

Research Article



Constraints in Accessing Agricultural Extension Services by Rural Women: Evidence from Khyber Pakhtunkhwa, Pakistan

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Abstract | The present study was conducted in Khyber Pakhtunkhwa, Pakistan where three districts (Bannu, Swabi and Swat) were randomly selected with the objectives to investigate the information sources of women farmers and constraints they were facing in carrying out agricultural operations, 128 women respondents from each district were randomly selected and interviewed through pre-designed interview schedule in 2018. Results indicated that 47% respondents were in middle age category (31-40 years), 59% were illiterate, 91% women respondents were married and 75% households were headed by male. It was observed that local famers/colleagues were the main source of information for 41 % respondents, while no female extension worker was available to be accessed for taking agricultural information. Only 14% respondents attended trainings. This situation is very alarming and shows negligence of extension department. These trainings were provided by various NGOs and private organizations. Those women who got trainings were more updated than those who did not attend or had no access to trainings. Chi-square analysis revealed that age had significant association with involvement in decision making. It means that by increasing age of the respondents, the tendency towards involvement in decision-making increases. Literacy had non-significant association with decision making and training attended. Similarly, various barriers were identified having significant impact on the probability to attend trainings. Results indicated that women extensively felt the need and interest for trainings. The study concluded that women farmers' access to agricultural extension services are very limited, very less extension trainings were arranged for women farming community hindering women in getting desirable field production. Various cultural constraints i.e. *pardah*, language barrier, and mobility had negative impact on farming operations. It is recommended there is dire need to establish female extension staff. Government should provide basic trainings and subsidized inputs to women in the study area.

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Introduction

Agriculture is one of the driving forces for the economic development of Pakistan (Sanaullah and Pervaiz, 2019) where it is considered as the backbone of country's economic prosperity (Ali *et al.*, 2013). People depend on agricultural sector for

household food production and income generation from land. Agriculture provides raw material to industry and other sectors and consumes more labor force as compared to other sectors. Agriculture contributes 18.5 percent to country's Gross Domestic Product (GDP) and provides 38.5 percent employment opportunities to national labour force.

Majority of the population that is almost 68 percent is involved in agriculture sector in one way or the other (GoP, 2018-19). Agriculture is of huge importance for Pakistan and its function in the economic development cannot be denied and Pakistan still owns the name as agricultural country (Sanaullah and Pervaiz, 2019).

Domestic economies could be boosted through active involvement of women. Mostly rural women are contributing in the income of their family. A woman holds central position in the economic prosperity of any country but their participation differs from area to area and country to country (Saba *et al.*, 2020). Regrettably, because of low education, societal and cultural restrictions, women labour force can't be used to its high potential in economic practices in Pakistan. Formerly, females were bound to perform their duties within the four walls of a house as a mother and wife but now new reforms of the societies are demanding new role from the women. Economic and financial crises have forced female to work beside male in earning of living in under developed countries (Zia, 2000).

Along with the household works, women contribute in the endorsement of export crops. Women workers engage and participate in almost all activities of agriculture but there is discrimination in wages even if they do same type of work as male labour (Bala, 2010). In hilly areas, they take part in more or less all agricultural practices, like crop production, crop protection, post-harvest activities and caring livestock/poultry (Damisa *et al.*, 2007; Farid, 2009; Saba *et al.*, 2020). Post-harvest and storage activities are mostly carried out by women. In livestock, women are mostly responsible for milking, shepherding, calving and feeding. But still less access to resources greatly limits their capacities in increasing production (Amin *et al.*, 2009). All of these women are considered part of the agricultural labour force. In south Asia, over 60% of women workers are in agriculture (FAO, 2010). Women report more fatigue than men while performing farming and non-farming activities (Bakker *et al.*, 2002; Akersted *et al.*, 2004).

In most of the developing countries, women's accessibility to resources and opportunities needed for better production are minimum due to which agricultural production is not according to the standard (Santra and Kundu, 2001). Low agricultural

production, economic growth and food security is badly affected by gender gap in the society. Women contribution in the economic development of any country cannot be ignored (Farid, 2009). Women's role varies across regions and countries. They can enhance production, helps in increasing food security, economic growth and social well-being if they are provided with enough access to education, financial services, land, livestock and rural employment (Sharma *et al.*, 2014; Saba *et al.*, 2020). Their roles are varied and varying quickly, so generalization should be made vigilantly but the common fact in most countries is that women have less access to capitals, services and employment as compared to men (Mehra and Rojas, 2008).

Women's right to land ownership is restricted by cultural and traditional boundaries (FAO, 2010). Only 2 percent of the women all over the world hold ownership of the land, usually they do not have the right to inherit property (Steinzor, 2003). Likewise gender differences in the society hinder the achievement of large economic and social development goals. This also has an effect on women's contribution and production in the agriculture sector (Dillon and Quinones, 2010). Women mostly do the labor work by themselves as they do not have enough financial resources to hire labors. Main problems faced by women are the specific land and property rights (World Bank, 2008). Mehra and Rojas (2008) established that only 1% of the women have access to agricultural credit services.

Objectives of the study

The objectives of the study includes investigating women's role and responsibilities in performing agricultural and livestock operations, identifying constraints faced by rural women in obtaining modern technologies regarding improved agricultural production. Furthermore, it emphasizes on the training need for women regarding agriculture and livestock activities.

Problem statement

Nations and countries grow and develop with the success and prosperity of its citizens. Both genders are basic components of our society. Women in Pakistan are contributing in every walk of life like agriculture, livestock, education, healthcare etc. besides their basic responsibilities of household but the existing class structure and gender biasness keep them ignored and unrecognized. They have

less opportunity to education, health and nutrition as compared to men. Domestic and gender based violence are very common in our society. They face harassment (physical, mental, sexual) at every step of life and this hinders their opportunities to growth and promotions. Lack of financial resources force them to work on least number of wedges and keeps them away from learning and skill enhancement opportunities. Low literacy level, poor health and nutrition, lack of access to productive resources, dearth of latest education and lack of decision power force them to work on the same old traditional methods and they can't get good production from the existing resources. In this regard, an attempt was made to investigate the existing situation of women farmers and identify the constraints faced by them in performing farming operations in rural areas of Pakistan.

Materials and Methods

Study universe

The present study was conducted in Khyber Pakhtunkhwa, Pakistan where three districts (Bannu, Swabi and Swat) were randomly selected using multi-stage sampling technique (Sanaullah and Pervaiz, 2019). For collecting the cross-sectional data, the sample size was collected adopting the formula given below.

$$N = \frac{Z^2 V^2}{D^2} \dots (1)$$

Where;

N= Total size of sample; D= Estimate acceptable margins (5%); Z= Error of the confidence level limit or Normal variation (95%) and constant for this value is 1.96; V= Assumption of variability with regard of farmer's locality which is (50%); N= $(1.96)^2 \times (50)^2 / (5)^2 = 384$

Sample size

Total number of 384 women respondents were selected from the three districts by applying the above formula. These 384 respondents were divided equally on each district i.e. $384/3 = 128$. So, from each district 128 women respondent were taken.

It is pertinent to note that these Union Councils do not have formal data regarding women employment, the selection of sample was based on the selection of every 3rd house randomly. From each selected union

council, those women (who were directly or indirectly involved in farming and/or livestock) were selected for data collection. If a woman was not involved in farming and/or livestock, that house was excluded and the next was selected.

Data collection tools

The researcher herself being female collected the primary data from the sampled respondents. A well-designed interview schedule was formulated for obtaining cross sectional data (Cho, 2002; Wingenbach et al., 2003).

Data analysis

For analyzing the gathered data, SPSS v.20 was applied. The collected data were put in Excel sheet and the analyzed obtained results were presented in frequencies and percentages. In order to identify the association among different attributes, Chi-Square test was applied having the following formula.

$$\chi^2 = \sum_{i=1}^r \sum_{j=1}^c \frac{(O_{ij} - e_{ij})^2}{e_{ij}} \dots (2)$$

This test under the null hypothesis (H_0) follows a χ^2 -distribution with $(r-1)(c-1)$ degrees of freedom, in Equation 2, O_{ij} indicates the observed frequency and e_{ij} shows the expected frequency.

Ranked based quotient

Ranked Based Quotient (RBQ) technique was used to quantify the data collected by Preferential Ranking Technique. The following formula is given by Sabarathnam (1988).

$$RBQ = \frac{\sum f_i (n+1-i)}{N \times n} \times 100 \dots (3)$$

Where,

f_i = Number of respondents reporting the i^{th} rank;
N= Number of respondents; i= Number of rank; n= Number of constraints identified.

Results and Discussion

Demographic attributes

Demographic attributes play key role in social sciences studies which have effect on other characteristics (Ekanem et al., 2006; Agwu et al., 2008; Jensen et al., 2009). Demographic information of the respondents

such as age, education, marital status, household size, family head, landholding and tenancy are presented in Table 1. Rogers (2003) stated that young, trained and educated farmers are the pioneer in the adoption of innovation. Age is one the prominent factor in all sense of human efforts (Sanaullah, 2018). Young people have high value of adoptability to new innovations and extreme potential of decision-making, especially in understanding and communication (Khan and Akram, 2012). Data regarding age of the respondents presented in Table 1 reveal that 47% respondents were observed in age group of 31-40 years, followed by 33% of the respondents recorded in the middle age group of 41-50 years, about 11% respondents were young aged (up to 30) and only 9% respondents were recorded in old age category of above 50 years. Oladosu and Okunade (2006) reported the same results i.e. 60% of the respondents belonged to age range of 36-50 years in their study. In contrast, Sanaullah et al. (2020) recorded 31% of the respondents were found in young age having age category between 25-35 years.

Education is one of the main features regarding agricultural knowledge, proper training, and dissemination of agricultural information, recommended practices and adoption of new and improved of modern technologies (Aziz et al., 2018; Sanaullah and Pervaiz, 2019). Table 1 highlights the information about education of the respondents where 41% respondents were found literate and 59% respondents were recorded illiterate. Out of literate women, 13% of the respondents were middle level educated, followed by 11% up to intermediate level, 7% respondents were in primary and secondary levels, while very less number i.e. 3% respondents were educated up to graduate level. Educated farmers keep themselves more updated and informed of modern farming practices, thus they willingly adopt extension advices (Aziz et al., 2018; Sanaullah et al., 2020). This is because they are confident that applying improved farming practices, their field produce will increase that will help in combating poverty level (Sanaullah and Pervaiz, 2019). Our results are in line with that of Sanaullah and Pervaiz (2019) where majority i.e. 64% of the study respondents were illiterate which affects technology adoption.

Older and married women are more exposed and more experienced to perform farming operations than younger and unmarried women in rural societies of Pakistan (Pervaiz et al., 2012). In agricultural context, mostly the household farming operations

as well as caring livestock/poultry and outside field management in some areas are the duties performed by married senior women. Data regarding marital status of the study respondents were collected and presented in Table 1. For the sake of diversity, every woman was considered for data collection regardless of their current marital status, therefore, three categories married, widows and divorced were made for convenience. Table 1 depicts that majority i.e. 91% sampled respondents were spending their married life with their husbands, followed by 7% respondents who were widows, while very minute number i.e. 2% of the sampled respondents who were interviewed were divorced.

Table 1: Demographic characteristics of the respondents.

Characteristic	Category	Frequency (%)
Age	Up to 30 years	44 (11)
	31-40 years	179 (47)
	41-50 years	127 (33)
	Above 50 years	34 (9)
	Total	384 (100)
Education	Illiterate	228 (59)
	Primary	26 (7)
	Middle	52 (13)
	Matric	26 (7)
	Intermediate	42 (11)
	Graduate or above	10 (3)
	Total	384 (100)
Marital status	Married	350 (91)
	Widows	28 (7)
	Divorced	6 (2)
	Total	384 (100)
Household size	Up to 5 members	74 (19)
	6-9 members	192 (50)
	Above 10 members	118 (31)
	Total	384 (100)
Family head	Husband	288 (75)
	Son	57 (15)
	Herself	39 (10)
	Total	384 (100)
Landholding	Up to 5 acres	281 (73)
	6-10 acres	69 (18)
	11 and above acres	39 (9)
	Total	384 (100)
Tenancy	Owner	309 (81)
	Tenant	47 (12)
	Owner-cum-tenant	28 (7)
	Total	384 (100)

Source: Field survey, 2018.

Household size may have a remarkable influence when it comes to adopting improved technologies (Adil et al., 2004; Sanaullah and Pervaiz, 2019). Some studies

state that large family size could cause adverse impact on decision making power of the rural people (Belay *et al.*, 2012). Data in Table 1 revealed that 19% of the respondents were recorded living in families with up to 5 members, 50% respondents were found dwelling in between 6-9 household members, while 31% study respondents had 10 or above family members. The research findings are supported by Muriithi (2003) where more than half i.e. 53% target respondents were noted with range of 7-13 family members. In Pakhtun society, majority of the household families are living in joint families having more family members (Sanaullah *et al.*, 2020).

Women play essential role in the agricultural and rural economies in all developing countries of the world (Ahmad and Hussain, 2004). Their roles vary considerably between and within regions and are changing rapidly in many parts of the world, especially in the agricultural sector (Mollel *et al.*, 2000). Women can manage complex household chores as well as can perform better when official duties are assigned in the field or outside field (Othman and Martin, 2001; Jamal, 2005). Table 1 reveals data regarding family head of household in selected three districts of Khyber Pakhtunkhwa indicating that majority i.e. 75% of the respondents had their husbands as family head, followed by 15% women who reported that their sons were performing household head duties, while only 10% women were family heads in the study area. Widows or divorced respondents were found having their son or herself as household head. This study out puts are in harmony with Pervaiz *et al.* (2012) who mentioned that majority i.e. 56 % of the respondents reported that their husbands were head of household and only 11% were found as household head in the study area. It can be concluded that we are living in male dominated society. Gebre *et al.* (2019) mentioned that 73% households were headed by a male, while 27% were female-headed in their study.

Landholding is considered as one of the significant attributes while discussing adoption of innovations (Napier *et al.*, 2000). The data in Table 1 depicts that majority i.e. 73% of the respondents held up to 5 acres land, 18% respondents were found possessing land in range of 6-10 acres, while 9% respondents responded were recorded having 11 and above acre land. This study outcome is concurred by Sanaullah *et al.* (2020) where they established that majority of the farmers were small landholders with less than 5 acre landholding.

The data presented in Table 1 show that majority i.e. 81% of the respondents were owners, tenant farmers were 12%, while 7% respondents were owner-cum-tenant. The findings are agreed by Aziz *et al.* (2018) where 71% were owners, while according to Sanaullah *et al.* (2020), 75% respondents were owner cultivators in the study area.

Trainings attended

Agricultural extension has the basic aim of delivering timely technical information, modern farming machineries and provision of trainings for the target community (Farooq *et al.*, 2007; Sanaullah and Pervaiz, 2019). Women actively participate inside home and in field activities especially caring livestock and poultry (Iftikhar *et al.*, 2009). These women farmers mostly have no or less knowledge about latest farming equipment, therefore, it is utmost need to deliver them the required technical machineries and implements. Figure 1 illustrates that all the women interviewed were asked about trainings. Out of the total respondents, only 14% women got trainings, while the remaining 86% of the respondents did not get training from any extension or any other agency. This situation is very alarming and shows the negligence of extension department. Method of sowing, information about irrigation, poultry and livestock management, weeding control measures and about post-harvest mechanisms. These trainings were provided by various NGOs and private organizations. Those women who got trainings were more updated than those did not attend or had no access to trainings. Therefore, it is necessary for extension department to arrange training sessions for women in the study area. In this line, Grain (2010) mentioned that various extension channels i.e. individual contact methods, buzz groups, demonstration plots, farmer field days and specific training cycles could be the really helpful for farmers 'development. Our results are in line with Iftikhar *et al.* (2009) who reported that training opportunity was available for only 22.75% of the female respondents in District Bahawlpur. They further reported that rural women are lagging behind international standards of livestock management, crop production and harvest operations, due to less opportunities of skill enhancement; resultantly having low yield and poor quality of their produce.

Female extension worker

Agricultural extension is a message delivery mechanism aimed to communicate latest agricultural inventions

to farmers (Sanaullah and Pervaiz, 2019). Efficient and effective communication is pre-requisite in any extension work (Yahaya, 2001). Access to information is a due right of both men and women farmers, but unfortunately in Pakistan, women's access and control upon farming assets and information is noticeable (Sadaf et al., 2006; Shahbaz et al., 2010). Data in Table 2 show information about female extension worker in the three selected districts of Khyber Pakhtunkhwa. The study outputs revealed that all of the study respondents reported no female agriculture/livestock extension worker was available in their area. It means that very limited female extension worker position exist in agricultural extension department in the province of Khyber Pakhtunkhwa.

Table 2: Availability of female extension worker and their need.

District	Female extension worker availability		Need rank for female extension worker
	Yes	No	
Bannu	0 (0)	128	4.56
Swabi	0 (0)	128	4.40
Swat	0 (0)	128	3.98
Total	0 (0)	384	12.94 (4.31 average)

Source: Calculated by Author, 2018.

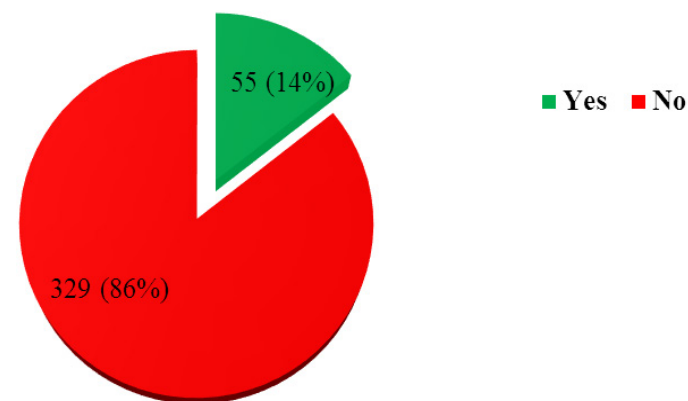


Figure 1: Frequency distribution of respondents regarding trainings attained from extension or other agencies.

In the light of this field observation, there is dire need to establish female extension staff and ensure active participation of female farmers in field activities. For this reason, second question was asked from respondents about their need for these female extension field staff. A five point Likert scale (denoting from strongly disagree to strongly agree where 1: strongly disagree, 2: disagree, 3: undecided, 4: agree, 5: strongly agree) was used to identify the eagerness for this demand and given in Table 2. In district Bannu

the average Likert scale value was 4.56 which is near to 5 (strongly agree), so means that women in Bannu were more enthusiastic towards female extension workers' need in the area. District Bannu had the highest Likert scale value and it might be due to the reason that district Bannu is more conservative hard remote area in Khyber Pakhtunkhwa, where it is more likely for women to work under female extension worker instead of male. The mean Likert scale value measured for district Swabi was 4.40, ranked on second position out of the three districts. It was also near to strongly agree which means that women in Swabi showed strong willingness for the need of female extension worker. Similarly, average of 3.98 Likert scale value was estimated for district Swat. This computed value is near to agree which means that there is need for female extension staff in the area. The overall average Likert scale calculated was 4.31 which mean that almost all of the study respondents showed strong willingness for the need of female extension staff. Extension trainings are of utmost importance in improving overall performance of famers needed for boosting their agricultural output (Sanaullah and Pervaiz, 2019).

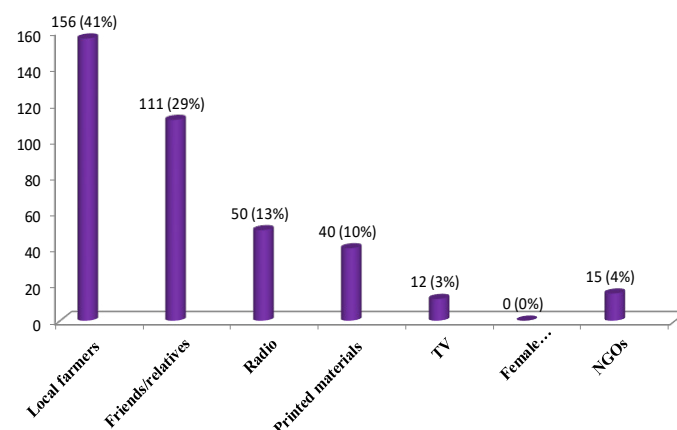


Figure 2: Frequency distribution of respondents regarding information source.

Information source

Obtaining first-hand information regarding an innovation or technique is mandatory for rural farmers and especially women (Kassie et al., 2009). Figure 2 reveals that 41% of the respondents had local farmers as their source of information followed by friends/relatives (29%), Radio (13%), Printed materials (10%), TV (3%), NGOs (4%), while none of the respondent had got any information from govt. or any other private extension personnel. Women mostly meet and exchange ideas and mutual information on traditional meetings like in fields (rarely), condolence

meetings or other family gatherings in rural settings. Study findings are supported by [Khan and Akram \(2012\)](#) where 68% of the respondents' gained farming information from their neighbours or fellow farmers. Extension groups, farmer unions or cooperatives and broadcastings programs have been playing a tremendous role in information delivery ([Adolwa et al., 2012](#)).

Involvement in various agricultural activities

Rural women are involved in various farming and non-farming activities like crop protection, post-harvest management, poultry and livestock rearing and management, kitchen gardening ([Ghosh, 2000](#); [Badiger and Huilgal, 2004](#); [Butt et al., 2010](#)). Female labour force is as efficient as male population ([Singh et al., 2005](#)). They perform household duties which are considered as part of their life and inborn duty. These works consume a lot of efforts and time in their daily life but all this hardship is unrecognized ([Yadav et al., 2005](#); [Damisa et al., 2007](#)).

[Table 3](#) reveals data regarding women involvement in various agricultural activities and rank order of their knowledge presented in rank score. The findings predicted that majority of the women were found involved actively in livestock management, followed by post-harvest management and poultry rearing and management with rank order of 1st, 2nd and 3rd respectively. Similarly, crop protection (weeding, insect pest control), animal diseases and their identification, marketing and crop production (land clearing, sowing and irrigation) were ranked 4th, 5th, 6th and 7th concerning women involvement in these activities. Minimum respondents were found involved in marketing and crop production measures. Our results are in conformity with [Saba et al. \(2020\)](#) who reported women involvement in livestock management on an average of about 5 hours per day.

Constraints faced by women in getting technical knowledge

Farmers especially women face various obstacles in performing field operations. Such information was presented in [Table 4](#) where Likert scale method was used to assess the intensity or significance of these constraints. The data exhibited that majority of the respondents in district Bannu reported *Pardab* as a main constraint due to which may be women couldn't attend trainings or could go to extension office for assistance with highest Likert scale value of 4.73,

followed by language barrier 4.54 and mobility 4.51. Similarly, in Swabi, highest Likert scale value 4.20 was estimated for *pardab*, followed by illiteracy 4.18 and mobility 3.99. Similar questions were asked from women in district Swat and their responses were recorded in [Table 4](#). In five point Likert scale, mobility was ranked top with Likert scale value of 4.12, followed by *pardab* and non-availability of information source as main constraints in getting technical information with Likert scale value of 4.00 and 3.94 respectively.

Association of age and literacy with involvement in decision making

To investigate the association between age and main decider regarding agriculture and livestock matters, chi square test was applied and the results were depicted in [Table 5](#). The out puts showed a significant association ($p < 0.05$) between the tested variables with significance value of 0.023. It means that by increasing age of the respondents, the tendency towards involvement in decision-making increases. It is common in our culture that older women are more involved in decision-making of family and other farming or field operations. Similar results were recorded by [Pervaiz et al. \(2012\)](#) who reported women in household gained more decision-making power as they grow older.

Similarly, association between literacy and decision-making was tested where a non-significant association was obtained, indicated from computed p value i.e. 0.814. It establishes that regardless literacy status, women were observed participating in matters of household decision-making. [Pervaiz et al. \(2012\)](#) reported that women's education has negative relationship with women's decision making in household matters.

Association between literacy and training attended/training need

Association between literacy and training attended/training need was estimated using Chi square test. Study findings depicted in [Table 6](#) revealed a non-significant ($p > 0.05$) association. It indicates that irrespective of literacy, respondents attended some small scale trainings and emphasized their need for future.

Association of barriers with attending trainings

Chi square test was applied to know the association

Table 3: Different constraints faced by women in getting technical knowledge and trainings.

Agricultural activity	Districts			Rank order
	Bannu	Swabi	Swat	
	Frequency (%)	Frequency (%)	Frequency (%)	
Livestock management	50(39)	49(38)	40(31)	1 st
Post- harvest management (harvesting, binding, threshing, storage)	36(28)	46(36)	29(23)	2 nd
Poultry rearing and management	13(10)	10(8)	22(17)	3 rd
Crop protection (weeding, insect pest control)	9(7)	9(7)	12(10)	4 th
Animal Diseases and their identification	8(6)	5(4)	10(8)	5 th
Marketing	6(5)	5(4)	8(6)	6 th
Crop production (land clearing, sowing, irrigation)	6(5)	4(3)	7(5)	7 th
Total	128(100)	128(100)	128(100)	

Source: Calculated by Author, 2018.

Table 4: Different constraints faced by women in getting technical knowledge and trainings.

Constraints in getting technical knowledge or trainings	Districts with likert scale rank		
	Bannu	Swabi	Swat
	Likert scale rank	Likert scale rank	Likert scale rank
Pardah (Hijab)	4.73	4.20	4.00
Mobility	4.51	3.99	4.12
Illiteracy	4.42	4.18	3.91
Language barrier	3.54	2.89	3.26
Information source not availability	4.10	3.76	3.94

Source: Calculated by Author, 2018.

Table 5: Association of age and literacy with main decider regarding agriculture and livestock matters.

Variables	Categories	Main decider regarding agriculture and livestock matters			Total
		You frequency (%)	Spouse frequency (%)	Anyone else frequency (%)	
Age	Up to 30 years	17(4)	22(6)	5(1)	44
	31-40 years	12(3)	113(29)	14(4)	139
	41-50	33(9)	86(22)	8(2)	127
	above 50	52(14)	20(5)	2(1)	74
	Total	114(30)	241(62)	29(8)	384
$\chi^2 = 5.13$ P= 0.023*					
Literacy	Literate	65(17)	145(38)	18(5)	228
	Illiterate	49(13)	96 (24)	11(3)	156
	Total	114(30)	241(62)	29(8)	384
$\chi^2 = 0.412$ P= 0.814 ^{NS}					

Source: Calculated by Author, 2018 ^{NS}= Non-significant * 95% confidence interval.

effect of various barriers on the probability to attend trainings or other activities. The calculated p value (0.033) obtained in Table 7 showed a significant association (p<0.05) between the two variables. By analysing the chi square test, -1 correlation was observed for these two variables. It means that increasing probability of various barriers especially cultural constrains, the tendency of women farmers to

attend trainings or other agricultural activities outside their homes become lower.

The test findings in Table 7 indicate that increasing the level of local barriers is lowering the chances of attending agricultural trainings and other events. Therefore, it is recommended that separate female training opportunities must be provided. This could be

possible by hiring local female extension officers and female field staff that will know the local traditions and customs to avoid any inconvenience to them.

Table 6: Association between literacy and training attended/training need.

Literacy status of the respondent	Training attended/Training need		Total
	Yes frequency (%)	No frequency (%)	
Literate	21(6)	135(35)	156
Illiterate	34(9)	194(50)	228
Total	55(15)	329(85)	384

$\chi^2 = 1.837$ P = 0.690^{NS}

Source: Calculated by Author, 2018.

Table 7: Association of barriers with attending trainings or other farming activities.

Barriers to attend trainings or other farming activities	To attend trainings/other farm activities		Total
	Yes frequency (%)	No frequency (%)	
Male dominancy	25(6)	114(30)	139
Cultural constraints	26(7)	192(50)	218
Ego	4(1)	23(6)	27
Total	55(14)	329(86)	384

$\chi^2 = 10.56$ P = 0.033*

Source: Calculated by Author, 2018*95% confidence interval.

Conclusions and Recommendations

It is inferred from the results that majority of the respondents were married and illiterate with middle age category living in large household joint families. Local farmers and relatives were top source of information, while other sources were used very less or based in accessibility and interest. Women are involved in various domestic and field operations especially livestock and poultry management. Provision of training was negligible where only fewer women attended trainings. No female extension worker was available in the study area. Women farmers are deprived of their due right to access of information; as a result, they are hindered from getting new opportunities. The major constraints observed were cultural barriers and lack of mobility to resources. Government should provide basic trainings and subsidized inputs and arrange local accessible market facilities. There is ultimate need of female extension worker and separate female extension division, government should take bold and appraisable decisions

to formulate a separate female extension directorate under female Director General (DG) and all other female staff that will work in coordination with male directorate. In this way our agricultural system will be strengthened as mostly women are involved in various agricultural and farming practices in rural area for which they don't have proper training or knowledge. Women local groups should be established for mutual support and problem-solving. Extension department may encourage women famers regarding kitchen gardening to improve the livelihood.

Novelty Statement

Women in Pakistan are contributing in every walk of life like agriculture, livestock, education, healthcare etc. besides their basic responsibilities of household but the existing class structure and gender biasness keep them ignored and unrecognized. They have less opportunity to education, health and nutrition as compared to men. Domestic and gender based violence are very common in our society. They face harassment (physical, mental, sexual) at every step of life and this hinders their opportunities to growth and promotions. In this regard, an attempt was made to investigate the existing situation of women farmers and identify the constraints faced by them in accessing agricultural extension services in rural areas of Pakistan.

Author's Contribution

Mehnaz Safdar: Conducted research and wrote the manuscript as a part of PhD study.

Urooba Pervaiz: Major supervisor, developed the main idea, checked/edited the manuscript and supervised the whole research study.

Conflict of interest

The authors have declared no conflict of interest.

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