

FARMING IN THE NORTHERN MOUNTAINS OF PAKISTAN: ROLE OF WOMEN

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Abstract

Women in the Northern Mountains of Pakistan are actively involved in sowing (except maize), weeding/hoeing, thinning, input transportation to the fields (except for wheat) and its application, irrigation, harvesting and grading (in case of potato). Beside these activities, women of the area are also involved in fruit plants management i.e., in weeds removal/hoeing, input transportation and its application, irrigation, picking, grading, drying (apricot, almond, walnut and mulberry), and cracking (walnut and almond). Women often devote more time to these tasks than men do and participate in all operations related to crop production in addition to their normal domestic chores of cooking, taking care of children, elderly and disabled, fetching water and fuel, cleaning and maintaining the house as well as some of its construction. In addition to their active involvement in various farm activities, women of the area also manage the livestock and actively involved in various activities regarding livestock raising.

Key words: Mountains farming; participation; women farmers

Introduction

The role of women in developing countries has been a subject of debate at many national and international fora. Some people believe that the role of women is restricted to their primary constituency, that is looking after the needs of their husbands, child-bearing, other matrimonial and household engagements (Fakoya, 2004).

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According to Williams (1978) women do not only have their role restricted to their primary constituency but also engage in various farming activities. The intensity of their labour depends on both the crop in question and the specific activities related to that crop. Olawoye (1993) opined that women are the invisible agriculture producers in peasant society. They play a significant and crucial role in agricultural and allied fields such as crop production, horticulture and post harvest operations (Greeley, 1993; Olaleye, 1993; World Bank, 1994; Goodland, 1995 and Ibrahim, 2002).

Like other developing countries, in Pakistan over half of the adults living in rural areas are women and often devote more time to agricultural tasks than men, in addition to their normal domestic chores of cooking, taking care of children, fetching water and fuel, cleaning and maintaining the house as well as some of its construction. Obviously, these women work (12 to 15 hours a day on various economic activities and household chores) longer than men do (ESCAP, 1997).

Despite the role played by the women, their contribution has been grossly underreported in various censuses and surveys of the country. Consequently, official labour force statistics show a very minimal participation of women. For example, the 1991-92 Labour Force Survey revealed that only about 16% of women aged 10 years and over were in the labour force and in comparison, the men's participation rate was 84%. On the contrary, the 1980 agricultural census showed that women's participation rate in agriculture was 73% and that women accounted for 25% of all full-time and 75% of all part-time workers in agricultural households. Also, the 1990-1991 Pakistan Integrated Household Survey indicated that the female labour force participation rate was 45% in rural areas and 17% in the urban areas. Thus it is clear that if women's contribution to economic production were assessed accurately, a conservative estimate of women's labour force participation would be between 30% and 40% (ESCAP, 1997). Their economic activities remained at subsistence level because of their inaccessibility to credit facilities and related technologies, no placement of value on women's agricultural activities and related technologies, and the traditional land tenure system which put them in a disadvantaged position. Most published data on rural economic activity greatly underestimate the role of women in farm work, food processing and many other productive activities (Fakoya, 2004).

Keeping in view the above, a study was conducted in Hunza valley of Northern Areas of Pakistan, in order to highlight the major activities

performed by females of the area with the specific objective of role of women in the farming systems of mountains.

Methods

The study was carried out in the Northern Areas (NAs) of Pakistan lie at the extreme North of the country. The NAs spread over 72496 sq kilometers (NADP, 2003). Of the total area, only 69,480 hectares (0.96 %) are under cultivation whereas, about 60,000 hectares of cultivable land lies barren while, rest of the area comprises rangeland, mountains, forests, lakes/rivers etc. This means that the average land holdings are generally insufficient to meet the subsistence needs of households, men have traditionally sought employment in the non-farm sector, as a result, women have to take over a substantial burden of the work in agricultural production (ICIMOD, 2001 and FAO, 2003).

This research was based on primary as well as secondary data. The primary data were collected from 59 females involved in farming, through pre-tested questionnaire, designed in the light of the pre-set objectives on the basis of personal observations and literature review. While the secondary data were amassed from various published and unpublished sources.

Results and Discussion

Household Size, Involvement in On and Off-farm Activities and Education Profile

According to Pakistan Demographic Survey a family or household can be defined as all those persons who live together and share their meal.

The household size in the research area was on average 10 persons, comprising 5 male and 5 female members (Table I). The data on involvement in on-farm and off-farm activities show that on average, in every household, two male and three female members were involved in on-farm activities while two male and one female member were involved in off-farm activities. The involvement of female in the farming was high because of the reasons, that male members were either getting education or out for job. Beside this, all the households owned land and someone had to take care of it, that's why the family members (especially women) who resided inside the village, took care of the farms and other related activities. In villages where the business and tourism activities were higher (like nearer to Sost; Pak-China border; where the Dry Port exists) the involvement of male in the off-farm activities was high.

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Data on the education level of the household show that on average, in every household, two each male and female were illiterate while one each male and female members were having schooling years from 1-8, 9-12 and only one member above 12.

Table I. Household Size, Involvement in On and Off-farm Activities and Education Profile

Sex	Household Size	Involvement		Education Profile (Schooling Years)			
		On-Farm	Off-Farm	0	1-8	9-12	12 and above
Male	5	1	2	2	1	1	1
Female	5	3	1	2	1	1	0

Operational Land Holdings in the Area

Operational land holdings play a significant role in the adoption of new technology. Farmers with higher holdings can spare more area than those with smallholdings to grow and cultivate new crops Maureithi LP, Makau B.F. and Ahmad I. 1992; Kapronczai and Tomka, 1991 and Thakur, DR., Moorti TV and Sharma HR. 1990 The Northern Areas of Pakistan scattered over an area of 72,496 sq.km, of this only 69,480 hectares (0.96 pc) are under cultivation whereas, about 60,000 hectares of cultivable land lies barren. Per capita land holding is 0.124 hectares, which is decreasing day by day with fragmentation in the families due to rapid urbanization (Dawn, 2002). The land holding in the research area was not the exception, on the average, each household owned 0.58 hectares of operational land; majority of the respondents (64%) had land upto 0.51 hectares and 15% households had above 1.01 hectares of operational holdings.

Cropping System in the Area

In the peculiar climatic conditions prevailing in mountainous areas, the altitude plays basic role in the characterization and classification of agricultural environments. Based on altitude, the Northern Areas is divided into four main cropping zones; I) Double Crop Zone (below 1600 m altitude), II) Marginal Double Crop Zone-A (1600-2000 m altitude), III) Marginal Double Crop Zone-B (2000-2400 m altitude) and IV) Single Crop Zone (2400-3000 m altitude).

The research area falls in the Marginal Double Crop Zone-B with 2000-2400 m altitude, where millet fodder and turnips follow barley. In some areas barely crop is harvested at physiological maturity stage and stacked on the rocks of the field boundary to complete grain drying. Potatoes are grown as spring crop, sown in March and harvested in August are followed by wheat/barley. In general, the cropping systems vary little between the areas of similar height reflecting the overriding consideration of producing staple food cereals, fodder or cash crop on limited land (AKRSP, 2002).

Fruit Crops in the Area

The whole of the NA is covered with scattered fruit and trees; apricot, grapes, apple, cherry, mulberry and walnuts are the most important fruits produce in the area. In the study area, 86% household were having apricot trees, 78% apple trees, 30% cherry trees, 25% each walnut and almond trees, 19% each were having grapes and peach plants.

Livestock in the Area

Northern Areas of Pakistan is blessed with a large number of livestock. It is considered the backbone of the economy, as it contributes over 22% of the aggregated household income or about 50% of the agricultural income by providing motive power for agricultural operations, farm-yard manure to maintain soil fertility, milk products food intake of an average rural households, cash from "distress sales" sales of young and culled-age animals hides, skins, wool, eggs and poultry meat (IUCN, 2002).

The production potential of all kinds of livestock in the area is too low to meet the expanding demands of people and the deficiency is met through import from down country. As a part of subsistence farming every household has some kind of livestock and poultry. Livestock of the area comprise native cattle, sheep and goats, with some donkeys, poultry and decreasing number of horses. According to IUCN (2002) due to depletion of natural feed reserves; shortage of fodder and lack of proper management, the productive population of in-milk cows decreased from 74 to 67% and the number of dry cows had gone up and the proportion of young stock both in sheep and goat also decreased considerably. In the area, 95% of the households kept sheep/goat, 88% of the household kept adult cows, 64% were having young cows, while poultry birds were kept by 49% of the household.

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Involvement of Women in Crop, Orchard and Livestock Management

Of the total population of NAs, 48% are female (ESCAP, 1997), who play a major role in farming (the intensity of their labour depends on both the crop in question and the specific activities related to that crop). In the study area, it was found that women were actively involved in sowing (except maize), weeding/hoeing, thinning, input transportation to the fields (except for wheat) and its application, irrigation, harvesting (Table II) and grading (in case of potato). Beside these activities, women of the area were also involved in fruit plants management (Table III) i.e., in weeds removal/hoeing, input transportation and its application, irrigation, picking, grading, drying (apricot, almond, walnut and mulberry), and cracking (walnut and almond). Women often devote more time to these tasks than men do and participate in all operations related to crop production in addition to their normal domestic chores of cooking, taking care of children, elderly and disabled, fetching water and fuel, cleaning and maintaining the house as well as some of its construction. Obviously, these women work (12 to 15 hours a day on various economic activities and household chores) longer than men do (ESCAP, 1997). However, women play no role in marketing (Solehati W, Yuliani P. and Tjiptono PA. 1995) the result in the study area was not different, as the selling of all the fruits and potato was performed by the male member of the household.

Table II. Involvement of Women in Crops Management

Activities	Wheat	Maize	Potato	Fodder
Ploughing	♂	♂	♂	♂
Ridge Making	♂	♂	♂	--
Seed Cutting	--	--	♀	--
Sowing	♂ + ♀	♂	♀	♂ + ♀
Earthing Up	--	--	♂	--
Weeding/Hoeing	♀	♀	♀	--
Thinning	♀	♀	--	--
Input Transportation	♂	♂ + ♀	♂ + ♀	♂ + ♀
Input Application	♀	♂ + ♀	♀	♂ + ♀
Irrigation	♂ + ♀	♂ + ♀	♂ + ♀	♂ + ♀
Harvesting	♀	♀	♂ + ♀	♀
Grading	--	--	♀	--
Selling	--	--	♂	--

Table III. Involvement of Women in Orchard Management

Activities	Apricot	Apple	Walnut	Almond	Cherry	Grape	Peach
Plantation	♂	♂	♂	♂	♂	♂	♂
Weeding	♀	♀	♀	♀	♀	♀	♀
Pruning	♂	♂	♂	♂	♂	♂	♂
Input Transportation	♂ + ♀	♂ + ♀	♂ + ♀	♂ + ♀	♂ + ♀	♀	♂
Input Application	♀	♀	♀	♂ + ♀	♂ + ♀	♀	♂ + ♀
Irrigation	♂ + ♀	♂ + ♀	♂	♂ + ♀	♂ + ♀	♂ + ♀	♂ + ♀
Picking	♂ + ♀	♂ + ♀	♂	♂	♂ + ♀	♂ + ♀	♂ + ♀
Grading	♀	♀	♀	♀	--	♀	♀
Drying	♀	--	♀	♀	--	♂ + ♀	--
Cracking	♀	--	♀	♀	--	--	--
Selling	♂	♂	♂	♂ + ♀	--	♂	♂ + ♀

♂ = Represents the activity performed by male member.

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♀ = Represents the activity performed by female member.

♂ + ♀ = Represents the activity performed by both male and female member.

In addition to their active involvement in various farm activities, women of the area also managed the livestock and were actively involved in various activities regarding livestock raising i.e., 88% of the female cut fodder for livestock, 64% graze livestock in summer and cut grasses from *Tok* (orchard type) land, 68% cut and collect thorny bushes while 100% of the female fed and milked the livestock.

Table IV. Involvement of Women in Livestock Management

Activities	Women Participation
Livestock Grazing in Summer	64%
Livestock Graze in Pastures	03%
Cut Alfalfa	88%
Cut Grass from Tokland	64%
Feed Dry Grasses	95%
Cut and Collect Thorny Bushes	68%

The involvement of female in the farming was due to, that male members were either getting education or out of the village for job in addition to this all the households owned land and someone had to take care of it, that's why the family members (mostly female) who resided in the village, took care of the farms and other related activities.

Conclusion

The average land holdings in the Northern Areas (NAs) of Pakistan are generally insufficient to meet the subsistence needs of households, men have traditionally sought employment in the non-farm sector, as a result, women have to take over a substantial burden of the work in agricultural production. The intensity of their labour depends on both the crop in question and the specific activities related to that crop. Women of the area were actively involved in sowing (except maize), weeding/hoeing, thinning, input transportation to the fields (except for wheat) and its application,

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irrigation, harvesting and grading (in case of potato). Beside these activities, women of the area were also involved in fruit plants management i.e., in weeds removal/hoeing, input transportation and its application, irrigation, picking, grading, drying (apricot, almond, walnut and mulberry), and cracking (walnut and almond). Women often devote more time to these tasks than men do and participate in all operations related to crop production in addition to their normal domestic chores of cooking, taking care of children, elderly and disabled, fetching water and fuel, cleaning and maintaining the house as well as some of its construction. In addition to their active involvement in various farm activities, women of the area also managed the livestock and were actively involved in various activities regarding livestock raising.

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