

SELF-PERCEIVED NEEDS OF RURAL WOMEN FOR AGRICULTURAL EXTENSION SERVICES

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ABSTRACT: The present research was conducted in district Bahawalpur (Southern Punjab, Pakistan) to determine the needs of rural women for agriculture extension services on the basis of their self perception. All the rural farm women residing in district Bahawalpur served as the population of the study. A multistage sampling technique was used for the selection of study respondents. The results show that women were involved in a variety of operations regarding crop and livestock production, but they don't have access to agricultural extension services. It was concluded that according to women winnowing (Separation of wheat from chaff) is the area where they need extension services from public or private extension agency. Age of the respondents was highly correlated with preferred activities of sowing ($r = 0.90$) and harvesting ($r = 0.89$) of crops, fruits, and vegetables in the area of crop production. Demographic variables of education and age have significant but low correlations with all the preferred activities in livestock production sector. It is suggested that Government should establish women training centers in rural areas and start a training programmes. In the provincial setup of Agriculture Extension Department, a women extension worker should be appointed to train and guide rural women about crop production and crop protection technologies.

Key words: rural women, agriculture extension services, crop and livestock production.

INTRODUCTION

Women are engaged in variety of agricultural operations all over the world. According to an estimate, women produce more than 50.0% of the world food (Prakash, 2003). Their contribution in agricultural labour force is higher in developing countries as compared to developed one (FAO, 2010). Women are actively involved in various agricultural activities but their contribution varies from country to country and regions to region (Mwange, 2004). They also work along with men in livestock production and management activities (Ishani, 2004). Their participation in livestock caring, production and management activities is excellent (Saghir *et al.*, 2005; Siddique *et al.*, 2009).

Pakistan is a developing country having an agro-based economy where nearly 62 percent of the population resides in rural areas, and is directly or indirectly linked with agriculture for their livelihood. About 21% of country's GDP comes directly or indirectly from agriculture sector (Government of Pakistan, 2010). Women residing in rural areas of Pakistan work hard in crop and livestock production and management activities in addition to the household chores (Ahmed and Hussain, 2004). In livestock operations their participation is excellent in cleaning of animal's sheds and provides fodder to the livestock (Javed *et al.*, 2006). In spite of their extensive involvement, they are not supported by agricultural extension services and have limited access to agricultural extension resources around the world (FAO,

2009 and Hassan, 2010). Due to limited access to extension services they need agricultural extension services in crop and livestock sector from Government and private organization. Because it is necessary for global sustainable agricultural growth and poverty reduction thereby enhancing productivity to technological need based trainings and extension programmes for farm-women (Sailaja and Reddy, 2003; Anríquez and Stamoulis, 2007). Therefore, the current research study was planned to determine the needs of rural women for agricultural extension services in crop and livestock production sector.

MATERIALS AND METHODS

The study was conducted in district Bahawalpur (Southern Punjab, Pakistan) comprising of 78 rural union councils. The study was descriptive and co-relational in nature and a multistage sampling design was used for the selection of study respondents using random sampling technique. Out of the total 78 rural union councils 20 were randomly selected. From each randomly selected union council, one village was selected randomly, and from each selected village, 25 women who were actively involved in different agricultural operations were selected at random, thereby, making a sample of 500 respondents. The lists of these women farmers were taken from the officer of respective union councils (office of social welfare department). The data were collected with the help of a well structured and validated interview schedule

and were analyzed by using Statistical Package for Social Sciences (SPSS). The needs of the respondents in different areas of crop and livestock production and its management were measured by the help of three point likert scale (3=strongly needed, 2=least needed and 1=not needed). Different areas in crop production and livestock production and management were ranked on the basis of mean value.

RESULTS AND DISCUSSION

Selected Demographic Characteristics: The importance of demographic characteristics was discussed by Acharya *et al.*, (2005). In the present research study two characteristics (age and education) were selected.

Age: Age factor is very important among various socio-economic characteristics of an individual as it influences one's behaviour and widens the vision of an individual through experience. It maintains its effects on the decision-making and wise use of available resources (Okorley *et al.*, 2004).

The data regarding the educational level of the respondents reveal that most of the respondents (41.6 %) belonged to middle aged group followed by 30.4 and 28.0% of the respondents who fell in old and young age category, respectively. Women farmers having age between 35-50 years have greater sense of responsibility and their willingness is also high to pay more attention to save their future through active participation in agricultural activities is also very high (Siddique *et al.*, 2009; Hassan, 2010).

Education: The other important demographic factor is education. The development of human resources in agriculture sector is also influenced by getting education (Cho and Boland, 2003). In rural areas of Pakistan, many problems and constraints are experienced by women due to their low educational level.

The results regarding educational level of the respondents, show that a large majority (76.8%) of the respondents was illiterate followed by 23.2% of the respondents who were literate/educated. Among the literates, most (9.6%) of the respondents were up to primary. Almost an equal number (8.0%) had educational level from middle to matric. About 5% of the literate respondents had primary to middle education. These results point out that lack of education among women farmers obstructed their participation in agricultural development activities (Sadaf, 2005). Majority of our rural women are deprived of educational facility and are illiterate in spite of their high contribution in agricultural and livestock production. However, the importance of female education has solid effects on increased economic productivity through sustainable agricultural growth (Hassan, 2010). The results regarding age and education of the respondents are inline with the results obtained by

Iftikhar *et al.*, (2009) who reported that 48.2% of the respondents were in the age group of 30-44 years and majority (56.5%) of the respondents were illiterate.

Needs of Rural Women in Crop and Livestock Production: Respondents were asked questions to find out their needs for extension services regarding crop production.

Table 1: Needs of rural women in crop production sector for Agriculture Extension Services

Areas	Rank Order	Mean	SD
Winnowing (Separation of wheat from straw)	I	2.720	0.588
Manuring and application of fertilizer	II	2.584	0.672
Sowing crops, fruits or vegetables	III	2.160	0.785
Harvesting of crops, fruits or vegetables	IV	2.160	0.764
Transplanting	V	1.760	0.824
Drying of agriculture produce	VI	1.616	0.799
Intercultural operations	VII	1.432	0.612
Storage	VIII	1.400	0.658
Picking of cotton	IX	1.248	0.432

SD: Standard Deviation

Scale: 3=strongly needed, 2=least needed and 1=not needed

The data presented in Table 1 indicate that rural women need more technical knowledge from extension agencies in the areas of crop production. Winnowing is the most interested one in which majority of the respondents required assistance, having mean value "2.720" which indicate more inclination towards highest priority category which is "strongly needed". The other areas in which women require extension services are manuring and application of fertilizer, sowing of crops, fruits or vegetables, harvesting of crops, fruits or vegetables, transplanting, drying of agriculture produce, intercultural operations, storage and picking of cotton. Similar training needs were also identified by Iftikhar *et al.*, (2009) while determining the training needs of rural women in agriculture as a case study of district Bahawalpur.

Respondents were further asked questions to find out their preferred needs related to livestock production and its management for gaining access to livestock extension services.

The results presented in Table 2, reveal that "feeding and caring of animals/poultry birds" were the areas where respondents required extension services for getting assistance and technical information. Majority of women in the study area involved in feeding of animals and treatment of sick animals but they didn't have any technical knowledge about the disease care management of livestock due to the lack of education and training. Majority of women in the study area are illiterate and

with the delivery of extension services and training, more milk, meat and eggs can be produced to meet the requirements of rapid growing population of the country (Javed *et al.*, 2006). The provision of livestock extension services to women farmers will help in increasing their technical knowledge related to livestock production. The other areas of livestock production as identified in the present study in which women need extension services are making feed concentrate, calf rearing, milking and milk processing, designing and cleaning of animals' sheds, collection and preparing farm yard manure, fodder cutting and chopping and making & storage of dung cakes. Rural women involved in livestock management not only would require training but also were interested in learning new techniques and ideas (Hassan, 2010). Women farmers need direct access to agricultural extension services for training and to get information to improve their livestock production activities. Research has proved that women's attitude toward the training/educational programs about small ruminant production are extremely positive (Budak *et al.*, 2005).

Table 2: Needs of rural women in livestock production sector for Agriculture Extension Services

Areas	Rank Order	Mean	SD
Feeding and caring of animals/poultry birds	I	2.472	0.816
Making feed concentrate	II	2.448	0.732
Calf rearing	III	2.432	0.824
Milking and milk processing	IV	2.040	0.732
Designing and cleaning of animals' sheds	V	1.974	0.833
Collection and preparing farm yard manure	VI	1.648	0.762
Fodder cutting and chopping	VII	1.136	0.407
Making and Storage of dung cakes	VIII	1.056	0.230

SD: Standard Deviation

Scale: 3=strongly needed, 2=least needed and 1=not needed

Relationship between Age and Education and Preferred Activities by Rural Women regarding Crop/Livestock Production:

Pearson correlations were computed to see the strength of relationship between selected demographics and the activities preferred by the rural women for crop and live stocks production separately. It is evident from Table 3 and Table 4 that all correlations were positive but varying in the strength of relationship.

Education and Activities in Crop Production: As reported in Table 3, significant but low correlations were observed between education and two preferred activities

by rural women such as winnowing ($r = 0.23$) and manuring and applications of fertilizer ($r = 0.30$). It implies that rural women need not to be highly educated while performing the activities such as winnowing and manuring and applications of fertilizer. In addition, sowing ($r = 0.52$) and harvesting ($r = 0.53$) of crops, fruits or vegetables have medium correlation with education level, which proves that rural women need some level of formal education or training to perform the activities of sowing and harvesting. Storage and picking of cotton have strong relationship with education such as ($r = 0.90$) and ($r = 0.84$) respectively, which shows that both of these activities are directly related to the education level of rural women and also showed the significance of education for performing these activities. The activities of intercultural operations ($r = 0.79$) and drying of agricultural produce ($r = 0.80$) also have strong relationship with education level of rural women which means that rural women have better understanding of new knowledge or they must have some level of training while working on intercultural operations and drying of agricultural produce.

Age and Activities in Crop Production: As reported in Table 3, the variable of age is highly correlated with preferred activities of sowing ($r = 0.90$) and harvesting ($r = 0.90$) of crops, fruits, and vegetables in the area of crop production. From this result, it is evident that mature and older rural women were doing better in the activities of sowing and harvesting. In addition, there was also good relationship between age and transplanting ($r = 0.85$), drying of agriculture produce ($r = 0.80$), manuring and application of fertilizer ($r = 0.77$), intercultural operations ($r = 0.77$), and picking of cotton ($r = 0.73$). These results also imply that age is an important factor in performing different activities in crop production because as rural women get older and older they show more commitment and seriousness towards their daily routine work. However, there was medium relationship between age and winnowing ($r = 0.64$) and education ($r = 0.62$). The low interest of rural women are also supported by the frequency distribution Table I, which shows that only 23.2% of the rural women of all age groups have education from Primary to above Matriculation. However, 76.8% of the rural women were illiterate.

Education/Age and Activities in Livestock Production:

As reported in Table 4, all the preferred activities in livestock production sector with the demographic variables of education and age have significant but low correlations. It implies that the role of education and age is not very prominent in performing the activities related to the livestock in the rural areas. On the other hand two demographics education and age have medium correlation ($r=0.62$), which means that as age increases, education requirement also increases.

Table 3: Inter-correlations among the demographics and preferred activities by rural women for crop production

	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	X ₉	X ₁₀	X ₁₁
(X ₁)	1	0.82*	0.78*	0.76*	0.62*	0.97*	0.80*	0.71*	0.65*	0.52*	0.90*
(X ₂)		1	0.57*	0.83*	0.87*	0.81*	0.91*	0.44*	0.81*	0.73*	0.85*
(X ₃)			1	0.44*	0.36*	0.77*	0.48*	0.86*	0.38*	0.30*	0.77*
(X ₄)				1	0.78*	0.78*	0.88*	0.34*	0.88*	0.79*	0.77*
(X ₅)					1	0.63*	0.86*	0.27*	0.86*	0.84*	0.73*
(X ₆)						1	0.80*	0.72*	0.67*	0.53*	0.90*
(X ₇)							1	0.37*	0.86*	0.80*	0.80*
(X ₈)								1	0.29*	0.23*	0.64*
(X ₉)									1	0.90*	0.78*
(X ₁₀)										1	0.62*
(X ₁₁)											1

- Correlation is significant at the 0.01 level
- X1= Sowing, X2= Transplant, X3= Manuring & Fertilizer, X4= Intercult. Operations, X5= Picking of Cotton, X6= Harvesting, X7= Drying of Ag Produce, X8= Winnowing, X9= Storage, X10= Education, X11= Age

Table 4: Inter-correlations among the demographics and preferred activities by rural women for Live stock Production

	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	X ₉	X ₁₀
(X ₁)	1	0.76*	0.83*	0.88*	0.41*	0.80*	0.30*	0.81*	0.16*	0.23*
(X ₂)		1	0.55*	0.80*	0.22*	0.88*	0.16*	0.97*	0.14*	0.18*
(X ₃)			1	0.79*	0.59*	0.64*	0.43*	0.59*	0.07*	0.17*
(X ₄)				1	0.44*	0.77*	0.32*	0.81*	0.12*	0.07*
(X ₅)					1	0.25*	0.77*	0.23*	0.32*	0.31*
(X ₆)						1	0.18*	0.90*	0.20*	0.26*
(X ₇)							1	0.17*	0.40*	0.31*
(X ₈)								1	0.16*	0.17*
(X ₉)									1	0.62*
(X ₁₀)										1

- Correlation is significant at the 0.01 level
- X1= Anml. Sheds, X2= Feed/caring of Anml., X3= Collect/Prepare FYM, X4= Milking/Milk processing, X5= Fodder cutting/chopping, X6= Making feed concentrate, X7= Making/storage dung cakes, X8= Calf rearing, X9= Education, X10= Age

Conclusions: It was concluded that majority of the rural women in the study area were fall in middle age category having age between 35-50 years and vast majority (76.8%) of them in the study area were illiterate. Among various crop production activities winnowing is the area where rural women need extension services from public or private extension agencies. Similarly it was concluded that feeding and caring of diseased animals is the most important activity where majority of women need extension services. It was further concluded that age of the respondents was highly correlated with crop productions activities like sowing and harvesting of crops, fruits, and vegetables. It was also concluded that all the activities in livestock production sector have significant but low correlations with age and education of the respondents.

Recommendations: On the basis of results of the current research study, following recommendations are formulated:

- At district level, a female extension wing should be established under the supervision of District Officer Agriculture.
- Women training centers should be established at union council level, where short term training courses for rural women regarding livestock and crop management practices offered.

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