

Causes and Effects of Deforestation on Union Council Ashkot, Neelum Azad Jammu and Kashmir: A Community Perspective

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Abstract: Deforestation remains as a major ecological problem in most developing countries. Forests in Azad Jammu and Kashmir are diverse in nature and contribute significantly to the country's economy. But most of lowland forests in Azad Jammu and Kashmir are facing major problem of forest degradation. Scholarship on the causes of deforestation reveals that it is a complex process and involved multidimensional factors that leads to deforestation. The present study was conducted to measure the perspectives of the local community regarding the causes and effects of deforestation on Union Council Ashkot, district Neelum. A survey was conducted for this purpose. Three villages of union council (Jura, Bandi and Ashkot) were selected using purposively sampling technique. A structured questionnaire was designed. Data was collected from 200 respondents through convenient sampling technique. Findings of the study highlighted commercial/ illegal logging and ineffective role of forestry department as the main causes of deforestation. Deforestation has also affected the living standard/income of the local community. It has also affected agricultural productivity of the area and decreased the availability of fuel wood, fodder for local community. Deforestation has also caused soil erosion and change in temperature and rain patterns in the study area.

Key words: Environmental Degradation • Local Agricultural Climate • Soil Erosion • Forestry Department

INTRODUCTION

The state of Azad Jammu and Kashmir (AJK) is a separate state under Pakistani control. It is located between longitude 73o-75o and latitude 32°45'–35°07'N in pre-Himalayan mountain range. It comprises an area of 5,134 square miles (13,297 km²). Azad Kashmir is mainly a forest region (42%) composed of steep hillsides and mountains where agriculture is possible on the lower hillsides, up to 3,000. Estimated population of the region is about 4.0 million with 88% rural population; rely on forest resources, livestock and agriculture for their livelihood [1]. The state of AJK is administratively divided into three divisions which, in turn, are divided into ten districts. District Neelum (also known as Neelum valley) is situated in the North and North East of Muzaffarabad. It is the most beautiful and deeply forested region of Azad Kashmir [2, 3].

There is a general perception that people living nearer to forestlands, have an imprudent behavior towards the use of forest for their own daily need which are considered as the main causes for forest degradation. Most of the rural households use forests to fodder their livestock, timber for houses and mostly importantly for fuel purposes, often the only source of energy (cooking and heating) available to them. Non-timber forest products also are used for cash income by the local community [4]. It is also observed that deforestation tends to increase when rural wages are low and timber and agriculture prices are higher. Easy access to forestlands force people to move towards these lands. In this way, migration and population growth both effect deforestation rates. Along with these causes, development activities for the purpose of expanding business infrastructure, that includes construction of commercial building and roads in the mountainous areas are among the leading

factors for declining of trees. The process of urbanization in the lowland areas and increased demand for the timber which is one the important factors result in forest degradation [5, 6].

The role of forestry department is also important in this regard. Studies have found that management of forest resources is ineffective, most forestry institution are ill-defined and suffering from severe shortcomings in Pakistan and Azad Kashmir [5]. Departments don't have enough strategies and strong check and balance system to monitor and control the illegal cutting of forests. Food and Agriculture Organization highlighted weak institutional framework (enforcement and monitoring of policies and laws), controversial land tenure and less effective community participation as the underlying factors of deforestation in Pakistan [7].

Environmental degradation further causes negative consequences both at local and national level. Himalaya region experience floods, soil erosion, debris and landslides and rapid deforestation process is held responsible for such risks in this region. Forest degradation increases soil erosion that result in decrease of agriculture productivity [8]. It also has enormous impact on the local ecosystems. Massive clearing of forest alters microclimates, rainfall patters and humidity regimen. Researches show a direct relationship between deforestation and slop failure [9]. Forest degradation particularly on hilltops enhance the rate of erosion that ultimately leads to soil degradation. Forestlands and resources always have significant role and impact on the lives of rural communities. Forests cutting directly disturb the local agricultural climate which influences the livelihoods due to impact of forests on precipitation and water balance and water availability. This flux in the patterns of rainfall further contributes to decrease the food production and water availability [10, 11].

MATERIALS AND METHODS

The main objective of the study was to measure the perspectives of local community regarding the causes and effects of deforestation on union council Ashkot. A survey was conducted for this purpose.

Study Area: Union council Ashkot is comprised of six villages (Jura, Ahkot, Bandi, Sandooq Islampura, Leswa). Three villages were selected for this study (Jura, Bandi and Ashkot) using purposively sampling technique.

Sampling Technique: The data was collected from 200 respondents through convenient sampling technique. We selected 100 respondents from village Ashkot, 50 respondents from village Jura and 50 from Bandi according to the estimated population of the villages.

Data Collection Tool: A structured questionnaire was developed and translated into national language (urdu) to measure the perspectives of local community. Data was collected through survey method from the respondents. Responses were measured by using scale that showed level of agreement of respondents with the statements. The scale ranged from (4) to large extent, (3) to moderate extent, (2) to small extent and (1) not at all.

Statistical Analysis: Responses of the respondents were coded for analysis using SPSS software. Simple descriptive statistics (frequencies and percentages) is used to analyze the results of the study

RESULTS AND DISCUSSIONS

Table 1 shows the demographic characteristics of the respondents. Sample s consisted of 200 respondents, (50,50,100) from 03 villages (Jura, Bandi and Ashkot) respectively. There were 17% of respondents who belonged to the age category of (18-25), 22.5 % belonged to the age category of (26.33) and (34-41) respectively, 22.0% belonged to the category of (42-49) and 16% belonged to age category of (50 and above 50). Most of the respondents (65%) were male and 35% were female. 24.0% of the respondents had monthly family income of (11,000 to 15,000) and 22.0% had family income of (6,000 to 10,000). 21% respondents had less than 6,000 family income and 17% respondents had above 21,000 monthly income.

Table 2 shows respondents opinion regarding the causes of deforestation in their area. Regarding the question about household consumption as a cause of deforestation, 13% respondents selected (to great extent), followed by 40% (to moderate extent), 37% (to some extent) and 10% did not agree with the statement. 37% respondents believed (to great extent) commercial logging as a cause of deforestation, followed by 34.5% (to moderate extent), 13.5% (to some extent) and 15% didn't agree with the statement. For the third factor, illegal logging, 33.2% selected (to great extent), 34.0% selected (to moderate extent) and 19.5% selected (to some extent)

Table 1: Demographic Profile of the Respondents (N=200)

Villages	F	P	Age	F	P	Family Income	F	P	Gender	F	P
Jura	50	25.0	18-25	34	17.0	1,000 to 5,000	42	21.0	Male	130	65.0
Bandi	50	25.0	26-33	45	22.5	6,000 to 10,000	44	22.0	Female	70	35.0
Ashkot	100	50.0	34-41	45	22.5	11,000 to 15,000	48	24.0	Total	200	100.0
Total	200	100.0	42-49	44	22.0	16,000 to 20,000	32	16.0			
			50 and above 50	32	16.0	21,000 and above	34	17.0			
			Total	200	100.0	Total	200	100.0			

Table 2: Distribution of the Respondents According to the Causes of Deforestation

Causes of Deforestation	Household Consumption		Commercial logging		Illegal Logging		Domestic/timber smuggling		Changing Ecological Conditions		Ineffective role of forestry Department	
	F	P	F	P	F	P	F	P	F	P	F	P
To great extent	26	13.0	74	37.0	67	33.2	38	19.0	22	11.0	100	50.0
To moderate extent	80	40.0	69	34.5	38	34.0	73	36.5	82	41.0	59	29.5
To small extent	74	37.0	27	13.5	39	19.5	37	18.5	67	33.5	17	8.5
Not at all	20	10.0	30	15.0	26	13.0	52	26.0	29	14.5	24	12.0
Total	200	100.0	200	100.0	200	100.0	200	100.0	200	100.0	200	100.0

Table 3: Respondents Opinion Regarding the Effects of Deforestation

Effects of Deforestation	Unavailability of fuel wood, fodder and small timber		Decrease in agricultural land productivity		Change in temperature, rainfall patter		land sliding		Change in climate (drier and hotter)		Soil Erosion		Increased household expenses / purchasing wood from market	
	F	P	F	P	F	P	F	P	F	P	F	P	F	P
To great extent	96	48.0	80	40.0	110	55.0	64	32.0	76	38.0	90	45.0	76	38.0
To moderate extent	43	21.5	57	28.5	47	23.5	66	33.0	53	26.5	64	32.0	62	31.0
To small extent	44	22.0	44	22.0	36	18.0	38	19.0	46	23.0	29	14.5	45	22.5
Not at all	17	8.5	19	9.5	7	3.5	32	16.0	25	12.5	17	8.5	17	8.5
Total	200	100.0	200	100.0	200	100.0	200	100.0	200	100.0	200	100.0	200	100.0

as a cause for deforestation. 19% respondents believe (to great extent) domestic/timber smuggling as a cause of deforestation followed by 36.5% (to moderate extent), (18.5% to small extent) and 26.0% did not agree with the statement. 11.0% respondents selected (to great extent) changing ecological conditions as a cause of deforestation, followed by 41.0% (to moderate extent) 33.5% (to some extent) and 14.5% did not agree with the statement. Regarding the ineffective role of forestry department, 50% selected (to great extent), followed by 29.5% (to moderate extent), 8.5% to some extent as a cause of deforestation.

Table 3 shows respondents opinion regarding the effects of deforestation. 48.0% respondents believed (to great extent) unavailability of fuel wood, fodder and small timber as a result of deforestation, followed by 21.5 (to moderate extent), 22.0% (to some extent) and 8.5% did not agree with the statement. 55.0% selected decrease in

agricultural land (to great extent) as an effect of deforestation followed by 28.5% (to moderate extent) 22.0% (to some extent) and 9.5% did not agree with the statement. 32.0% respondents believed (to great extent) land sliding as a of result of deforestation followed by 33.0% (to moderate extent), 19.0% (to small extent) and 16.0% did not agree with the statement. 38.0% respondents selected (to great extent) change in climate in their area as a result of deforestation, followed by 26.0% (to moderate extent) 23.0% (to some extent) and 12.5% did not agree with the statement. 45.0% selected (to great extent), soil erosion as a result of deforestation followed by 32.0% (to moderate extent), 14.5% to some extent. Regarding the question about deforestation has increased household consumption by purchasing wood from market, 38.0% respondents selected (to great extent), followed by 31.0% (to moderate extent), 22.5% (to some extent) and 8.5% did not agree with the statement.

CONCLUSION

The study was conducted to measure the perspectives local community regarding causes and effects of deforestation on three villages of union council Ashkot. Findings of the study highlighted commercial and illegal logging (domestic /timber smuggling) and ineffective role of forestry department as the main causes of deforestation in these areas. Local people do not cut trees for economic purposes, however they have to use minor part of the forest resource for their survival/subsistence such as fuel wood, timber (for household use), pastures, fodder. 50% respondents believed role of forestry department as ineffective. The forestry extension service offered by the department is quite ineffective and doesn't address the real problems. Deforestation has affected living standard/income of the local community. 48% agreed that deforestation has decreased the availability of fuel wood, fodder and they have to purchase wood from market. It has also affected agricultural productivity of the area. Deforestation has also caused soil erosion. 55% respondents believed change in temperature and rain patterns due to forest degradation.

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