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Gender, Participation and Decision Making Process in Farming Activities: the case of Yilman Densa District, Amhara Region, Ethiopia

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Abstract
Women play a significant role in agriculture, the world over. Despite women's critical contributions to the family income through farming activities, no recognition is given to them as an important contributor. The study was carried out in Yilmana Densa district, Ethiopia, with the objective to find out the participation and decision making process of rural women in farming activities. A sample of 90 respondents was selected from three villages using multistage random sampling technique. Data were collected from women respondents using semi-structured questionnaire, and from men group, women group and experts using focus group discussions (FGDs). The data collected were analyzed using SPSS software. Results show that rural women regularly engaged and participated in critical farming activities including weeding, seed preparation, selling agricultural commodities, and harvesting. The level of their participation is limited in ploughing farmland, spreading chemicals, and crop protection activities. Most rural women did not have any role in decision making with regard to purchase/sale of farming implements, land preparation and determination of type and amount of chemicals (pesticides, herbicides) used. Rural women's participation in farm management decision making is quite minimal. Lack of experience, illiteracy, false assumption about the role of rural women in agriculture, shortage of technical knowledge/skills, and limited extension service are the main determinant factors affecting the participation of rural women in decision making process in the study area. Thus, all the possible opportunities should be created for rural women to improve their level of participation and decision making in farming activities. Well organized and integrated awareness creation strategy should also be designed and facilitated by stakeholders to minimize the social, cultural, and economic factors affecting rural women's decision making.
Keywords: Decision making, farming activities, gender, participation, rural women

Introduction

Women play a significant role in agriculture, the world over. Rural women play a key role in agricultural sector production by working with full passion in production of crops right from the soil preparation till post-harvest and food security activities (Ahmed and Hussain, 2004). It is estimated that women are responsible for 70 percent of actual farm work and constitute up to 60 percent of the farming population (Choudhary and Singh, 2003). Women's active involvement in decision making is considered essential for rapid economic development of the country. Despite women's critical contribution to the family income through productive activities, no recognition is given to them as an important contributor and their contribution is not recorded. They are still remain invisible workers. In rural areas of Ethiopia, women play a major role in agricultural production. They are equally efficient in seed bed preparation, tilling, sowing, fertilizer application, fodder cutting, weeding, intercultural operations, transplanting, husking, threshing, drying, storing cereals and fodder, selling agricultural commodities and harvesting of all the crops, fruits and vegetables. Rural women have significant contribution in the labour force for agricultural activities. Yet, the role of women in these activities, so important economically, has remained obscure for long because women seldom played any major roles in political activities or decision making processes. They also face various difficulties on agricultural productivity and they operate agricultural activities under greater constraints than men (Lemlem et al., 2010). This study, therefore, is carried out to find out the participation and decision making process of rural women in farming activities.

Methodology

A study was conducted at Yilmana Densa district in Amhara region, Ethiopia in the year 2012. Three villages viz Mesobo, Gosheye, and Angar were purposely selected based on the information gathered during the

reconnaissance survey and representative of the whole villages found in the district. From each village 30 women farmers were selected using systematic random sampling technique, thereby making a sample of 90 respondents. The list of the households in each village was used as a sampling frame and it was secured from the offices of village administrations and development agents. Data were collected from women respondents using semi-structured questionnaire. FGDs were held with men group, women group and district level experts to supplement and confirm information that was generated using questionnaire and interviews. Statistical Package for Social Sciences (SPSS) version 16.0 used to analyze the data collected. The extent of rural women participation in farm management activities was assessed by using a three point continuum namely 'Regularly,' 'Occasionally' and 'Not at all' which was assigned scores of 2, 1 and 0, respectively. For the purpose of ranking of different activities performed by rural women the frequency of responses from each of the three columns of a specific activity under major activity was tabulated and multiplied by concerned score. Then, they were added together to get the total score for each specific activity for the purpose of their ranking (Sailaja and Reddy, 2003). Pearson's correlation test was used to analyse the relationship between various factors and extent of rural women participation in various farming activities.

Results and discussion

Socio-economic characteristics of the respondents

The socio-economic characteristics of the respondents for various variables are presented in Table 1. The mean age of the respondents was 33.97 years and the large majority (81.1%) belonged between age ranges of 20 to 40 indicating rural women in the present study belong to the economically active and productive age group. Only 3.3% of the respondents are categorized under old age group. Most of the respondents (80%) were illiterate followed by 7.8% who could only read and write, and only 12.2% were literate. Among the literate, only 3.4% were at secondary education level (grade 9 to 12). Formal education is prominent and has the potential for making up some of the deficiencies in rural women and assists them to get more benefit from existing extension services (Habtemariam, 1996). With regard to number of children, about 60% of the respondents had three to five children followed by 34.4 and 5.6% of the respondents that had one to two children and above five children, respectively. About 50% of the respondents have a farmland size varying between 1 and 2 ha; 48.9% below 1 ha and only 1.1% above 2 ha of land implying that most families do have shortage of farm land size. Most of the respondents (60%) have more than 20 years of farming experience and this has helped them in making rational choice and decision to impact positively in their farming activities. Other group of women farmers (37.8%) had between 10 to 20 years of farming experience. However, only two women farmers, representing 2.2% of the respondents, has five to ten years of farming experience which might be associated with their age.

However, none of the respondents have 'regularly' participated in ploughing farmland. Similar result is presented by Farid et al. (2009) in the involvement of rural women in land preparation in Bangladesh. About 62.2%, 56.7%, 53.5%, 48.9%, 47.8% and 45.6% of the respondents participated 'occasionally' in sowing, harvesting, collection of crop by-products to homestead, drying, land cleaning and seed storage activities, respectively. The result shows that women spend their time and labour for various farming activities either 'regularly' or 'occasionally'. According to Yeshi (1997) nearly 85% of women's labour is spent in farming, which includes crop production. On the other hand, ploughing farmland, sealing, spreading chemicals and crop protection activities were 'not at all' performed by 97.8%, 76.7%, 72.2% and 67.8% of the respondents, respectively. Lemlem et al. (2010) reported that men are typically responsible for the heavier manual tasks such as land preparation and tillage with oxen (Lemlem et al., 2010). Rural women play key roles in agriculture sector production by working with full passion in production of crops right from the soil preparation till post-harvest activities (Ahmed and Hussain, 2004). It was reported during FGDs with district line offices about the major roles of rural women in all farming activities except in the case of ploughing.

Rural women in the study area were largely involved in weeding, seed preparation, selling agricultural commodities, sowing and harvesting because each of this activity ranked for the 1st, 2nd, 3rd, 4th, and 5th positions, respectively. All respondents have reported participating in weeding activities indicating their significant contribution for better and vigour growth and development of the crops at early growth stage. Traditionally weeding is considered as women's task (Bishop-Sambrook, 2004) and common in all areas of the country including in agro-pastoral system (Wude, 2006). During FGD with male farmers, it was reported that rural women have critical contribution in weeding and in preparing seed for planting.

Selling of agricultural commodities was performed by majority of the respondents which negate with the reports of Nazar (2004) in the case of Pakistan rural women.

Table 1: Socio-economic characteristics of the respondents

Variables	Frequency	Percentage
Age (years)		
20-30	40	44.4
31-40	33	36.7
41-50	14	15.6
Above 50	3	3.3
Educational level		
Illiterate	72	80.0
Read and write	7	7.8
Grade 1 to 4	4	4.4
Grade 5 to 8	4	4.4
Grade 9 to 12	3	3.4
No of children		
1 to 2	31	34.4
3 to 5	54	60.0
Above 5	5	5.6
Farmland size (ha)		
Less than1	44	48.9
1-2	45	50.0
Above 2	1	1.1
Farming experience years)		
Less than 5	0	0
5 to 10	2	2.2
10 to 20	34	37.8
More than 20	54	60.0

Source: Survey results, 2012

Table 2: Extent of rural women participation in various farming activities

Farming activities	Extent of participation			Participation indices	Rank order
	Regularly	Occasionally	Not at all		
Ploughing farmland	0(0)	2(2.2)	88(97.8)	2	16
Land cleaning	14(15.6)	43(47.8)	33(36.7)	71	10
Seed preparation	63(70)	27(36.7)	0(0)	153	2
Sowing	27(30)	56(62.2)	7(7.8)	110	4
Transportation of inputs from the distribution centres to home and farmland	20(22.2)	43(47.8)	27(30.0)	83	8
Compost preparation	22(24.4)	32(35.6)	36(40.0)	76	9
Weeding	64(71.1)	26(28.9)	0(0)	154	1
Spreading chemical	14(15.6)	11(12.2)	65(72.2)	39	13
Crop protection activities	4(4.4)	25(27.8)	61(67.8)	33	14
Harvesting	29(32.2)	51(56.7)	10(11.1)	109	5
Threshing	15(16.7)	24(26.7)	51(56.7)	54	12
Drying	22(24.4)	44(48.9)	24(48.9)	88	7
Storage of produce/seed	27(30)	41(45.6)	22(24.4)	95	6
Sealing	5(5.6)	16(17.8)	69(76.7)	26	15
Selling of agricultural commodities	46(51.1)	39(43.3)	5(5.6)	131	3
Collection of crop by-products to homestead	9(10.0)	48(53.3)	33(36.7)	66	11

Figure in parenthesis are percentages
Note: Participation indices = Regularly x 2 + Occasionally x 1 + Never at all x 0.
Source: Survey results, 2012.

Participation of rural women in decision making in farming activities

The level of rural women involvement in taking various farming decisions was categorized into four categories: no consideration (nil), only consulted, opinion considered and roles in final decision. Table 3 presented the extent of rural women in decision-making of various farming activities. About 54.4%, 47.8%, 46.7%, 44.4% and 42.2% of the respondents reported that they didn't have any role in the decision making for purchase/sale of farming implements, land preparation, determination of type and amount of chemicals (pesticides, herbicides) used, purchase of chemical pesticides, and determination of types and amount of fertilizers used, respectively. Substantial number of women have been consulted for farming activities such as determination of the time of weeding, time of sowing, storage of farm produce, marketing of farm produce, and determination of land size for cultivation. In each of the farm operation less than 25% of the respondents' opinion was considered except in purchase of fertilizers where about 27.8%, marketing of farm produce (27.5%), determination of the time of weeding (26.7%), determination of the time of harvesting (26.7%), and annual crop production plan (25.6%) of the respondents' opinion considered. The role of rural women in the final decision in land preparation, purchase/sale of farm implements and purchase of chemical pesticides were very limited as reported only by 3.3, 7.8 and 10% of the respondents, respectively. The extent of rural women in decision making of farming activities is quite minimal in the study area. The above results are more or less similar to those of Damisa and Yohanna (2007) and Lemlem et al. (2010). Rural women have significant role in making decisions regarding to some farm activities, although their competence has been often questioned (Olawoye, 1989).

Table 3: Extent of rural women participation in decision making in farming activities

Decision making areas (farming activities)	No consideration	Only consulted	Opinion considered	Role in final decision
Annual crop production plan	27(30)	23(25.6)	23(25.6)	17(18.9)
Land preparation	43(47.8)	23(25.6)	21(23.3)	3(3.3)
Time of sowing	15(16.7)	34(37.8)	27(30)	14(15.6)
Determination of land size for cultivation	21(23.3)	28(31.3)	22(24.4)	19(21.1)
Determination of types & amount of fertilizers used	38(42.2)	17(18.9)	21(23.3)	14(15.6)
Time of fertilizers application	35(38.9)	23(25.6)	18(20)	14(15.6)
Purchase of fertilizers	35(38.9)	17(18.9)	25(27.8)	13(14.4)
Determination of type & amount of chemicals (pesticides, herbicides) used	42(46.7)	18(20)	18(20)	12(13.3)
Purchase of chemical pesticides	40(44.4)	21(23.3)	20(22.2)	9(10)
Determination of the time of weeding	8(8.9)	36(40)	24(26.7)	22(24.4)
Number of hired labourers and wages to be paid	22(24.4)	26(28.9)	19(21.1)	23(25.6)
Determination of the time of harvesting	15(16.7)	29(32.2)	24(26.7)	22(24.4)
Storage of farm produce	10(11.1)	33(36.7)	20(22.2)	27(30)
Marketing of farm produce	5(5.6)	29(32.2)	25(27.5)	31(34.4)
Purchase and sale of farming implements	49(54.4)	16(17.8)	18(20)	7(7.8)
Purchase and sale (rent) of farmlands	31(34.4)	18(20)	16(17.8)	25(27.8)
Farm credit	18(20)	29(32.2)	19(21.1)	24(26.7)

Figures in parenthesis are percentages
Source: Survey results, 2012.

Relationship of social variables with women participation

The relationship between women participation on farming activities and the variables that influence their participation is presented in Table 4. Out of the total nine variables only participation in formal institutions and number of children of the respondents are positively and significantly associated with women participation in farming activities. It means that women's participation in farm management activities increases with the increase participation in formal institutions and number of children in a household. Farid et al. (2009) has also reported a similar trend indicating that the larger the size of the family the higher the extent of participation of women in outside activities. This association might be related with the involvement of children in farming activities might give time for women to participate outside home activities. Rural women participation is also positively, but non-significantly correlated with distance from the urban centre, level of education, family size, participation in informal institutions and land size; and negatively, but non-significantly with age of the respondents and years of farming experience. It is normal to observe the positive association of age of rural women with their farming experience in the rural community, and the level of participation in farming activities will decrease as rural women become aged. Some of the findings contradict with the work of Mishra et al. (2009) who tried to investigate the participation of Indian rural women in decision making on vegetable cultivation activity.

Table 4: Relationship between social variables with women participation in farming activities

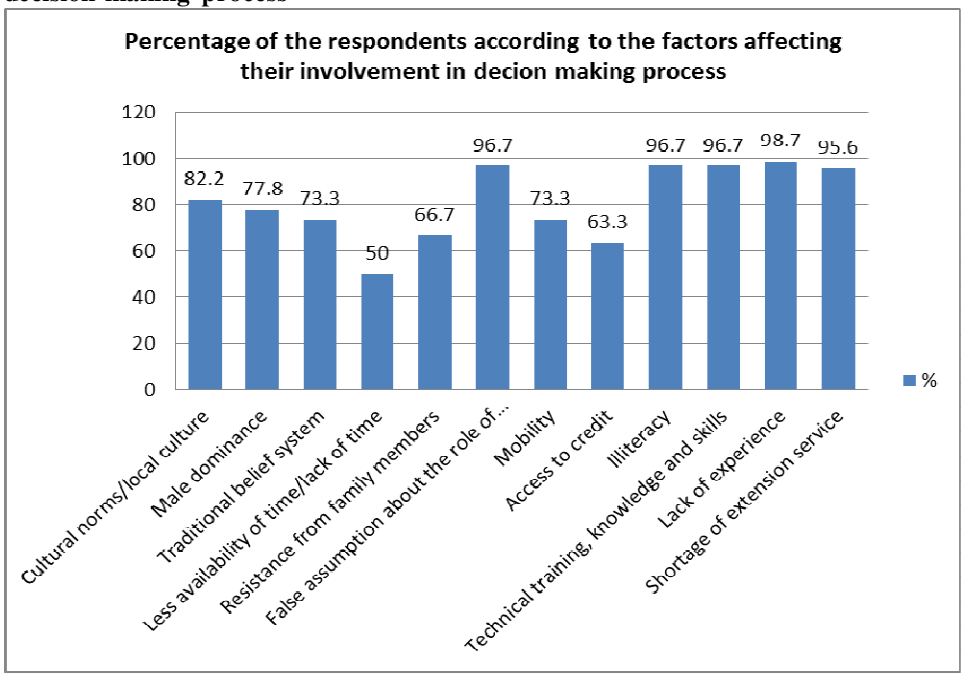
Independent variable	Correlation coefficient ('r' value)
Distance from nearest town	0.005^{NS}
Age (years)	-0.010^{NS}
Level of education	0.005^{NS}
Family size (number)	0.187
Number of children	0.214*
Farming experience (years)	-0.054^{NS}
Participation in formal institutions	0.253*
Participation in informal institutions	0.189^{NS}
Land size (ha)	0.001^{NS}

*Correlation is significant at 0.05 level; ^{NS} Non significant
Source: Survey results, 2012

Factors affecting rural women's decision making

Figure 1 depicts that various factors affecting rural women involvement in decision-making process in farming activities. Lack of experience, illiteracy, false assumption about the role of rural women in agriculture, shortage of technical knowledge/skills, and shortage of extension service are the main determinant factors, as disclosed by almost all respondents, affecting the participation of rural women in decision making process in the study area. Other factors that can affect rural women's participation in decision making are cultural norms, male dominance, traditional belief system, and mobility as reported by 82.2%, 77.8%, 73.3%, and 73.3% of the respondents, respectively. Other factors such as lack of time (50%), access to credit (63.3%), and resistance from family members (66.7%) have determinant effect on decision-making process. The lack of technical trainings, knowledge, and skills, reported by almost all respondents, which might be related to the literacy situation of households as most of the respondents were illiterate or less educated. They may often unable to attend or continue formal training courses, social, and economic services provided by supporting organizations as indicated by Aazami et al. (2011). Results showed that the level of rural women's participation in the decision making is limited or under recognized due to the stated socially and culturally formed structures (Lubbock, 1998).

Figure 1: Frequency distribution of respondents according to the factors affecting their involvement in decision-making process



Source: Survey results, 2012

Conclusion and recommendations

Rural women are the major working forces of farming activities in the study area. They regularly engaged and participated in critical farming activities including weeding, seed preparation, selling agricultural commodities, and harvesting. However, the level of their participation was limited in ploughing farmland, spreading chemicals and crop protection activities which traditionally consider only implemented by men. Despite their incredible role in agricultural sector, their involvement in decision-making regarding farm management still seem questionable. Most rural women did not have any role in decision making with regard to purchase/sale of farming implements, land preparation and determination of type and amount of chemicals (pesticides, herbicides) used. Rural women's participation in farm management decision making is quite minimal. Thus, all the possible opportunities should be created for rural women to improve the level of participation and decision making in farming activities. Well organized and integrated awareness creation strategy should also be designed and facilitated by stakeholders to minimize the social, cultural, and economic factors that affecting rural women's decision making.

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