

## **GENDER ROLE AND BIOMASS ENERGY IN DOMESTIC SECTOR**

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### **Abstract**

A study was carried out in Pind Dadan Khan, district Jehlum to determine the Gender role in biomass production, utilization and management for domestic energy needs. The analysis indicated that more female were involved in looking after and maintenance of trees on farmlands than males. However, females were found less in number when it came to planting activities. The study also revealed that fuelwood was a major source of energy for domestic cooking. The demand for the biofuel expected to increase with increasing human population and decreasing private forest resources.

### **Introduction**

The study area Pind Dadan Khan (PDK) is situated in the Jehlum district of the Punjab province, Pakistan and is located 30°-34' North latitude and 73°-4' East longitude on the right bank of Jehlum river.

Women and men generally perform distinct role with clear understanding of duties and responsibilities. They often control and have access to and information about different natural resources. The clear distinction between the roles of both gender give the liberty to fix their priorities and goals. As a result both the gender had their own priorities and distribution of work in utilizing natural resources in the study area.

### **Methodology**

Two stage sampling technique was adopted for this study. At first stage, out of total 120 villages, 10 were randomly selected. At the second stage, the basic investigation units i.e. households were selected through systematic

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sampling. In all five households were finally selected from the units list prepared from each sample village.

A pre-tested questionnaire was used as sampling instrument. The respondents (females) were personally interviewed to collect data. In every case the head women of the family was preferred for interview, because of being more informative. The sampling frequency for the study was 50 households.

## Results and Discussion

The data from questionnaire were arranged and categorized using Lotus 1-2-3 package. The data was checked after feeding and discrepancies were removed. The tabulation and chi-square analysis were carried out through SAS Package. All the variables such as education level, fuel types, prices, annual energy consumption, etc. were analyzed.

The results of data analysis revealed that the average number of persons per household was as 7.3. This average was higher than the national figure of 6.5 persons per household. The per capita fuelwood consumption in the area has been estimated as  $0.28 \text{ m}^3$  per annum which was found about 40% higher than the national figure of  $0.2 \text{ m}^3$ .

Majority of the sample population (62%) was engaged in planting trees, however remaining showed no interest in tree planting. The chi-square analysis of the data showed that planting operation was independent to gender issues. Males play an important role in tree planting whereas female provide support services during plantation work. Very few (4%) females were found carrying out planting independently.

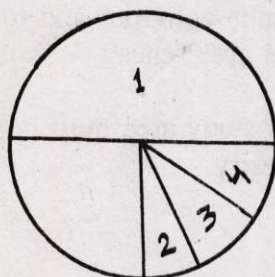
The chi-square analysis also indicated that gender relationship is weak as for the activity of looking after of plantation on farmlands is concerned. In other words the activity was not gender specific in the study area (chi square value = 2.56, P value = 0.109). There was no significant relationship between the education and earning levels of the individuals in the study area.

The biomass collection analysis holds that the majority of the females (82%) are catering for daily domestic needs but in about 60% households males also shared the responsibility. About one fourth (22%) of the sample households regarded biomass collection as the sole responsibility of the females.

Kikar (*Acacia nilotica*) was the most preferred species. Majority of females (38%) preferred kikar wood because of its high calorific value and local availability (Table 1). Phulai (*Acacia modesta*) is the next preferred species. Majority of the respondents (80%) was using fuelwood in combination with cow dung and agricultural residues (Fig.1).

Table 1. Preferred tree species by females

S.No.	Specific for fuelwood	Percentage
1.	Kikar	38
2.	Kiar + Phulai	14
3.	Kikar + Phulai + Ber	8
4.	Kikar + Ber	12
5.	Kikar + Phulai+ Musquit	10
6.	Kikar + Phulai + Shisham	12
7.	Kikar + Ber + Mesquite	6



1 = FW + CD + AR

2 = CD

3 = FW

4 = LPG

FW = Fuelwood

CD = Dung

AR = Agric. residual

LPG = Liquid petroleum gas

Fig.1. Household fuel consumption pattern



Majority of the respondents (38%) were facing no problem in procurement of biomass fuel. Almost equal number of respondents (36%) had problem of labour shortage to transport purchased wood from the market. However, 26% of the respondents were facing hardships in procurement of wood from forest area because of restrictions imposed by the department. The statistical analysis shows that household size had positive correlation with fuelwood consumption ( $R = 0.284$ ,  $P = 0.068$ ).

## Conclusion

Traditionally wood fuel was and is a major source of energy for domestic cooking in the study area. To meet present energy requirements through fuelwood (keeping all other things constant), the yield from fuelwood resources will have to be matched with increasing consumption due to population growth rate.

## Recommendation

- Women must be motivated to conserve the existing fuelwood sources.
- Women being user of fuelwood and choice makers to be involved in planing, nursery raising and afforestation works.
- The direct involvement of women in forestry projects is needed at all levels to support women activities and to utilize their knowledge about biomass and fuelwood preference.

The inhabitants of the study area must be provided extension services in community/social forestry.

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