PARTICIPATION OF WOMEN IN AGRICULTURE ACTIVITIES IN DISTRICT PESHAWAR

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ABSTRACT

This study was conducted to investigate the role of women in agriculture activities in district Peshawar during 2004-05. An interview schedule was used to collect data from a random sample of 80 respondents. Most of the farmers in research area were small landholders ranging between 2 to 4 acres. Women of study area show active participation in agriculture activities. They spent more time on post-harvest activities then those pre-harvest activities. For example the study shows that pre harvest activities accounted for wheat, sugarcane and maize 38.72, 22.25 and 14.4 hours, respectively. The study also reveals that post harvest activities accounted for wheat, sugarcane and maize 121.55, 66.37 and 34 hours, respectively per acre for the crops for one season. The average daily time spent on livestock management activities was 6.23 hours. Total income of family, number of adult males in the household and educational level showed negative but significant effect on women's participation in crop production. However, the age and tenurial status of respondents had significant effect but positive relationship to women participation. Lake of training, extension services, cultural constraints and financial problems emerged as main problems encountered by women engaged in agriculture activities. These were the major causes of dissatisfaction among women involved in agriculture activities.

Key Words: **Agriculture, Women and Participation**

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INTRODUCTION

Pakistan is a developing country, having vast and varied rural sector and primarily agrarian socioeconomic setup. Agriculture sector has been and will remain the mainstay of its economy, as it contributes 23.3% towards the Gross Domestic Product (GDP). Majority of the population directly or indirectly depends on agriculture and it employs 48% of the country's labor force. About more than 70% of population living in rural areas, depends directly or indirectly on agriculture. It also contributes about 53% to foreign exchange earnings, provides raw material to industries and serve as market for industrial goods. The significance of agriculture thus cannot be ignored because it constitutes the foundation of growth and stability of the entire economy. Women play a major role in agriculture activities both directly and indirectly, along with their household responsibilities and socio-cultural obligations. Agriculture is the backbone of the developing economies and women are the key figure in their vast agrarian socioeconomic setups, however their participation varies from region to region (Govt of Pakistan 2004).

In Pakistan most of women of agriculture families work along with men on the farm as well. They work in rice planting, cotton picking and fodder cutting. For example, in Punjab most of women work alongside man in rice and cotton fields. Women are very active in livestock management activities as well. Women in Sindh, particularly tenant (haries) families and in deserts, work along their men on the farms. Women in Balochistan, generally of nomad families, take part along with family members in agricultural activities. In Khyber Pakhtunkhwa, women do very little outside the house due to purdah, rigid society and socio-cultural reasons. However, women perform almost all on-farm operations except ploughing in hilly areas, arid zones and tribal belts (Khan and Akhtar, 1994). In Pakistan, the contribution of women towards farm sector can be gauged from the percentage of time spent by women performing agricultural activities. For example, in rice and cotton growing areas of Sindh, women spent 39.34 and 50.42% of man day per annum on these two crops respectively (Qadri and Akbar, 1982).

In Khyber Pakhtunkhwa, there is no sound industrial base and population residing in rural areas is engaged directly or indirectly in agriculture. The role of women is very significant in spite of many social barriers and constraints. They help the farmer in field operation, manage the livestock production, dairy products and participate in poultry agriculture, kitchen gardening and food preservation. All their work enhances the family income. They produce about two third of total food which is quite rational to involve them actively in all agricultural development programs. The women take active part and work shoulder to shoulder with male in the field of agriculture. Almost

all the field operations in fruits, vegetables and crops production involving sowing, harvesting and storage of the crops grown in the area are equally participated by the rural women. Besides the work in the field they also take part in all aspects of animal husbandry such as herding/grazing, feeding, cutting fodder, transporting and chopping fodder/grasses and cleaning livestock sheds and so on. In addition, women are also involved in general health care, milking, butter\ghee making, and preservation of milk and milk products and their marketing. These later duties performed by women are mainly of great importance and contribute a lot to their family income (Ahmad, 2001).

Although women constitute more than 50% of the world population, their contribution in production and management activities related to the house hold economy and in country's economy at large had been underestimated and unrecognized. This is because the activities performed by men are visible whereas those by women are invisible. Sociologically speaking the role of women in the cultural context of Pakistan has always been misconceived. Constraints faced by the women in Pakistan are deep rooted in cultural values, normative patterns and customs, most of which are without religious and ethical sanction. They are never recorded for their labour.

Justification of the Research Study

Research studies investigating women's role particularly that of rural women in agriculture activities are scarce. In terms of research very few studies pertaining to women participation in agriculture activities have been carried out in Pakistan in general and Khyber Pakhtunkhwa in particular. Keeping in view the dearth of information concerning women participation in agriculture activities, the study in hand is initiated to fill these gaps.

The study would enable the policy makers to prepare plans, which would address women's concerns and develop projects/schemes where the hidden potential could be utilized fully for the development of the economy. As for the selection of the rural areas of Peshawar for this study is concerned, women do participate in agriculture activities here and it is easily accessible for the researcher.

The objectives of the study were:

i. To identify the major agriculture activities performed by women in the study area.
ii. To estimate time women allocate to various farm activities in the study area.
iii. To analyze the factor influencing women participation in agriculture activities.
iv. To identify various problems faced by women in performing agriculture activities.
v. To put forward recommendations in the light of the finding of this study.

The study highlight the role of the invisible working hands of women in the field of agriculture, who are working side by side with the farmers and contributing a lot towards agricultural development. In addition, to the acknowledgement of the greater participation of rural women in agriculture activities, the study also brings the hidden talents of rural women to limelight and signifies the potentials of rural women for proper harnessing and the resultant improvement in farm income and productivity. The study will be of great use to the policy makers in terms of formulating future policies for rural development and agricultural sector.

METERIALS AND MATHODS

This chapter gives the procedure for research study. It explain the selection of study area, selection of respondents, sampling procedure, data collection and analysis *Universe of the Study***.** The study was conducted in union council Mamoon Khatkey of Peshawar district. Three villages (Shagai, Khawaji and Khanpur) were selected. Agriculture is the main occupation of the people in these villages.

Sampling Procedure

After the selection of sampled villages a list of sample size for each village was prepared on the basis of information available from the Nazim office. In all these villages 800 households are engaged in agriculture activities. From the three villages, 10% of the households (i.e. 80) were randomly selected on proportionate sampling basis.

Data Collection

Interview schedule (questionnaire) was used as a research instrument to elicit information on women participation in agriculture activities. A well structured questionnaire was prepared for the collection of data. Efforts were made to keep it simple and understandable so as to capture all the necessary information on family income, household composition, age groups, participation of men and women in agriculture. This interview schedule was

pre-tested and modified according to the feed back from respondents. The primary data for this study was collected through a household survey.

Data Analysis

Data analysis was conducted to find out the required results of the study**.** Women participation in agriculture activities was measured in man days/seasons and one day consists of 8 hours. Ordinary least square (OLS) method was used to estimate the impact of various socio-economic and cultural factors such as Total income of family, No. of adult male in household, Age of respondent, Schooling years of respondents and Dummy variable for tenurial status. The following model was used to study the relationship between women participation in agriculture activities and a few selected but relevant variables with a view to identify factors that would have significant impact on women participation.

WP	=	f (E, M, A, D, SY)
WP	=	Participation of women in agriculture activities (man day/Season)
E	=	Total income of family (Rs per annum)
M	=	Number of adult male in household
A	=	Age of respondent
D	=	Dummy variable for tenurial status
SY	=	Schooling years

RESULTS AND DISCUSSION

This chapter deals with the discussion and interpretation of the data collected and also highlights the main findings relating to the objectives set forth for this study. Efforts were made to emphasize those findings, which were significant and prominent. This chapter contains four sections. In the first section general characteristics of the sampled respondents have been explained. Second section deals with women participation in agriculture and livestock activities. The empirical results are outlined in the third section. Problems are discussed in the fourth and final section.

Socio-Economics Characteristics of the Respondents

The socio-economics characteristics of the sampled respondents including age, educational status, tenancy status and income of respondent are outlined in the following paragraph.

Age of Respondents

Data pertaining the age distribution of the respondents shows that in village Shagai the largest number (32%) of the respondents fell in the age group of 31-40 years. where 20% respondents belong to each of brackets of 41-50 and 61-70 years. In village Khanpur majority (i.e. 60%) falls in age bracket of 41-50 years, followed by 20 % in the range of 21-30 years. In village Khwaji the largest number (60%) of the respondents are in the age group of 21-30 years. 23% in 31-40 years and 7 % each in the brackets of 41-50, and 61-70 years.

Educational Status of Respondents

To study the educational status, the sampled respondents are categorized in to two different levels illiterate and literate. The literate section comprised of primary, middle, secondary and above secondary level. Table shows that majority of the respondents (66%) were illiterate reveals that the literacy rate were lower than that of National average, (54%). The data further reveals that 34% of the respondents were literate. The break-up of the literate respondents show that as a whole 11%, 6%, 9% and 8%respondent have primary, middle, secondary and above secondary level education respectively.

Tenural Status of Sampled Respondents

Tenurial status plays an important role in agricultural based decision. The sampled respondents were categorized in three different Tenural/ownership status such as; owner, owner-cum-tenants and tenants. It was noted that around a half 45% of sample respondents cultivate the land they owned. The other group, owner-cum-tenant included those who cultivated rented land along with the land they owned as well were 30 %, while tenants represent that group which cultivated the land rented by someone else on share or rent basis. This group was also 30 % of the total respondents.

Income of the Sampled Respondents

Data states that 50 % of the sampled respondents were earning between 5001-10000 Rupees followed by 13 % who got less than 5000, 11 % got 10001-15000 and 8% were earning 15001-20000 and above 20000 Rupees per months.

Size of Landholding of Sampled Respondents

Landholding is an important factor influencing almost all agriculture activities including the participation of women. Therefore, farmers included in the sample were classified on the basis of landholding. The detail depicts that 40% and 48% respondents in the villages Shagai and Khanpur have landholding of more than 4 acre of land respectively. As for the village Khawaji is concerned, 33% households have landholding about 4 acre of land. Similarly, 32%, 28% and 40% households in villages Shagai, Khanpur and Khawaji have less than 2 acre of land in the same order. It is interesting to note that almost same number of households have 2.1- 4 acre of land in all the three villages. As a whole these landholding of the households in the study area is 484 acres.

Family Size of Respondents

Information pertaining to Household composition of sample respondent is outlined. Average family size of respondent in the study area was 8.The maximum family size was 18 and the minimum was 2. About 39 % of the respondents were belonging to the family consisting of 9 and above members.

Type of Family

Family system reflects an important relationship between women participation and agriculture activities. About 66.25% of respondents were living in nuclear family system while 33.75 belong to joint family system.

Women's Participation in different Activities

This section outlines detail information about different farm and livestock activities performed by women inside and outside the house as well as marketing activities.

Pre Harvest Crop Production Activities

This section describes time spent on various farm activities on per acre basis. The figures in Table I reveal that among the various crops in wheat the women engaged most. For example, a woman spent 38.72 hours on wheat production per acre in one season. Similarly in average acre under sugarcane and maize crop counted for 22.25 and 14.4 hours respectively.

Table I ***Time spent on pre harvest crop production activities***

Operation	Time Required Per Acre (in hours)		
	Sugarcane	**Wheat**	**Maize**
Land preparation	7	16.36	3
Ploughing	5.5	6.12	2.4
Sowing	2.25	4.31	3
Manuring	4.5	8.77	2
Weeding	3	3.16	1.5
Other	0	0	2.5
Total	22.25	38.72	14.4

Source: survey data

Post Harvest Crop Production Activities

Contribution of women toward crop production in post-harvesting activities and its relationship to cropping pattern is shown Table II. The Table shows that harvesting, collection of harvested crops, dehusking, Threshing, transportation, storage and marketing are the post harvest crops production activities for the three crops under study. The table further reveals that all the above mentioned post harvest activities accounted for 121.55, 66.37 and 34.43 woman hours per acre for the crops of wheat, sugarcane and maize respectively**.**

Table II ***Time spent on post harvest crop production activities***

Operation	Time Required Per Acre (in hours)		
	Sugarcane	**Wheat**	**Maize**
Harvesting	46.16	64.097	7
Collection of harvested crops	3.44	9.35	5.6
Dehusking	8.27	15.15	3.8
Threshing	2.77	4.8	4.2
Transportation	3.5	6.08	3.75
Storage	2	6.08	4.75
Making bundles	0.23	16	5.33
Other	0	0	0.02
Total	66.37	121.55	34.43

Source: survey data

Time Spent on Various Household Activities

Daily Time Spent on Various Household Activities

All of the sampled women have been actively involved in household activities comprising breakfast, house cleaning, dish washing, cooking and childcare sewing and embroidery and laundry. Most time consuming activities were child care, cooking and laundry these respondent spent an average 1.6, 1.3 and 0.98 hours respectively on these activities. The less time consuming activities was house cleaning an average of 0.52 hours/day. On average sampled respondent spent 6.53 hours daily on various household activities.

Table III ***Time spent on various household activities***

Activities	Total daily time spent
Breakfast	0.8
House cleaning	0.52
Dishwashing	0.89
Cooking	1.3
Childcare	1.6
Sewing, knitting and embroidery	0.54
Laundry	0.98
Total	6.53

Source: survey Data

Time Spent on Livestock Activities

Livestock is generally managed by women. The major livestock activities performed by women in research area are feeding, watering, milking, yogurt preparation, churning and butter, cleaning sheds, Dung collection, making dung cakes, cleaning animals, building sheds, check feeding, collection of eggs, cutting green fodder and bringing dry fodder. The activity-wise time allocation for all the above mentioned activities is summarized in Table IV.

Table IV ***Time spent on livestock activities***

Activity	Time spent (hours)
Feeding	0.7
Watering	0.8
Milking	0.4
Yogurt preparation	0.23
Churning	0.37
Cleaning sheds	0.35
Dung collection	0.67
Making Dung cakes	0.40
Cleaning animals	0.10
Building sheds	0.15
Chick Feeding	0.3
Collection of eggs	0.22
Cutting green fodder	0.99
Bringing fodder	0.45
Any other	0.038
Total	6.23

Source: survey Data

Table shows that average daily time spent on livestock management activities was 6.23 hours. On an average 0.77, 0.8, 0.4, 0.23, 0.37, 0.35, 0.67, 0.40, 0.10, 0.15, 0.3, 0.22, 0.99, 0.45 and 0.04 hours per day is spent on Feeding, Watering, Milking, Yogurt preparation, Churning, Cleaning sheds, Dung collection, Making Dung cakes, Cleaning animals, Building sheds, Chick Feeding, Collection of eggs, Cutting green fodder, Bringing fodder and other activities respectively. Moreover some of the livestock activities are performed by men in research area.

Time Spent in Marketing Activities

The major marketing activities performed by women in research area are the sale of milk, sale of ghee, sale of animal, purchase of animal, sale of chick and other activities. The activity-wise time is outlined in Table V. Table shows that average daily time spent on marketing activities was 2.55 hours. On average 1.09, 0.72, 0.23, 0.10, 0.25 and 0.16 hours per day is spent on sale of milk, sale of ghee, sale of animal, purchase animal, sale of chick and other activities.

Table V ***Time spent in marketing activities***

Activity	Time spent (h)
Sale of milk	1.09
Sale of ghee	0.72
Sale of animal	0.23
Purchase animal	0.10
Sale of chick	0.25
Other	0.16
Total	2.55

Source: survey data

Econometrics Analysis

To quantify the impact of various variables on Women participation, the following econometric model was used.

$$WP = \boldsymbol{Bo}+\boldsymbol{B_1}\ INC +\boldsymbol{B_2}\ M+\ \boldsymbol{B_3}\ A+\boldsymbol{B_4}\ SY+\boldsymbol{B_5}T +E$$

Where, INC is income of household, M is number of adult man, A is the age of respondent, SY is education level of respondent and T is tenency status of sampled respondents are independent variables. These independent variables were considering having plausible effect on the dependent variable and regressed on the dependent variable. The results of the above given model are as follows:

$$WP = 70.72 – 0.0017\ INC -23.12\ M+2.17\ A-0.032\ SY+29.75T$$

(1.64) (-5.56) (3.71) (0-.027) (2.47)

* The values in parenthesis are t- ratio

R-Square = 0.43 F= 11.44

The model depicts that women participation in agriculture activities and total income of the family (INC) has a negative and significant relationship. As total income of family increases by one rupee per annum participation of women decreases by 0.0017 days/season. It is common observation that slight improvement in economic status of a family reduces pressure on women to engage in agricultural work. The wealthier families consider women's work below their status in the society.

The effect of number of adult males (or M) on women participation is negative and significant. As one adult male adds in the household, women will spend 23.12 days/ season less on agriculture activities. It is in accordance with our cultural practices as there are more male members in household then women prefer to remain inside home. Age (or A) has positive and significant effect on women participation physically as age increase participation decrease but mentally is age increase participation increase. As there is an increase of one year in the age of woman, her participation in agriculture activities increases by 2.17 days per season. Schooling year (or SY) has negative and insignificant relationship on women participation. As there is an increase in one year of schooling there is decrease in 0.032 days per season.

Women participation in crop production (days/season) of a owner cum tenant family is 29.75 and significantly different (t=2.47) from women participation of tenant family. The reason of this increase is that women of owner cum tenant families spent more time on post harvest activities, which are mainly carried out in home.

For this model R-sqr is 0.43 which suggests that 43% variation in women participation has been jointly explained by variation in the five explanatory variables. As Fcal = is 11.44 > than Ftab = 4.41 at 5% level of significance therefore overall effect of various variables on women participation is significant.

CONCLUSION AND RECOMMENDATIONS

Women in District Peshawar are actively involved in agriculture activities. Main agricultural activities performed by women are Land preparation, Ploughing, sowing, Manure application, weeding, Harvesting, Collection of harvested crops, Dehusking, Threshing, Transportation, storage and Making bundles. The women participation in pre and post harvest agriculture activities is not that large. The main reason observed for the low participation of women is social one. They are heavily involved in livestock management. Main livestock activities performed by women are Feeding, Watering, Milking, Yogurt preparation, Churning, Cleaning sheds, Dung collection, Making Dung cakes, Cleaning animals, Building sheds, Chick Feeding, Collection of eggs, Cutting green fodder, Bringing fodder and marketing activities related to livestock's. The sign of the age of respondents and tenancy status are positive while income of household, educational level and number of adult male has negatively relation with women participation. It ia recommended that Govt and NGO's shall launch programs such as adult education in order to enable this large flock to read and understand the relevant published and broadcast information's. More determents efforts are needed to encourage women and to raise women's Knowledge of efficient management practices and implementation of agriculture activities. Women organizations should be encouraged to streamline marketing activities and save marketing cost. Generally the women are unable to get any reward for their work , therefore, policy should be devised in this issue.

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