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GENDER EQUALITY IN RURAL DEVELOPMENT AND AGRICULTURAL EXTENSION IN FOGERA DISTRICT, ETHIOPIA: IMPLEMENTATION, ACCESS TO AND CONTROL OVER RESOURCES

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ABSTRACT

Gender equality is seen both as a human rights (social justice) issue and as a pre-condition for and indicator of sustainable, people-centered development. Ethiopia is a signatory to various gender conventions and declarations. Much progress has been achieved in terms of establishing institutional arrangements. However, practical implementation of gender equality remains a challenge. Assessing the current status of gender equality (implementation, access to and control of resources) of women in male-headed households, female-headed households and male-headed households in rural development and agricultural extension was the focus of this study. The district was purposively selected based on crop and livestock farming systems of the zone. Sampled kebeles (peasant associations) and respondents were selected using simple random sampling techniques. A total of 140 respondents were selected for the interview. The data were collected using a structured interview schedule. Study findings confirmed that variations were observed between male household heads, female household heads and women in male-headed households in terms of participation in different rural development processes and access to and control of resources. Compared to past experience, titles of land ownership for women in male-headed households and female-headed households were improved. Women farmers have less access to extension services as compared to men and low representation in local organizations. It was also observed that real problems and needs for agricultural advice are not considered on a gender basis when planning and preparing extension packages in the agricultural services. Women farmers were not addressed in rural development and agricultural extension program activities explicitly. Participation of women in male-headed households and female-headed households in agricultural extension package program was still very low (28.5% and 57.1%, respectively) when compared with male-headed households (74.3%). Participation of women in male-headed households in rural development and agricultural extension events like training, meeting, planning, field days and demonstrations was also very low (<5%). Strengthening of women's organizational capacity and involvement of women in local institutions need emphasis and support at all levels by the concerned body.

Key words: Agriculture, access, extension, equality, household, organization, participation, control

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INTRODUCTION

The bedrock of agriculture and agricultural development in least developed countries is rural development without which all efforts in agricultural development will be in vain. Meeting world food needs in the future will depend increasingly on addressing issues related to gender. Gender equality suggests engagement of both women and men in rational decision-making on their livelihood strategies and life choices. Yet, gender norms can inhibit what men and women can say, do and be [1]. Development policies and projects that do not fully include women remain limited in their impact [2]. However, women typically have unequal rights and limited access to resources and opportunities [3].

Researchers and practitioners working on gender issues contend that empowered women and men are better, more successful farmers who are likely to make the most of their opportunities. They argue that improving productivity is insufficient when there are no concomitant measures to strengthen women's voices. There is a causal relation between more equal gender relations in the household/community and better agricultural and development outcomes [4, 5].

Gender equality implies men and women as farmers and actors in other positions in the value chain are able to participate actively in discussion processes around the creation, testing and rolling out of agricultural technologies [1]. Lack of access to productive resources has a significant impact on women's short-term economic well-being as well as the long-term position of women in society in general and households in particular. The ownership and control over assets correlate with economic security and provide incentives to invest in increasing productivity through use of better inputs [6].

Women's participation is only effective if efforts are made across a number of domains ranging from individual empowerment (increasing voice or "agency"), to the networks (or "relations") that enable women to interact effectively with development actors such as government agencies, research institutions and civil society among others [1].

Ethiopia is a signatory to various gender conventions and declarations including the 1995 Beijing Platform for Action where affirmative action was identified as an indispensable strategy for gender equality in addition to broader human rights conventions. The Ethiopian National Policy on Women (1993) was an important first step towards gender equality [7].

Although women play a critical role in rural development, they, more than men, encounter far more structural and institutional obstacles that inhibit their full participation. Work burdens translate into decreased mobility for women as they do not have sufficient free time to participate in activities of rural organizations [6]. Capacity building is imperative for effective participation of women in rural organizations and broader rural development. However, despite successful interventions promoting women's participation, capacity building of women is a slow process that is regulated not only by economic principles but more importantly by existing social behavior and cultural norms [8, 9].

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The majority of extension packages are considered "gender neutral" but such packages ignore the fact that a man may partly control his wife's labor. Thus, access to and control over land and other productive assets including information and investment capital may be strongly skewed towards men [10]. Although the household head is the primary farmer, most survey questionnaires developed by extension services are administered only to men [11]. This can result in subsuming the agricultural interests of women in male-headed households as well as poor data resulting from the fact that women in the household may indeed be the primary farmers but are not questioned by the enumerators [12].

To improve women farmers' access to extension services, the Plan for Accelerated and Sustainable Development to End Poverty (PASDEP) targeted to reach all female-headed households and 30% married women in agricultural extension program [13]. Despite this evidence of increased attention by governments, non-governmental organizations (NGOs) and bilateral and multilateral agencies to securing access for women to extension and advisory services, universal coverage oriented to the specific needs of women farmers remains stubbornly out of reach [14].

In the study area, different efforts have been undertaken to ensure gender equality in rural development and agricultural extension. However, no research findings available show the status of women in male-headed households and female-headed households in rural development and agricultural extension. Therefore, this study was undertaken to try and fill the research gap.

RESEARCH METHODOLOGY

Description of the Study Area

The study was conducted in Fogera district in south Gondar Zone of the Amhara National Regional State, Ethiopia. The total land area of the district is 117,405 ha with an altitude ranging from 1774-2410 masl. It is located between $11^0$58'N latitude and $37^0$41'E longitude. The district center is Woreta, which is situated in the south, 42 kilometers from the capital of the zone Debretabore and 55 kilometers from the regional capital city Bahir Dar in the North East direction. The district comprises 27 kebeles with an area of 1124.14 square km or 117,405 hectares [15]. The average annual rainfall is 1216 mm and the annual minimum and maximum temperatures are 16^oC and 20^oC, respectively [16]. The area climate is characterized by warm temperature with uni-modal rainy season and predominantly classified as Woinadega in agro-ecology. The topography of the district comprises 76% flat land, 11% mountain and hills, and 13% valley bottom [16]. The total human population of the district is about 246,541 of which 51.3% are males and 48.7% are females [17]. Over 90% of the community members are dependent on subsistence agriculture, practicing both crop and livestock production systems.

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Sampling Procedure and Sample size

This study employed a two-stage random sampling technique to allow equal chance for all members of the population to be included in the sample [18]. In the first stage sampling, four Peasant Associations (PAs) were randomly selected from 27 peasant associations (PAs) in the district. In the second stage sampling, 140 respondents were selected using probability proportioned random sampling from the PAs. Sampling the household heads in each PA was stratified into Female Headed Household (FHH) and Male Headed Household (MHH) in which 70 MHH, 28 FHH (purposive inclusion of at least 20% FHH, in the sample) and 42 females from male-headed households were included.

Data Type and Data Source

Quantitative methodologies are crucial to building the case for addressing gender differentials and qualitative methodologies in contrast, enable more in-depth examination of the social process, social relations, power dynamics and the 'quality' of gender equality[19]. Therefore, primary and secondary data sources were used to collect both qualitative and quantitative data. The primary data sources were from male- headed households, female-headed households and married women or women in male-headed households. The secondary data sources were from strategic plan of agricultural and rural development office, prepared annual plans and reports, training reports, prepared project documents of the district Office of Agricultural and Rural Development.

Methods of Data Collection

Data were collected between October 2013 and December 2013 using a pre-tested, semi-structured interview schedule. The interview captured socio-economic and demographic variables, awareness about gender equality and various resource holdings such as livestock, land, crops and extension information. Quantitative data were collected through personal interviews. The methods used to collect qualitative data included those often associated with participatory methodologies such as focus group discussions, observations, informal interviews with key informants and discussion with agricultural and rural development officers.

Data Analysis

Data were analyzed using descriptive statistics such as mean, standard deviation, frequency and percentages. Gender analysis was used to determine the deferential access to and control of resources. Gender analysis is a methodology used to identify the role and responsibilities of various members of the household (male and female) and their access to and control over resources and benefits under prevailing institutional norms and mechanisms [20]. The gender analysis tool used in this study was the Harvard Analytical Framework or Gender Roles Framework. Data were collected on men's and women's access and control profile that looked at resources and benefits and it allowed men's and women's work to be visible [21].

Mean comparison methods (chi-square test) were used to compare and test the level of education, awareness about gender equality and availability of extension information,

among male-headed households, female-headed households and females in male-headed households.

RESULTS

Socio-Economic Characteristics of the Respondents

Table 1 shows that most respondents ranged in age from 31-45 years, and were from male-headed households (MHH). There were 42.8 % of participants who were women in male-headed households (W in MHH) within the age range of 15-30 years. The respondents between 61-81 years of age had the lowest frequency of 8.5%.

Table 1 reveals that out of the total respondents, 66.4% were illiterate, 18.6% were able to read and write, 4.3% were 1-4 grades, 9.3% were 5-8 grades and 1.4% were above grade eight and these differences were statistically significantly different ($P< 0.05$).

Majority of women farmers in the study area (30%) were married; 10.7% were divorced/separated while 9.2% were widows. Fifty percent (50%) of the respondents were from male-headed households and 20% of the households were headed by women (FHH).

However, illiteracy levels were high (92.8%) among women in male-headed households (W in MHH) (Table 1). This revealed that women's educational status has not improved; rather, marriage remains a priority after a certain grade of schooling.

Assessment of Gender Equality in Rural Development and Agricultural Extension

Gender Equality in the Development Planning

One of the motives of developing the strategic plan and other annual plans and reports is to incorporate relevant motives for gender needs and requirements. Table 2 shows that 79.3% of the respondents have not participated and only 20.7% of the respondents participated in the planning process for 2011/12 cropping seasons. From these participants, 23.9% were in MHHs, 21.4% in FHHs and 0% were W in MHH. There is a statistical significant difference among respondents at 5% significance level (χ^2=17.2).

Distribution of Respondents' Participation in Rural Development Activities and Agricultural Extension Methods

Face-to-face meetings are the most common way for groups to make decisions, solve problems, inform people and plan programs and projects. Both women and men need to have access to timely information on rural development concerning different issues. Different development organizations have carried out meetings in the area in the last two years (2011/12) and respondents who participated in these meetings were assessed. The result shows that 26.4% had participated, with 40%, 28.5% and 2.4% of these being from MHHs, FHHs and W in MHH, respectively. This was found significant at 0.05 significance level (χ^2=31.1), Table 2.

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Experience sharing enables the symbiotic interaction between women's actions from one place to the other and it is important for knowledge development and gender equality. Table 2 reveals that different organizations (governmental as well as non-governmental) prepared experience sharing programs within the district as well as outside their vicinity. From the results 6.4% of the respondents participated in these programs while 93.6% did not. It was found that there existed (χ^2=3.4) no statistically significant difference at 0.05 level of significance.

A farmer's ability to increase the production and productivity of crops and animals can be influenced by access to technology. Some of these factors can be alleviated through provision of adequate demonstrations and/or field days. Demonstrations and/or field days for farmers are some of the methods used by the rural development and agricultural extension office in the district. Therefore, access to demonstrations and/or field days by respondents was assessed. The results (Table 2) show that participation of women in male headed households (W in MHH) is 2.3% which is significantly lower (χ^2=36.6, P < 0.05) compared to male headed households (37.1%) and female headed households (28.5%).

Data in Table 2 shows that respondents who participated in training were 23.6% while the others (76.4%) did not participate which was statistically tested and found to be significantly different among respondents at 0.05 level (χ^2=12.7). A similar finding was reported by Tanwir and Safdar [6] who stated that when development initiatives are aimed at providing capacity building training, female farmers face significant barriers in accessing training. These barriers include low literacy levels, domestic obligations and a pro-male bias in training.

The availability of credit for resource poor farmers is quite important to finance the agricultural activities. The major sources of credit in the study area at present have been a local NGO called Amhara Credit and Saving Institution. Furthermore, farmers obtain credit from cooperatives, relatives, friends and local moneylenders, but this survey result is dependent on formal credit availability.

Table 2 shows that 40.7% of the respondents have used credit services. Among male headed households, female-headed households and women in male-headed households, 38.6%, 35.7%s and 47.6% respondents, respectively used credit service which was found to be significantly different among respondents at 0.05 level (χ^2=4.8). The criteria to get credit service were sex (high priority for females) and repaying capacity.

Distribution of Female Farmer Respondents by Participation in Women Association

Government organizations like women affairs office and /or bureau and several donors support initiatives designed to strengthen women's opportunities and capacity to organize themselves to form associations and act collectively for their common interests. Women's associations are part of civil society groups, which have the potential to raise the voice and visibility of women and can provide many services and benefits to their members.

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In this study, 28.5% of female respondents were involved in the association and 71.5% were not involved which is statistically significant at 0.05 level (χ^2=12.8) (Table 3). Women in male-headed households (W in MHH) were more likely to have minimum participation than those in FHHs.

Distribution of Respondents by Alteration in Gender Division of Labor, Access to and Control of Resources, Decision Making and Participation in Rural Organization

Gender equality suggests that women and men should engage in rational decision-making on their livelihood strategies and life choices, unencumbered by gender norms that inhibit what men and women can say, do and be. Women's participation is only effective if efforts are made across a number of domains. Such domains range from individual empowerment (increasing voice or "agency"), to the formal and informal structures and processes that affect women's access and control over assets of all kinds ("structure"), and to the networks (or "relations") that enable women to interact effectively with development actors such as government agencies, research institutions, civil society and the like [1]. As such, the current research assessed the change in decision making, access and control of resources, gender division of labor and participation in rural organizations.

Table 4 reveals that 24.3 % of the respondents confirmed that there is change in gender division of labor and 75.7% indicated that there is no change in gender division of labor in their household and agricultural activity; which was statistically significant at 0.05 levels (χ^2=3.9).

In terms of access to and control over resources, Table 4 shows that 42.8% of the respondents said that there has been change while 57.2% said there was no change. In this case, the discussant explained that there is improvement in access to and control of resources, especially on agricultural land, but this depends on the knowledge of the two partners.

In this study, 28.5% of the respondents confirmed there is change in decision making position while 71.5% said there is no change in decision making positions which was statistically significant at 0.05 levels of significance (χ^2=4.2), Table 4.

Participation in different rural organizations is instrumental in increasing the capacity of women to make sound and potentially lucrative decisions [22] as they can provide access to the latest technologies and learnings about best agricultural practices [23]. In this study, 34.2% of the respondents proved that there is change and 65.8% confirmed that there is no change, which was statistically significant at 0.05 level of significance (χ^2=6.4) (Table 4).

Access to and Control over Resources

This study documented the resources that were accessible to women and men farmers and the control over these resources. Access refers to the ability to get and utilize

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resources and also make temporary decisions on it. Control is directly attached to the power in the disposal of major resources and making decisions on it.

Based on the gender analysis tool (Harvard Framework), respondents were interviewed to distinguish their access to and control over resources such as cultivated land, agricultural extension events, and livestock by types, crops, farm implements, agricultural technologies and agricultural information.

Access to and Control over Cultivated Land

Land Ownership by Respondents

In recent years, women's access to and control over land and their property rights have received considerable attention. In Ethiopia, more than 50% of women are said to be engaged in agriculture and thus land ownership is a critical factor in their livelihoods. In this study, 77.1% of the respondents have land with land ownership being highest in MHHs and W in MHH and least in FHH. This difference is statistically significant at 5% probability level (χ^2 =8.18) (Table 5).

In the study area, the major means of getting land was through land redistribution by state and inheritance from parents. From the discussions with farmers, development agents and experts from agricultural and rural development sector, in case of joint titling, it is obligatory that both the wife's and husband's names are on the registration form, with their photographs attached to it. Such certificates can only be given to the household when both the wife and husband acknowledge receipt of the certificate and append their signatures.

Land Holding Differentials of Respondents

Land sizes of respondents were compared among different respondent categories. Table 5 shows that about 81.3% of the FHHs owned plots of less than 1 ha. Although a low percentage of MHHs also owned a similar size of land, close to 25% owned land with a size greater than 1 ha. In terms of land ownership, MHHs appeared to be in a better position with respect to the mean size of land. The mean size of owned land was 0.80 ha in MHHs and 0.64 ha in FHHs. From the results 84.5 % of W in MHH have less than one hectare of land and 15.5% have one to two hectares of land, whereas 18.7% of female headed households have one to two hectares of land.

According to the survey results in Table 5, husbands had 5.7% of access to land. The possible explanation was that their marriage was after land distribution and/or during the marriage the wife and husband enter into an agreement where land belongs to the husband only. Wife and husband had 60% access to land. This shows that the right of women in accessing land had improved. The FHH had 11.4% of access to land.

Access to and Control over Livestock by Respondents

Ownership of Livestock by Respondents

The types of livestock found in the study area were primarily cow, ox, sheep, goat, chicken, and honeybees. Respondents who have livestock were 95.23% and it was different for MHHs, FHHs and W in MHH. This is statistically significant at 0.05 level (χ^2 =13.4) among respondents (Table 6).

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The two sexes have equal access to livestock when each partner takes livestock from their families as a gift before or after their marriage and makes joint ownership with their partner's. From the survey data women have 100% right to have livestock.

There are differences in access to and control over livestock in female and male-headed households and between the husband and wife in male-headed households. Access to and control over livestock within the household is related to the type and size of livestock; mostly large animals were accessed and controlled by husbands whereas small livestock were controlled by wives (Table 7).

Distribution of Respondents by Access to Extension package and Contact with Development Agents

The important institutional services that were required to increase agricultural productivity through the adoption of new technology, *inter alia*, were extension contact (Participation), availability of input supply and access to credit. Respondent participation in agricultural extension packages program was defined as receipt and adoption, by the respondent, of any agricultural technology available in the area for the last two years while non-participation in this case was defined as not receiving any given agricultural technology for the same period. From the results (Table 8), 42.9% of respondents did not participate in any of extension package available in the area during the two years from the survey period whereas 57.1% of respondents participated in at least one of the extension packages.

Extension contact is one of the determinant factors to increase production and productivity of farmers through performing multiple roles like updating farmers' knowledge and skills and linking farmers with input suppliers and marketing institutions. The study, therefore, assessed the proportion of extension contact made by respondents during the survey year. The results showed that the existing extension contact was weak. Chi-square analysis was also employed to establish the association between extension contact and participation. The result showed that there is a relationship between extension contact and participation at p-value < 0.05.

Frequency of contact made by Development Agents (DAs) for women farmers was also assessed. Results indicate that the majority of W in MHH (64.3%) had not been visited by development workers during the cropping year of 20011/12, while 57.1% respondents in female headed households expressed that "extension agents" contact them on weekly basis (Table 8). Most of the time, women in male-headed households (W in MHH) and female-headed households (FHHs) face a problem in contacting Development Agents.

Respondents' Access to Radio as a Source of Information

Access to other sources of information like radio, television and extension materials can create farmers' awareness which can then increase decision to participate in agricultural programs. The study assessed the proportion of respondents who had access to radio as a source of information. Frequency analysis summarized in Table 8 shows that 56.4% of respondents had no access to radio.

Chi-square analysis was also employed to establish the association between households' participation in extension package program and access to radio. There is a statistical significant difference among respondents at 0.05 probability level (χ^2=4.3) between access to radio and joining of an extension package program.

DISCUSSION

Due to better educational background for male farmers as compared to female farmers, male farmers were exposed to different farm/non-farm activities, agricultural technologies and leadership positions in their communities. The same result was also reported by Kongolo and Bamgose [24] who stated that literacy levels and technical skills of women in many developing countries remain much lower than their male counterparts. The lack of education is a significant deterrent for women, since education remains a critical tool to stimulate, create, achieve and enhance active participation of rural women in rural organizations.

Older respondents of FHH and MHH have less education. A similar finding was also reported by Kumar and Quisumbing [25] who compared MHH and FHH and suggested that female-headed households tend to be disadvantaged relative to male-headed households on a number of dimensions. Female heads are on average, older and less educated as compared to male heads; female heads, on average, have no education whereas their male counterparts have at least two years of schooling.

Generally, farmers were not interested in sending their children (male and female) to school due to shortage of farm labor. Females in particular would not go to school for two reasons: for domestic labor to help their mothers and for marriage. Those who have financial problems would not send their girls to school but would rather prefer marriage.

Women in male-headed households had no chance to express their feelings in agricultural planning but they participated in all round agricultural activities. The reasons for absenteeism in the participation of planning were: no invitation, lack of interest and being busy because of domestic chores, in rank order. When the strategic plan of the sector was prepared, gender analysis was not executed. Because of this, the priorities, interests, problems, experiences, scarcities and opportunities of female and male farmers were not identified.

Male-headed households were better than female-headed households (FHH) in terms of education and participation in meetings, trainings, field days and demonstrations among others. Because of these, women face gender-specific constraints like lack of decision making capacity, lack of socio-cultural norms on mobility, limited access to information and confinement to the home for large parts of the day (either because of the division of labor or excluded from such activity). A similar result was also reported by Kumar and Quisumbing [26] who stated that male household heads were more aware of public information meetings held before the land registration process, were

more likely to have attended such meetings (as well as a greater number of meetings) and were more likely to have received some written material about the program.

Women have high repaying capacity of credit, therefore, they are highly beneficial as compared to men but when they took out credit the two partners were involved in the signing process. This result is different from the findings of Holt and Ribe [27] who stated that women have little access to formal credits even when they have property ownership as a result of limited social interaction, time constraints and cultural barriers. Furthermore, Kongolo and Bamgose [24] stated that credit is a difficult resource for the rural female to obtain.

There is a rigid division of labor by gender in agriculture; it is based on the social system and on patriarchal norms that typically require women to care for the needs of the male members of the household, while men are required to bring cash income to the household. Similar results are reported by other researchers [28,29,30], who stated that despite the crucial role that women play in rural economies, their participation within these organizations remains minimal, especially in decision making and leadership positions.

Land certificate is important to get equal access and control of resources because the certificate is legally recognized. A similar finding was reported by Kumar and Quisumbing [26], who stated that awareness about the land registration process is positively correlated with the shift in perceptions towards equal division of land and livestock upon divorce, particularly for wives in male-headed households. Studies on the land registration process indicate that it was largely beneficial to women and that increased tenure security enabled them to rent out their land [31].

Despite equal access for women to land rights in the current land policy, there is a notable difference in the manner of land use between male-headed and female-headed households. The female-headed households face limitations in using their land. This is linked to the division of labor between women and men that prohibits some types of work for one sex. Traditionally, it is considered inappropriate for women to plough land although they do all other tasks on the land. Accordingly, it is common practice for female-headed households to enter into agreements for sharecropping or land rentals or if she has a son, he would work on her behalf.

The study indicates that among the respondents the majority of female headed households have limited number of oxen due to shortage of grazing land, limited capital and lack of veterinary services. This result is supported with the finding of Gurmesa *et al.* [32] who stated that female household heads have less access to oxen when compared with male household heads. This disparity can be one of the factors that hinder female household heads from use of agricultural extension packages.

Due to the existing communication barriers between DAs and FHHs as well as DAs and W in MHH contributed by culture and traditions, the women are not participating in different extension activities that are important for development. There is evidence that women farmers are less likely to be approached and served by extension agents [6].

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This lack of support can be attributed to the socially constructed gender bias of predominantly male extension agents or could simply be due to a preference of extension agents to work with bigger landowners who are mostly male [33]. There is also a strong perception among extension staff that women do not farm or there will be a trickle down of knowledge from men to women in the household; however, this does not happen [34].

Moreover, the meager number of female extension workers (14.8%) also exacerbates this state of affairs. Lack of education and opportunities for the girls in rural areas contributes to the limited number of female extension professionals and affirmative action alone did not bring the supposed change for which immediate remedial measures are not seen.

Husbands in male-headed households have somehow better access to farm tools as compared to the wives and they also hold controlling power for the farm tools but in the study area, except for ploughing, females and males have participated in the agricultural activities. Similar findings were reported by Hariharan [35] who suggested that women have moderate access and low control over farm tools due to lack of knowledge and skills on improved farm implements.

CONCLUSION

This study revealed that the education level of the farming community is moderately low similar to the national literacy level. However, due to better educational background for male farmers compared to female farmers, men were better than women in farm activities and in leadership positions in their community. Female-headed household (FHH) farmers have only few positions as compared to MHHs and all females in male-headed households have no representative activity in the peasant association. This is particularly evident in the economic and political sphere where participation by women is restricted. Most decisions at all levels in the family, at village level, in peasant associations and in economic life are made far more often by men than by women. Male-headed households were stronger in different aspects of life than FHHs. Since the majority of the DAs (85.2%) are males, the women both in MHHs and FHHs do not approach them for advice and thus do not get supervision services due to cultural prohibitions and taboos.

Analysis of gender perspectives should be an integral part of all analysis undertaken or should be undertaken as a separate analysis, if necessary. Such analysis is not something to be done solely by gender specialists but should be an essential element of the professional competence of all workers in the sector.

Capacity-building should be focused on what participants do on a day-to-day basis and assist them to understand how they need to work differently to give adequate attention to gender perspectives. It is important to develop capacities to address the political dimensions of promoting and sustaining gender equality and provide the necessary technical support to initiate and expand gender equality in rural development and agricultural extension sector.

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Male and female development agents and extension officers should be exposed to intensive gender sensitization and training on improving outreach to female farmers which should be supported by comprehensive practical training. The extension agents should develop a mechanism of female contact farmers in order to increase outreach to women farmers.

Involvement of women in local institutions does need emphasis and support. Therefore, strengthening women's organizational capacity should be prioritized such as in women's associations.

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Table 1: Education level, marital status and age category of the respondents (N=140)

Education, marital status and age category	MHH		FHH		W in MHH		Total		Test χ^2	Sig
	N	%	N	%	N	%	N	%		
Educational level										
Illiterate	32	34.41	22	23.66	39	41.94	93	66.4		**
Read and write	22	84.6	2	7.69	2	7.69	26	18.6		
1-4 grade	4	66.6	1	16.6	1	16.6	6	4.3	31.4	
5-8 grade	11	84.6	2	15.3	0	0.00	13	9.3		
>8	1	50	1	50	0	0.00	2	1.4		
Marital status										
Married	69	98.5	0	-	42	100	111	79.3		
Divorced	1	1.5	15	53.6	-	-	16	11.4	134.1	**
Widow	-	-	13	46.4	-	-	13	9.3		
Age category										
15-30	15	21.4	4	14.2	18	42.8	37	26.4		
31-45	30	42.8	12	42.8	16	38	58	41.4	16.1	NS
46-60	16	22.8	9	32.1	8	19	33	23.5		
61-80	9	12.8	3	10.7	0	0.00	12	8.5		

*Survey results collected in 2013, **, statistically significant at 5 % probability level, NS-Not significant, MHH–Male-Headed Household, FHH–Female-Headed Household, W in MHH-Women in Male-Headed Household or Married Women, N-Frequency, %-percent*

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Table 2: Distribution of respondents by participation in planning, meeting, experience sharing, demonstrations/field day, training and credit (N=140)

Respondents participation		MHH		FHH		W in MHH		TOTAL		χ^2 Value	Sig
		N	%	N	%	N	%	N	%		
Planning	Yes	23	32.9	6	21.4	0	0	29	20.7		
	No	47	67.1	22	78.6	42	100	111	79.3	17.2	**
Meeting	Yes	28	40	8	28.5	1	2.4	37	26.4	31.1	**
	No	42	60	20	71.5	41	97.6	103	73.6		
Experience sharing	Yes	3	4.2	4	14.2	2	4.7	9	6.4		
	No	67	95.8	24	85.8	39	92.3	131	93.6	3.4	NS
Demonstration/field day	Yes	26	37.1	8	28.5	1	2.3	35	25	36.6	**
	No	44	62.8	20	71.4	41	97.6	105	75		
Training	Yes	24	34.2	7	25	2	4.7	33	23.6		
	No	46	65.8	21	75	40	95.3	107	76.4	12.7	**
Credit	Yes	27	38.6	10	35.7	20	47.6	57	40.7		
	No	43	61.4	18	64.3	22	52.4	83	59.3	4.8	**

*Survey results collected in 2013, **, statistically significant at 5 % probability level, NS-None significant, MHH–Male-Headed Household, FHH–Female-Headed Household, W in MHH-Women in Male-Headed Household or Married Women, N-Frequency, %-percent*

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Table 3: Distribution of female farmer respondents by the involvement of women association (N=70)

Involvement in association	FHH		W in MHH		Total		$\chi 2$ value	Sig
	N	%	N	%	N	%		
Yes	9	32.2	11	26.2	20	28.5	12.8	**
No	19	67.8	31	73.8	50	71.5		

*Survey results collected in 2013, **, statistically significant at 5 % probability level, FHH–Female-Headed Household, W in MHH-Women in Male-Headed Household or Married Women, N-Frequency, %-percent*

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Table 4: Distribution of sampled respondents by change in gender division of labor, access to and control of resources, decision making and participation in rural organization activity (N=140)

Types of activity and change		Sex of respondents				$\chi 2$ Value	Sig
		M		F			
		N	%	N	%		
Gender division of labor	there is change	17	24.3	8	11.4		
	no change	53	75.7	62	88.6	3.9	**
Access to and control of resources	there is change	30	42.8	23	32.8		
	no change	40	57.2	47	67.2	1.4	NS
Decision making power	there is change	20	28.5	10	14.2		
	no change	50	71.5	60	85.8	4.2	**
Participation in rural organization	there is change	24	34.2	11	15.7		
	no change	46	65.8	59	84.3	6.4	**

*Survey results collected in 2013, **, statistically significant at 5% probability level, NS- statistically not significant, M-male, F-female*

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Table 5: Distribution of sampled respondents by ownership, land holding differentials and access to and control over land (N=140)

Size & ownership of land		Respondent type						Total		χ^2 value	Sig
		MHH		FHH		Married women					
		N	%	N	%	N	%	N	%		
Ownership of land	yes	60	85.7	16	57.1	32	76.1	108	77.1	8.18	**
	no	10	14.3	12	42.9	10	23.9	32	22.3		
Land size in hectare	<0.25ha	16	26.7	5	31.3	14	43.8	35	32.4		
	0.26 – 0.5ha	6	10	3	18.7	4	12.5	13	12.1		
	0.51 – 1 ha	23	38.4	5	31.3	9	28.2	37	34.2		
	1.01- 1.5 ha	11	18.3	2	12.5	3	9.3	16	14.8		
	1.51 – 2 ha	3	5	1	6.2	2	6.2	5	5.6		
	> 2 ha	1	1.6	0				1	0.9		
Access to land	Husband	8	11.4	0	-	0		8	5.7		
	Wife & husband	52	74.3	0	-	32	76.1	84	60		
	FHH	0	-	16	57.1	0	-	16	11.4		
	No land	10	14.3	12	42.9	10	23.9	32	22.9		
Control over land	Husband	27	38.5	-	-	4	9.6	31	22.1		
	Wife & husband	33	47.2	-	-	28	66.6	61	43.6		
	FHH	-	-	16	57.1	-	23.8	16	11.4		
	No land	10	14.3	12	42.9	10	-	32	22.9		

*Survey results collected in 2013, **, statistically significant at 5 % probability level, ha-hectare, MHH–Male-Headed Household, FHH–Female-Headed Household, N-Frequency, %-percent*

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Table 6: Distribution of sampled respondents by ownership of livestock (N= 140)

Ownership of livestock	MHH	%	FHH	%	W in MHH	%	χ^2 Value	Sig
Yes	66	94.28	20	71.42	40	95.23		
No	4	5.71	8	28.57	2	4.76	13.4	**

*Survey results collected in 2013,**, statistically significant at 5 % probability level, MHH–Male Headed Household, FHH–Female-Headed Household, W in MHH-Women in Male-Headed Household or Married Women,%-Percent*

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Table 7: Distribution of sampled respondents by access to and control over livestock (N= 140)

Access and control	livestock	MHH Husband		MHH Wife		Husband and wife		FHH woman		Total (140)	
Access		N	%	N	%	N	%	N	%	N	%
	Oxen	22	16.7	3	2.2	84	63.6	23	17.4	132	100
	cow	19	14.9	5	3.9	82	64.5	21	16.5	127	100
	goat	7	20	1	2.8	23	65.7	4	11.4	35	100
	sheep	7	19.4	2	5.5	25	69.5	2	5.5	36	100
	poultry	-	0.00	23	17.9	84	65.6	21	16.4	128	100
	Honey bee	7	30.4	1	4.3	14	60.8	1	4.3	23	100
	Oxen	72	54.5	-	0.00	37	28	23	17.4	132	100
	cow	41	32.2	5	3.9	61	48	20	15.7	127	100
Control	goat	8	22.8	1	2.8	22	62.8	4	11.4	35	100
	sheep	11	30.5	2	5.5	21	58.3	2	5.5	36	100
	poultry	1	0.7	79	61.7	27	21	21	16.4	128	100
	Honey bee	8	34.7	-	0.00	14	60.8	1	4.3	23	100

Survey results collected in 2013
MHH–Male Headed Household, FHH–Female-Headed Household

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Table 8: Distribution of respondents in participation of agricultural extension package, contact with development agent and access to radio (N=140)

Participation in		MHH (70)		FHH(28)		W in MHH (42)		TOTAL(140)		Test χ^2	Sig
		N	%	N	%	N	%	N	%		
agricultural extension package	Yes	52	74.3	16	57.1	12	28.5	80	57.1	2.8	
	No	18	25.7	12	42.9	30	71.5	60	42.9		NS
Contact with DA	Yes	48	68.5	16	57.1	15	35.7	79	56.4		**
	No	22	31.5	12	42.9	27	64.3	61	43.6	11.5	
Access to radio	Yes	36	51.4	8	28.5	17	40.4	61	43.6	4.3	**
	No	34	48.5	20	71.5	25	57.1	79	56.4		

*Survey results collected in 2013, **, statistically significant at 5 % probability level NS: Non-significance, MHH–Male-Headed Household, FHH–Female-Headed Household, W in MHH-Women in Male-Headed Household or Married Women, N-Frequency, %-percent*

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