

Research Article



Barriers to Gender Equality in Agricultural Extension in Pakistan: Evidences from District Sargodha

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Abstract | The present study was designed to find out the barriers which limit the active participation of both the genders (men and women) in agricultural operations and also towards gender disparity in agricultural extension. Agriculture comprises of a number of farming activities, where both men and women are involved in multiple diverse nature of field operations. In spite of their high contribution in farm and non-farm activities, there exist gender disparity with reference to agricultural extension, education and other farm advisory services. The study was conducted in district Sargodha located in the central Punjab, Pakistan. Personal interviews were conducted from male head as well as spouses of each selected farm family. The total sample size of the study was 300 (150 male and 150 female spouses). A designed structured questionnaire was prepared for the data collection as the research instrument. The data thus collected were coded on SPSS for analysis and interpretation. Results showed that there is significant difference in age and educational status of male heads and their spouses. Majority of the farm families (39.3%) earn income for their livelihoods both from farming and non-farming sources. Intensity of participation of female respondents in different crops and livestock activities was comparatively high as compared to their male counterparts. It was found that average daily share of female in crops related activities was 42% and in livestock activities was 53%. In spite of their participation in crops and livestock activities it was found that compared to female respondents, male family heads had access to agricultural extension/advisory and agricultural information services and credit facilities. This is due to the existing social, cultural and religious norms in the society of Pakistan. The results of the t-test statistics showed that there is highly significant difference in opinion of male family heads and their spouses (female respondents) regarding barriers to gender equality in agricultural extension in Pakistan.

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Introduction

Agriculture is one of the oldest professions of human civilization and is referred to as major source of earning particularly in rural settings (Hanif et al., 2010). A large proportion of rural people used

to do farming and their livelihoods largely depend upon this profession through direct or indirect means (Dev, 2011). With special reference to developing countries, the dependency of agriculture for rural livelihoods is very common due to its major role in rural poverty reduction (Ogunlela and Mukhtar, 2009).

Due to its significance in rural livelihoods in general and in overall development process, both the genders (male and female) are involved in multiple activities related to agriculture. In some cases the contribution of women is more than men. In developing rural economy the role of both men and women in farming activities is well established (Prakash, 2003). Gender differentiation in performing different agricultural operations vary from region to region and country to country due to difference in basic socio-economic structure. But in major parts of the developing world compared to men, women are facing more constraints in performing agricultural activities thereby reducing their productivity (Mondal, 2013).

Like other developing countries, the economy of Pakistan is also agriculture based as livelihoods of large proportion of rural people are mainly associated with this important economic activity (Mirza et al., 2015). The same was also concluded by Khan (2008), that more than 60% of the Pakistan's population depends on agriculture through direct or indirect means. As agriculture comprises of a number of farming activities, so both men and women are involved in multiple diverse nature of agricultural operations like in rest of the developing countries of South Asian region (Begum and Yasmeen, 2011). Along with men, women are also referred to as the backbone of rural national economy due to their significant role in agriculture based activities. In rural areas women not only perform many agricultural activities, but they are also engaged in other household activities (Iftikhar et al., 2009). With this background (Kausar and Ahmad, 2005) also concluded that in rural areas women are more efficiently involve in different plant production, protection, post-harvest livestock and poultry management related activities. They are among the millions of landless labourers who used to work in agricultural fields along-with with their male counterpart.

In spite of extensive contribution of rural women in rural economic development in general and specifically in agriculture, they have least access to resources as well as other rural development services (Khan and Khan, 2015). They are facing a number of social, economic and cultural constraints, which limits their contribution not only in agriculture but also in overall agricultural development of the country. These constraints not only limit their contribution in agriculture, and also create hindrances in socio-economic empowerment of rural women. They are regarded

as more marginalized and vulnerable to poverty and food insecurity than that of men (Luqman et al., 2013). This has been observed that most of the agricultural extension and agricultural information services are only addressing both male and female genders are not included in their targeted audience. They ignored the fact that 70% of the total farmers in the whole world comprise of female gender. Regarding agricultural extension services targeting rural women (Lanz et al., 2012) concluded that only 5% of the total agricultural extension and advisory services are being targeting rural women. In addition to agricultural extension services, but they have limited access to credit and other financial benefits than that of men (Riaz et al., 2012). As in major parts of the world in general and specifically in developing countries the head of a household is male gender, with this factor almost all the agricultural extension and rural development services are being targeted men only. Different research studies reported that like other fields, widespread gender inequality is also exists in provision of agricultural extension and advisory services (Lanz et al., 2012; Riaz et al., 2012; Butt et al., 2010; Frear 2007 and many others). The prevalent gender disparity in agricultural extension in Pakistan is associated with a number of social, economic and cultural factors and barriers. With this background, the present study was designed to identify barriers to gender equality in agricultural extension in Pakistan.

Materials and Methods

Research area

The study was conducted in district Sargodha which is very famous with reference to agriculture especially production of citrus. District Sargodha was located in the central part of the Punjab province. Punjab province of Pakistan is most populous province having more than half (above 54%) of country's population. Economy of the Punjab province is agriculture based and plays vital role in national economy. Whereas, Punjab produces wheat and cotton as major crops; other crops include rice, maize, sugarcane, fruits and vegetables. Punjab province is significantly providing share of almost 68% in national grain production (Siddiqui, 2006).

Sampling procedure

Punjab province consists of 36 districts having diversified cropping patterns, out of these districts, Sargodha was selected on simple random sampling basis

for the present study. District Sargodha is agricultural based producing wheat, rice and sugarcane as major crops and citrus, mango and berries as major fruits. District comprises of six tehsils; Sargodha, Bhalwal, Kot Momin, Shahpur, Sahiwal and Silanwali.

Sampling is too much important stage for research in various fields of social sciences (Fox et al., 2009). Various sampling techniques are being practiced by researchers considering the research nature, goals and questions. Simple random sampling technique was used for present study. The whole district Sargodha comprising six tehsils was considered as population of the study. From each tehsil, 25 farm families (including male household heads and their spouses) were selected using simple random sampling technique. The total sample size of 300 (150 male household heads and 150 female-spouses) were collected from all sub-districts of Sargodha for present study.

Instrument and data collection

For the purpose of data collection a well-designed structured questionnaire was prepared to be used as instrument of the study. This questionnaire was comprised of open ended and close ended questions. As farmers, are considered one of most important stakeholders for agricultural productivity. Therefore, direct face to face interview method was practiced with the help of a designed questionnaire to get farmers opinion in better way and for future policy implications.

Data analysis and interpretation

Data collected were coded on Statistical Package for Social Sciences (SPSS) for analysis and interpretation. Data interpretations were accomplished using both descriptive and inferential statistics. In order to investigate the difference in opinion of male and female respondents regarding barriers to existing gender disparity in the research area, t-test was applied.

Results and Discussion

Demographic profile

In social science research studies, demographic profile of respondents holds significant importance (Frear, 2007). In view of significance of demographic characteristics of respondents, for the present research study, data were collected regarding some selected demographic characteristics of respondents and tabulated as under.

Age

Total number of years of respondents from the day of their birth upto day of data collection was calculated and the data in this regard is presented in Table 1.

The data in Table 1 regarding age of the respondents showed that there exists difference in age of both the categories (male as husband and female as wife) of respondents. In male respondents the age of slightly more than 50.0% was 31 to 45 years. On the other hand in female respondents the age of slightly less than 50.0% was upto 30 years. This showed that in the research area, in majority of the cases the age of husbands is higher than their wives. The results also indicate that early marriages among female as compared to men early marriages are very common in Pakistan. Findings of this study also got support from the conclusions presented by (Singh and Samara, 1996). They concluded that in South Asia early marriages of women is prevalent.

Table 1: *Distribution of respondents according to their age.*

Age (In Years)	Male (Husband)		Female (Wife)	
	F	%	f	%
Upto 30 years	55	36.7	74	49.3
31 to 45 years	76	50.7	65	43.3
46 years and above	19	12.7	11	7.3
Total	150	100	150	100

Table 2: *Distribution of respondents according to their education.*

Education/ Years of schooling	Male (Husband)		Female (Wife)	
	f	%	f	%
Illiterate	10	6.7	39	26.0
Primary (5 Years)	16	10.7	35	23.3
Middle (8 Years)	31	20.7	32	21.3
Secondary (10 Years)	41	27.3	19	12.7
Intermediate (12 Years)	32	21.3	16	10.7
Graduation and above (14 Years and above)	20	13.3	9	6.0
Total	150	100	150	100

Education

Education is very much important in the development of society and nation in general and individuals in particular (Siddiqui, 2006). The data regarding age of respondents was collected and presented in Table 2.

The data presented in Table 2 regarding age of respondents clearly shows the difference in educational level of male (husbands) and female (wives) respondents. This indicate that educational status of female gender (wives) especially in rural areas is mostly less than their male counterparts (husbands). As compared to male gender, illiteracy is more prevalent among female gender as majority (26.0%) of female (wives) was found illiterate in the research area. Results regarding low educational status of women in rural areas were also noted by (Luqman et al., 2013). They concluded that in the research area (Bahawalpur-Southern Punjab) slightly more than half (53.6%) of women were illiterate. In Pakistan difference in educational status of rural women varies from province to province, region to region and district to district (Government of Pakistan, 2015). Low educational level of women in rural areas is also attributed to their early age marriages as (Gangadharan and Maitra, 2001) said that in Pakistan age at marriage of women is increased with the increase in their educational level.

Major sources of family income

In rural areas of Pakistan people involve in different income generation activities in order to meet their own and family basic livelihood needs. The data regarding major sources of family income in the research area were collected and presented in Table 3.

Table 3: Distribution of respondents according to their major sources of income.

Major source of family income	Frequency	Percent
Farming	50	33.3
Non-farming	41	27.3
Both Farming and Non-Farming	59	39.3
Total	150	100

The data tabulated in above Table 3 shows that in the research area both farming and non-farming activities were the major source of income as reported by majority (39.3%) of the respondents. However 1/3rd of the respondents (33.3%) said that farming was their major source of income. With these findings (Habib and Anwar, 2014) concluded that in southern region of the Punjab farming was the main source of income for majority of the rural people. In support of results of present study regarding adoption of farming and non-farming activities as income source in rural areas, (Akram et al., 2011) concluded that both farm and non-farm economy are very much essential for sustainable livelihoods. The importance of non-farm

economy in rural livelihoods along with farm economy is also discussed and proved in many research studies (Tahir et al., 2012; Israr and Khan, 2010; Khattak and Hussain, 2008). In support of findings of the present study World Bank (2007) reported that more than half of the rural population is engaged in non-farming activities to earn income for securing their livelihoods. In this context, only agricultural development is not enough and sufficient to meet the challenges of poverty and food insecurity in rural areas. There is urgent need to strengthen the non-farm economic sector especially in developing countries where natural resources are going to be depleting at very fast rate and agricultural land fragmentation is also going on.

Participation level of male and female gender in agricultural activities

As discussed earlier (in introduction section) that both men and women are extensively involved in different agricultural activities. The data in this regard indicate that average daily time spent by a family to crop production and its management related activities was 8 hours. Similarly, average daily time spent by a family to livestock related activities was 6.5 hours. The respondents were further asked to specify the average daily percentage share of female gender in crops and livestock production related activities. The data in this regard indicate that in crops production average daily share of female was 42% and in livestock production & management related activities were 53%. These results showed that women in the research area were mostly involve in livestock related activities compared to crops production and its related tasks. The higher participation level of rural women livestock production activities was also quoted by Arshad et al. (2010) while studying decision making process of gender in livestock management. The same was also reported by Munawar et al. (2013) while identifying factors which inhabit the involvement of women in livestock production & management related activities.

Intensity of participation of male and female gender

The level of participation of male and female genders was assessed on three point likert type scale (1=Low, 2= Medium and 3= High) and the data in this regard is presented in Table 4. Participation level of male and female gender in crops and livestock production practices. It clearly indicates that as compared to men in both categories of tasks the level of participation of women was found to be higher especially in case of

Table 4: Percentage distribution of male and female intensity of involvement in agriculture n=300.

Participation level	Crops Production		Livestock Production	
	Male (Husband)	Female (Wife)	Male (Husband)	Female (Wife)
Low	32 (21.3)	23 (15.3)	35 (23.3)	11 (7.3)
Medium	67 (44.7)	65 (43.3)	53 (35.3)	46 (30.7)
High	51 (34.0)	62 (41.3)	62 (41.3)	93 (62.0)

Scale: 1=Low, 2=Medium, 3= High; *: Figure in parenthesis shows percentage.

livestock production practices. In support of these findings Shafiq (2008) concluded that women extensively involved in livestock related activities.

Access to agricultural extension and rural advisory services

It was clear from the data presented above that in the research area women along with men were widely engage in crops and livestock production practices. The major aim of agricultural extension in Pakistan is to provide agricultural extension and rural advisory services to all the community members without discrimination based on social class, income, gender etc. at their door steps. With this notion, access to agricultural extension and rural advisory services by the respondents were determined and the data in this regard is presented in Table 5.

Table 5: Percentage distribution of male and female gender regarding access to agricultural extension services n=300.

Access to agricultural extension services	Male (Husband)	Female (Wife)
No access	2(1.3)	118 (78.7)
Low	21 (14.0)	24 (16.0)
Medium	71 (47.3)	8 (5.3)
High	56(37.3)	0 (0.0)

Scale: 1=Low, 2=Medium, 3= High; *: Figure in parenthesis shows the percentage.

The data presented in above table indicates that in the research area majority of the agricultural extension and rural advisory services are being targeted to men. In spite of higher participation of female gender in some cases, they have very limited access to crops and livestock advisory and extension services which limits their productivity level. This has been observed that in Pakistan rural women have very least access to agricultural information to update their knowledge and skills related to crops and livestock management practices (Sadaf et al., 2006). Regarding limited access to agricultural extension by rural women in Paki-

stan (Sadaf et al., 2005) also concluded that majority of the agricultural extension mainly targeted to male gender and women have very limited access to these sources. Their limited access to extension services lead to poor agricultural practices thereby lowering crop productivity and income and ultimately lead to poor nutrition. The impact of poor accessibility of extension services by rural women on agricultural productivity and their food security status was also quoted by (FAO, 2015).

Barriers to gender equality in agricultural extension

As discussed earlier in detail that there is big gap and inequality regarding access to agricultural extension services by rural women. A number of factors/barriers are involved in this practice. The major objective of this paper was to identify to factors and barriers which hinders gender equality in agricultural extension and rural development services in Pakistan. The barriers were assessed on three point likert type scale. The data in this regard is presented in Table 6.

The data tabulated above shows that top five barriers to gender equality in agricultural extension as perceived by them were lack of proper transport facilities for female extension staff (\bar{x} =2.67/3.00), non-availability of female extension staff (\bar{x} =2.63/3.00), lack of social security for rural female (\bar{x} =2.60/3.00), lack of reorganization and appreciation of rural female’s work (\bar{x} =2.59/3.00) and lack of agricultural land rights for rural female (\bar{x} =2.51/3.00). The results showed that in majority of the barriers, the response of respondents was inclined towards agree. With reference to these findings FAO (2015) reported that women in rural areas of Pakistan are facing a number of gender based constraints which affect their agricultural productivity which results in malnutrition among women. Regarding constraints as perceived by women related to their socio-economic empowerment Afzal et al. (2009) concluded that women are facing a number of constraints in performing agricultural operations.

Table 6: Ranking to barriers to gender equality in agricultural extension.

Barriers	Husband		Wife		Combined (Average)		t-test
	Mean	SD	Mean	SD	Mean	SD	
Lack of proper transport facilities for female extension staff	2.62	0.552	2.72	0.493	2.67	0.523	-3.797***
Non availability of female extension staff	2.57	0.638	2.69	0.530	2.63	0.584	-3.529**
Lack of social security for rural female	2.56	0.596	2.63	0.562	2.60	0.579	-2.961***
Lack of reorganization and appreciation of rural female's work	2.51	0.528	2.67	0.485	2.59	0.507	-5.081***
Lack of agricultural land rights for rural female	2.38	0.598	2.63	0.538	2.51	0.568	-6.336***
Lack of social security for female extension staff	2.47	0.652	2.51	0.599	2.49	0.626	-2.135**
Lack of access to agriculture extension services for rural female	2.36	0.762	2.59	0.667	2.48	0.715	-5.092***
Low farm wages for rural female	2.18	0.519	2.47	0.564	2.33	0.542	-7.2***
Lack of provision of agricultural credit facilities for women	2.19	0.552	2.43	0.572	2.31	0.562	-6.407***
Lack of decision making authority among female workers	1.99	0.695	2.33	0.72	2.16	0.708	-7.054***

Scale: 1 = Disagree, 2 = Undecided, 3 = Agree P>0.05.

These constraints affect their accessibility towards agricultural extension services.

As in the present study, data were collected from both the genders (male as husband and female as wife), therefore in order to find out the difference in opinion of both the categories of respondents regarding barriers to gender equality in agricultural extension paired t-test was applied. Results regarding t-test statistics showed that there is highly significant (P>0.05) difference in opinion of male and female respondents about barriers to gender equality. The negative value of t-test statistics in all the cases showed that compared to male gender female gender, the level of agreement about barriers to gender equality with reference to agricultural extension in the research area was higher. Similar findings were also quoted by [Hasan et al. \(2014\)](#) while studying obstacles to gender mainstreaming in agricultural extension in Pakistan.

Conclusions and Recommendations

Results showed that there is difference in age of male heads and their spouses. The age of about half (50.0%) of the male heads was 31-45 years. On the other hand the age of about half of the spouses of male heads was upto 30 years. Similarly difference was also found between educational level of male and female respondents. The results are in accordance of the national literacy rate of Pakistan, which showed that literacy rate of male is comparatively high especially in rural areas. Majority of the farm families (39.3%) earn income for their livelihoods both from farming and non-farming sources. Intensity of participation of female respondents in different crops and livestock ac-

tivities was comparatively high as compared to their male counterparts. It was found that average daily share of female in crops related activities was 42% and in livestock activities was 53%. In spite of their participation in crops and livestock activities it was found that compared to female respondents, male family heads had access to agricultural extension/advisory & agricultural information services and credit facilities. This is due to the existing social, cultural and religious norms in the society of Pakistan. The results of the t-test statistics showed that there is highly significant difference in opinion of male family heads and their spouses (female respondents) regarding barriers to gender equality in agricultural extension in Pakistan.

Policy suggestions and guidelines

In the light of findings of present research, authors suggest policy guidelines related to enhancement educational as well as skill level of rural women through education and training to narrow the gender gap/in-equality in agricultural extension/information in order to achieve the targets of women empowerment at national level. In this context, government should established women training centers at union council level. In addition to that hiring to female agricultural extension agents are very much compulsory to attain the objective of gender equality in agricultural extension and rural development services.

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Author's Contribution

Muhammad Luqman: Conceived the idea and conducted the research.

Raheel Saqib: Helped in data collection, analysis and overall improvement of the manuscript.

Xu Shiwei: Supervised the research project and helped in designing the study.

Yu Wen: Helped in synthesizing the literature and also worked in technical proof reading of the manuscript.

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