

## ASSESSMENT OF DEPENDENCE OF LOCAL POPULATION ON SCRUB FORESTS IN DISTRICT JHELM

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### Abstract

To estimate the population pressure of the local people on the Scrub Forests in District Jhelum, a survey was conducted interviewing 144 households. Considering two elements, extraction of firewood and grazing of livestock, as major factors affecting viability of forests, they were studied with a few basic socio-economic variables and their ultimate effect on adjoining forests accounted. It has been concluded that majority of the people around the Scrub Forests depend almost entirely on state forests to meet their daily basic needs of firewood and grazing of livestock.

### Introduction

Since times immemorial people have been living in close association with the neighbouring forests. Trees and shrubs are put to multifarious use by households, particularly for meeting requirements of fuelwood, housing, animal feed, fencing, making ropes and baskets, etc. Owing to increasing population and prevalent socio-economic conditions, fuelwood, fodder and housing materials are becoming more scarce and expensive; dung burning is very common and the environmental problems, associated with land denudation are becoming more acute. At the same time, the wood reserves themselves are being depleted by the spillover effects of the rural wood famine. In the quest of meeting the daily firewood and fodder requirements, people living in the vicinity of forests have been indulging in indiscriminate felling of trees, digging out roots of shrubs that hold the fragile slopes and putting heavy pressure of grazing on the forests. In order to have a quantitative assessment of the year-round dependance of local population for firewood and grazing of livestock on the nearby forests this study was undertaken during 1986-87.

For the purposes of this study, it was hypothesized that the use of wood is associated with the socio-economic variables such as income, size of family, size of holdings, etc. These two elements, firewood and grazing of livestock, were, therefore, studied in relation to some social factors i.e. income, family size, size of holding and number of trees on the farm.

### Materials and Methods

The area covered under the study includes various villages of tehsil Sohawa and Jhelum in Jhelum Forest Division. Since no frame of the respondents was available, the data was collected from a reasonable number of individuals living around the forests and

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depending upon the forests on a whole-year basis. Before data collection, a comprehensive and detailed questionnaire was prepared covering the information about size of family, size of holding, annual income of the family, number of trees on the farm, source of firewood, source of livestock feed, etc. The data was collected from 144 individuals by interviewing the respondents in person.

## Results and Discussion

On the basis of data collected, people of the tract were classified into six categories, depending upon the quantity of firewood collected by them from the adjoining forests on a whole-year basis:

1) No. of people who do not take any firewood from the forest, 2) No. of people who take 0.1 to 5m firewood, 3) No. of people who take 5.1 to 10m firewood, 4) No. of people who take 10.1 to 15m firewood, 5) No. of people who take 15.1 to 20m firewood, 6) No. of people who take above 20m firewood.

Of all the cases studied, 39.58% households fall in the first category, 14.58% in the second, 25.69% in the third, 15.97% in the fourth, 2.08% in the fifth and 2.08% in the sixth category.

About 60% of the people almost entirely depend on the forests for their firewood requirements. The survey also revealed that the people must meet their firewood needs from the forest, legally or illegally. The requirements for firewood are also met with from the agricultural farms but in a minor proportion.

Results of the element of firewood studied in relation to some other social factors like annual income, number of trees on the farm, number of family members and size of holdings are given in table 1.

The four factors i.e. annual income, number of trees on the farm, family size and size of holding in relation to firewood use from the forest are given below:

### (a) Annual income

Dependence on the forests for firewood is inversely related to annual income. With the increase in annual income it goes on decreasing and vice versa (table 1). This relationship has been expressed in Fig. 1. Lower portion of the curve is comparatively more elastic which indicates the absolute poverty and maximum tendency to go to forest for extraction of firewood. The families with moderate income i.e. about Rs. 12000/— per annum do not go to forest at all for their firewood needs while a poor family with an annual income of Rs. 3540/— uses upto 21.60m of firewood annually from the forest.

Table 1

Showing relationship of different categories of firewood users to their average annual income, average number of trees on the farm, average family size and average holding size

Category	*Average annual use of firewood	Average annual income	Average No. of trees on the farm	Average family size	Average holding size	No. of households	Percentage
	(m <sup>3</sup> )	Rs. (Thousands)	No.	No.	(Acres)		
1	2	3	4	5	6	7	8
1.	0	12.04	45	8	13.54	57	39.58
2.	3.40	10.32	12	5	3.86	21	14.58
3.	7.18	7.22	8	7	2.99	37	25.69
4.	11.77	6.70	7	10	1.91	23	15.97
5.	18.55	5.00	5	14	1.34	3	2.08
6.	21.60	3.54	2	16	0.67	3	2.08

\*Figures are per house-hold.

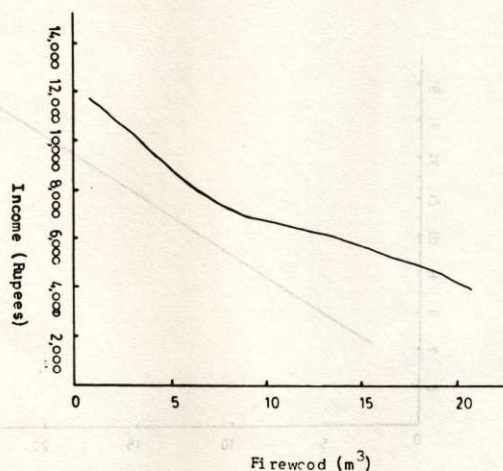


Fig. 1. Effect of annual income on firewood collection from the forest.

#### (b) Number of trees on the farm

The demand for firewood from the forest increases with the decrease in number of trees on the agricultural farm and vice versa (table 1). A family having 45 trees on its farm, gets no firewood from the forest while a poor family with only two trees on its farm obtains upto 21.60m<sup>3</sup> of firewood from the forest. This relationship has been indicated in Fig. 2.



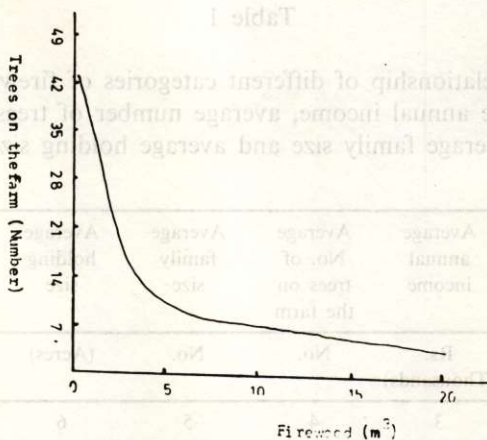


Fig. 2. Effect of No. of trees on the farm on firewood collection from the forest.

### (c) Family size

As the family size increases, dependence on forest for firewood increases proportionately and vice versa, except for the first well-to-do people category who have zero demand for firewood from the forest (table 1). This relationship has been expressed in Fig. 3.

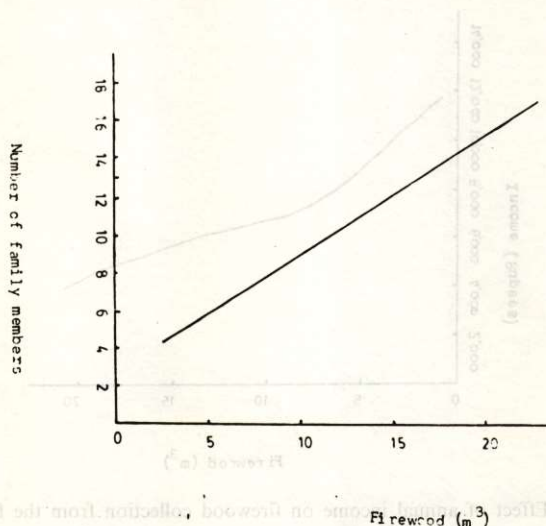


Fig. 3. Effect of family size on firewood collection from forest.

### (d) Size of holding

The demand for firewood from forest for 1st category with the medium size of holding i.e. 13.54 acres is zero. While the other categories with small size of holdings it is higher and with the increase in size of holding it decreases (table 1). The family consisting

of 16 members with the lowest i.e. 0.67 acre size of holding has the highest i.e. 21.60m consumption of firewood per annum from the forest (table 1). This relationship has been expressed in Fig. 4.

Like firewood use, the livestock being grazed in the forests can be grouped into 6 categories depending upon the number of livestock grazed. This factor was studied in relation to size of holding. The categories are: (1) No livestock being grazed in the forest, (2) 0.1 to 5 units of livestock grazed in the forest, (3) 5.1 to 10 units of livestock grazed in the forest, (4) 10.1 to 15 units of livestock grazed in the forest, (5) 15.1 to 20 units of livestock grazed in the forest, (6) above 20 units of livestock grazed in the Forest.

Of all the cases studied, 4.17% fall in the first 49.31% in the second, 29.17% in the third, 8.33% in the fourth, 6.94% in the fifth and 2.08% in the sixth category.

Table 2

Showing relationship of average number of units of livestock grazed with average size of holding

Category	*Average units of livestock	Average size of holding	No. of house-holds	Percentage
	(units)	(Acres)		
1.	0	1.17	6	4.17
2.	2.88	7.86	71	49.31
3.	7.27	7.00	42	29.17
4.	11.77	6.58	12	8.33
5.	17.31	6.0	10	6.94
6.	23.83	5.67	3	2.08

\*Number of units per household.

By studying livestock in relation to size of holding, it was observed that number of units of livestock grazed in the forest is inversely proportional to the size of holdings, with the exception of the first category (table 2). First category consists of the absolutely poor people who have no livestock and without or with a very small size of holding. This relationship has been expressed in Fig. 5.

Of the total population living around the Scrub Forest 60% and 96% depend on forests upto varying degree for their firewood needs and for grazing of livestock respectively.

### Recommendation

Growing of multipurpose tree species in these forests for production of fuelwood

of 10 members with the lowest i.e. 0.67 acre size of holding has the highest i.e. 21.66m consumption of firewood per annum from the forest (Table 1). This relationship has been expressed in Fig. 4.

Like firewood use, the livestock being grazed in the forests can be grouped into 6 categories depending upon the number of livestock grazed. This factor was studied in relation to size of holding. The categories are: (1) 500 livestock being grazed in the forest, (2) 0.1 to 5 units of livestock grazed in the forest, (3) 5.1 to 10 units of livestock grazed in the forest, (4) 10.1 to 15 units of livestock grazed in the forest, (5) 15.1 to 20 units of livestock grazed in the forest, (6) above 20 units of livestock grazed in the forest.

Of all the cases studied, 4.17% fall in the first category, 49.31% in the second, 29.17% in the third, 8.33% in the fourth, 0.04% in the fifth and 2.08% in the sixth category.

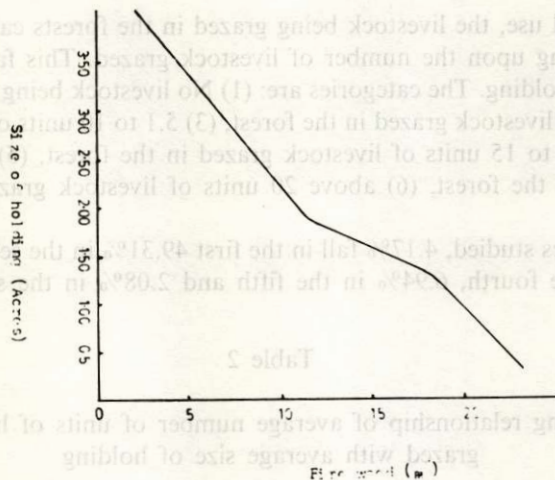


Fig. 4. Effect of size of holding on firewood collection from forest.

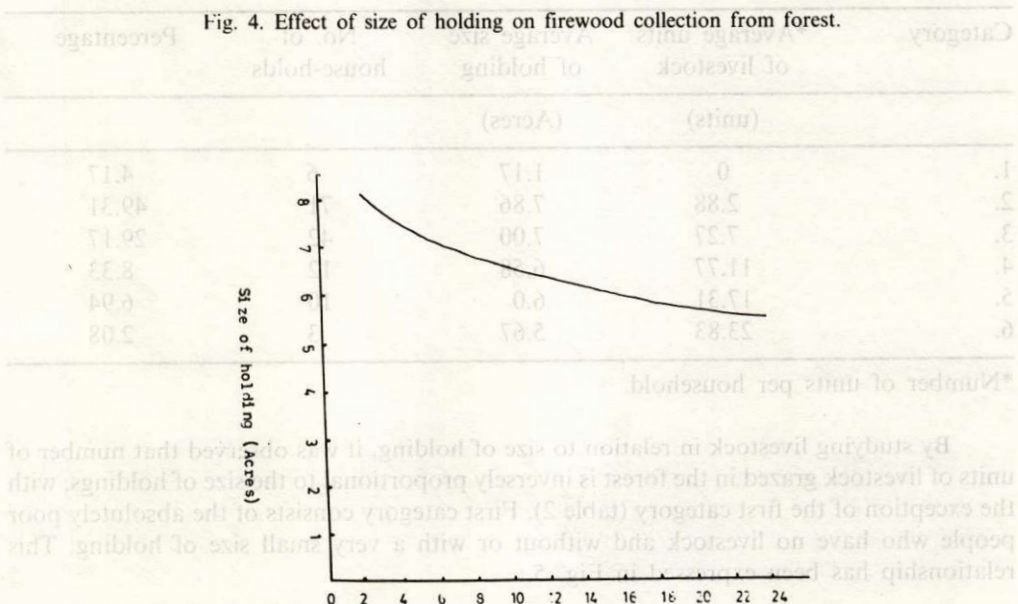


Fig. 5. Effect of size of holding on livestock grazing in the forest.



and fodder can go a long way in improving the socio-economic conditions of the people of the area.

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