destroyed in the past by cutting, lopping, and burning. In the former princely state of Swat, there was no control over the lopping of broad-leaved species for fuel but the local people would even lop Kail and Chir where broad-leaved species were scarce (Sultan-i-Rome, 2005).

Makino (2009) examined the practice of lopping of Oak trees in Garhwal Himalaya, India over the period 1993-2006. He found that lopping for foliage collection intensified until 2000 when there was a marked decrease in the

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amount of foliage available in the forest. As a result, the villagers reduced their dependence on the forest for income and instead started sending their children to schools in preparation for employment outside the village. He also found that women were actively involved in foliage collection.

Under the Guzara Forest Rules of Murree and Kahuta (1941) lopping of any tree whose shade was detrimental to the growth of field crops growing under it was allowed but only up to one half of the height of the tree.

However, the local people seldom observe the rules about lopping. In most cases the intensity of lopping is excessive leaving only the top most branches on the tree as shown in the figure 1 which ultimately may lead to its death.

Fig. 1. A heavily lopped Chir pine tree

Swat district is located about 160 km northwest of Islamabad, the capital of Pakistan. The people are dependent upon the forests for various requirements including fuel wood. Moreover the people living in the forest areas are generally uneducated, unskilled and therefore unemployed which make them dependent on forests for earning their living also.

This study was conducted in Marghazar valley of Swat district in order to understand the practice of lopping of Chir pine including factors such as the purpose of lopping, tools used in lopping, awareness about the affect of lopping on trees, knowledge about rules and the role of gender in lopping.

MATERIALS AND METHODS

With the help of a map, five villages that existed in in the study area were located out of which three were selected randomly. 10 households were selected randomly from each village and the head of the household was interviewed using a structured questionnaire. The total number of households surveyed was thus 30. The data was collected during March, 2010. After collection, the data was transferred to tally sheets. Simple frequencies and percentages of the variables of interest were then calculated.

RESULTS AND DISCUSSION

Purpose of lopping

When the locals were asked whether Chir pine was lopped for domestic use or for sale, a vast majority assigned domestic needs for fuelwood as the main reason. Yet, as the people of this area were less educated and unskilled, therefore, some of them lopped the trees for sale in Mingora town to earn their living. As shown in table 1, 76.7 percent of the respondents lopped for domestic purpose whereas 23.3 percent lopped for sale.

Table 1. Purpose of lopping

Purpose	Frequency	Percentage
Domestic use	23	76.7
For sale in the market	7	23.3
Total	30	100

Affect of lopping on trees

The majority of the respondents was unaware of the affect of lopping on tree health and gave answers more expedient than relevant**.** As shown in table 2, 46.7 percent of the respondents considered lopping as a beneficial practice, as it, in their view, helped the tree to gain height, whereas 30 percent of the respondents were unaware of its affect on trees. However, 23.3 percent of the respondents were aware of the adverse affect of lopping on tree health and wood quality.

Table 2. Affect of lopping on tree's health

Impact	Frequency	Percentage
Good affect	14	46.7
Bad affect	7	23.3
No idea	9	30
Total	30	100

Legal status of lopping

The respondents were largely unaware of the legal status of lopping practice and replied according to their own understanding. As shown in table 3, 20 percent of the respondents thought lopping as legitimate whereas 43 percent of the respondents considered that it was illegal and banned by the forest department. Still, 37% had no idea whether it was allowed or not.

Table 3. Awareness about legal status of lopping

Legal Status	Frequency	Percentage
Allowed	6	20
Not allowed	13	43.3
No idea	11	36.7
Total	30	100

Tools used for lopping

No hard and fast rule was observed in using a particular tool for lopping yet as shown in table 4, 50 % of the respondent households preferred axe over hand-saw for the reason that they were convenient in use and at times, helped in climbing the tall trees. 30 percent of the respondents used hand-saw for lopping as it caused minimum damage to the trees, according to their opinion. 20% of the respondents replied that they used both axe and hand saw for lopping, interchangeably and according to situations.

Table 4. Kinds of tools used for lopping

Tool	Frequency	Percentage
Axe	15	50
Hand saw	9	30
Both axe and hand saw	6	20
Total	30	100

Role of gender in lopping

Lopping was carried out by the male members of the society and the involvement of women in this activity was prohibited socially and customarily. As per table 5, lopping was done by males only and the involvement of any females of the household in the lopping practice was strictly denied.

Table 5. Gender role in lopping

Gender	Frequency	Percentage
Male	30	100
Female	0	0
Total	30	100

Tree species preferred for lopping

The study area had a mixed vegetation of Chir Pine and Oak (*Quercus incana*) in the past but due to the good quality of Oak's fuel wood and its forage value, it was excessively felled. When the respondents were asked which species they preferred for lopping, 100% preferred Oak but due to its scarcity, the people had no choice but to lop Chir for meeting their needs. Results are shown in table 6.

Table 6. Preferred species for lopping

Species	Frequency	Percentage
Quercus incana	30	100
Pinus roxburghii	30	100

CONCLUSION

Due to the dependence of local people on the forest for meeting their needs for fuelwood, lopping of Chir pine was prevalent in the area. Unemployment had further exacerbated the situation as people were forced to resort to lopping to earn a living. Lack of education meant that the people were largely unaware of the rules regarding lopping or the adverse affects of lopping on the trees. Resultantly, Chir forests were facing the pressure of lopping.

REFERENCES

Anonymous. 1941. Guzara rules of Rawalpindi district; Murree tehsil and Pahar and Kahru assessment circles of the Kahuta tehsil, section 6 (2) d and e.

Makino, Y., 2009. Oak Forests, Lopping, and the transformation of rural society in central Himalaya, India. Ph.D. thesis. University of Michigan.

Qureshi, M. A. A., 2004. Basics of Forestry and Allied Sciences. A-one Publishers, Lahore.

Sheikh, M. I., 1993. Trees of Pakistan. Ministry of Food and Agriculture, Islamabad.

Sultan-i-Rome, 2005. Forestry in the princely state of Swat and Kalam (North-West Pakistan). A historical perspective on Norms and Practices. IP6 Working Paper No. 6.

Troup, R. S., 1921. The silviculture of Indian Trees. Vol III. The Clarendon Press, Oxford.