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Assessment of Female and Male Farmers' Participation Difference on Types of Agricultural Extension Training Delivered in Halaba Special Woreda, Southern Ethiopia

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Abstract
This study was conducted on " Assessment of Female and male farmers' participation difference on types of Agricultural extension training delivered in Halaba special woreda, South Nations and Nationalities of People Region, Ethiopia" to address the objectives; assessing level of difference between female and male farmers' participation in extension service delivered at the study area and to identify as there was differences between female and male farmers' participation on types of extension training delivered at the study area. Primary and secondary data were used for this research. For Primary data collection multistage sampling was employed. The collected data were analyzed by using descriptive statistics. The qualitative and quantitative data collected from respondents were coded and entered in to SPSS version 20 for analysis. And then the difference between female and male farmers' participation in extension training tested by using Pearson chi-square test, t-test, mean, percentage and standard deviation. The results of this study showed that, there were less participation of female farmers than male farmers on different types of extension training delivered in the study area. Therefore, local political leaders, extension planners and DAs should plan and deliver gender equality based extension training service with due attention to female farmers in the areas.
Keywords: Extension training, Participation difference, Female and Male farmers

1. Introduction

1.1. Background and Justification

In Ethiopia, the agriculture sector continues to be the most dominant aspect of economy by accounting for nearly 46% of GDP, 73% of employment, and nearly 80% of foreign export earnings (ATA, 2013/2014).

The importance of farmers-participation in agricultural extension services both as a means to an end and as an end by itself is a widely understood phenomenon among development practitioners. In extension, farmers are key stakeholders at grassroots level and their participation in all stages of extension programme development and delivery processes enhances efficiency and effectiveness of the planned changes as participation facilitates mutual learning among stakeholders (Berhanu Nega, et.al. 2013).

Research carried out by World Bank (2008) found that the perception of the roles that men and women play in agriculture is biased toward men and result in unequal agricultural services provision where women have less access to agricultural extension training, less access to agricultural credit, and less access to irrigation and modern inputs (Fatima and Awadalla, 2013)

The expenditure on men was up to three times as high as that on women in extension service delivery. This is not only important from an equity standpoint but also from a productivity perspective as evidence from other countries in the region shows that when women have equal access to extension services output increases (Rebecca Holmes and Nicola Jones, 2009). Female farmers are less likely to get extension services through various channels and are less likely to access quality services than their male counterparts (Catherine Ragasa, *et al*., 2012)

There was considerable evidence of gender bias in the provision of extension services, even though national policy and EPRDF ideology strongly promote gender equality in all aspects of life (Tewodaj Mogues, et al., 2009). Extension officers need to be conscious of the times when women are available for meetings and schedule training at those times. Training may need to be divided into short modules to accommodate women's schedules and provide women with the ability to attend meetings and still manage their day-to-day tasks (Cristina Manfre, *et.al*. 2013). As found by Buchy and Basaznew (2005), in analysis of the agricultural bureaucracy in southern Ethiopia, there were critical shortcomings in the gender sensitivity of agricultural extension provision in the Region.

The farmers evaluate the extension service in Halaba Woreda in terms of its timeliness, effectiveness and adequacy and most of them replied that the service is not satisfactory regarding these evaluation criteria (Awol Zeberga, 2010). Access to agricultural extension services is expected to have direct influence on the production and marketing behavior of the farmers. From total sampled household heads for the study, majority of the respondents did not receive any extension services from development agents on Teff and Wheat production activities. The result of this study questions the efficiency and effectiveness of the extension program in the area.

Also based on farmers' perception, from the major production and marketing problems in Halaba Woreda poor extension support services were reported as the main one (Muhammed Urgessa, 2011).

In rural areas of Ethiopia in general, and in Halaba Special Woreda in particular there is unequal development service including Agricultural extension service that subjected women to economic dependence (Bedru Hassen, 2011). Several literatures generalized as there is participation difference between Female and Male farmers on types of agricultural extension training delivered in the Woreda without justifying the level of differences. Therefore, this study was to assess participation difference between Female and Male farmers on types of Agricultural Extension training delivered in the woreda.

1.3.1. Objectives of the study

1. To assess level of difference between female and male farmers' participation on types of extension training delivered at the study area.
2. To identify differences between female and male farmers' participation on types of extension training delivered at the study area.

2. Research Methodology

2.1. Description of the Study Area

Halaba Special woreda is one of the eight special woredas in the SNNPRS in Ethiopia. Halaba is surrounded by Siltie zone in the north, Hadiya in the northeast, Oromia and west Kembata and Tembaro in the east. Halaba woreda is found 315 kms from Addis Ababa and 85 kms South-west of Southern Nations, Nationalities, and Peoples Regional (SNNPR) state capital of Hawasa. The woreda is geographically located 70 17' N latitude & 380 06' E longitudes. Altitude of the woreda ranges from 1154 to 2159 masl, but most of the woreda is found at about 1800 masl (Amsalu Bedasso, 2008).

According to the Woreda finance and economic development Office statistical data shows total population of the Woreda is 271,054. Among them 136,838 are males and 134,216 are females. There are 45,423 Households in the Woreda. The total rural dwellers are 89% and urban dwellers are 11%. Population Density of the Woreda is 270 person square kilometers (Messay Tegegne, 2012)

2.2. Sampling Techniques

A multi stage sampling technique was used to select sampled households. In the first stage, Halaba Special Woreda was selected purposefully. In the second stage based on dominance of one crop/livestock species in one area than the other, Kebeles stratified in to two main farming systems and 5 kebeles from Teff/Haricot bean producer and 3 kebeles from Pepper producer were selected purposively based availability of large number of FHHs in the kebeles. In the third stage HHs classified in to three based on average land size that HH head hold (small, medium and large) land size holders by re-arranging information obtained from Halaba Special Woreda. On the fourth stage, to give equal chance in selection of study units (FHHs and MHHs) from each land size category probability proportional to size (PPS) was used and 360 households (113FHHs and 247 MHHs) were selected and interviewed.

2.3. Data Sources and Methods of Data Collection

2.3.1. Data sources

For this study, Primary data were collected directly from sampled respondents using structured interview schedule and secondary data were collected through review of related literatures.

2.3.2. Methods of data collection

Data were collected by using interview schedule, which was administered by enumerators to collect data on different types of agricultural extension training delivered farmers at the study area. Before the final administration of the interview schedule, first enumerators were selected and trained. Then, the interview schedule was pre-tested among the non-sampled farmers. Based on pre-tested interview schedule, essential amendment was made and data were collected from sampled respondents.

2.4. Methods of Data Analysis

Different types of analytical methods can be used to evaluate different research results and make a sound conclusion for a given survey information. Literatures show that each and every analytical method has their advantages and limitations; it is always advisable to select the one that can better suit to answer the specific purpose (Hopkins et al, 1996; Duvel, 1999; Pallant, 2001).

Descriptive statistics is, one of the techniques used to summarize data collected from sampled respondents. By applying descriptive statistics such as mean, chi-square ($\chi 2$), t-test, frequency of appearance one can compare and contrast different categories of sample units with respect to the desired characters so as to depict difference between female and male farmers' participation on types of extension training delivered in the study areas.

Similarly, for this study the data collected from sampled Household Heads (female and male HH heads)

were analyzed by using descriptive statistics. The qualitative and quantitative data were coded, tabulated, interpreted and described by using Pearson chi-square (x^2) and mean, percentage and standard deviation respectively.

3. Results and Discussion

3.1. Level of female and male farmers' participation differences on type of extension service delivered

Table: 1. Summary of descriptive statistics for discrete variables on level of farmers' participation in extension service

No	Variables	Level of farmers' participation d/ce by sex			
		Response	FHHs (N = 113) %	MHHs (N = 247) %	χ2
1.	Access to farm inputs	Yes	43.4	61.1	9.92***
		No	56.6	38.9	
2.	FTC training	Yes	4.4	9.3	2.954*
		No	95.6	90.7	
3.	Access to credit	Yes	23.9	43.7	15.1***
		No	76.1	56.3	
4.	Participation on farmers day	Yes	11.5	19.4	3.46*
		No	88.5	80.6	

Source: Own computation, (2014); ***, ** and * significant at less than 1%, 5% and 10% probability level respectively.

Access to farm inputs

As indicated in the Table: 1 above from the total respondents 43.4% of FHHs and 61.1% of MHHs have access to farm inputs (fertilizer, seeds or chemical). Similarly, the statistical results in the table 1 revealed that, there is positive and significant difference between female and male farmers in access of farm inputs at less than 1% probability level. This showed that female farmers have less access to farm inputs than male farmers in the area. This result similar to studies conducted by wakweya Tamiru (2004) which indicates Female heads have significantly less access to farm inputs than male heads for agricultural production inputs.

Farmers obtain training at FTC

As revealed in the Table: 1 above from the total MHHs 9.3% and 4.4% from FHHs have obtain training at the FTC and the statistical result also showed as there is positive and significant difference between female and male farmers in obtaining FTC training at less than 1% probability level. The result of this study indicated that MHHs have obtained FTC training than FHHs at the study area. Similar result was found by Tewodaj Mogues, et.al. (2009) that stated, the training received through the Farmer Training Centers was rare in general, and women barely engaged in such visits.

Farmers' access to credit

As depicted in Table: 1 above out of the total sampled FHHs 23.9% and 43.7% from MHHs have access to credit service. The statistical results in the table 1 also showed as there is positive and significant difference between female and male farmers in accessing credit service at less than 1% probability level. The result of this research indicated that Female farmers have less access to credit service than male farmers. This results similar to finding of Umunna Nnaemeka, (2010) which state that, 31% of MHH and 17% of FHH of the sample cases involved in credit market, even if women bear better credit risks than men.

Participation on farmers' day

As illustrated in the Table 1 above from the total HHs of FHHs 11.5% and of MHHs 19.4% were participated on farmers' day. The statistical result in the table 1 revealed that, there is positive and significant difference between female and male farmers in Participation on farmers' day at less than 1% probability level. The finding of this study indicated that farmers' participation on farmers' day is low in general and more sever in FHHs participation.

Table: 2 Summary of descriptive statistics for continuous variables on farmers' extension service participation difference.

Variables	Farmers' extension participation d/ce by sex				
	FHHs (N= 113)		MHHs (N= 247)		
	Mean	SD	Mean	SD	t-test
DAs contact with farmers at farm	2.0	1.1	2.3	1.2	2.225**
Farmers' participation on development of extension plan	1.3	.6	2.2	1	11.320***
Farmers attending in group extension meeting	1.99	1	2.43	.8	4.216***

Source: Own computation, (2014)

Frequency of DAs contact farmers at farm

As shown in the Table: 2 above the mean frequencies of DAs contact with farmers at farm were 2.0 for FHHs and 2.3 for MHHs farmers. The statistical results of t-test also indicated that, there is positive and significant difference between female and male farmers in DAs visit farmers at farm in 5% probability level. The mean and t-test results showed that male farmers had better frequency of contact with DAs than the female farmers at their farm.

Farmers' Participation on development of extension Plan

The study results in Table: 2 showed that mean frequencies of farmers Participation on development of extension Plan were 1.3 for FHHs and 2.2 for MHHs. In addition to mean difference t-test results in Table: 2 above revealed that, as there is positive and significant difference between female and male farmers in Participation on development of extension Plan at 1% probability level. This indicated that male farmers had more frequency of Participation on development of extension Plan than the female farmers at the study areas.

The result of this study is agree with that of World Bank and IFPRI (2010); Catherine Ragasa, *et al*. (2012) that stated as Women's access to extension services was also found to be less than for men leading to a plan to develop actions that would make access more equitable in the Growth and Transformation Programm.

Farmers' participation in group extension meeting

As illustrated in Table: 2 the mean frequency of FHHs participation in group extension meeting was about 1.99 with the SD of 1.0 while the mean frequency of MHHs participation in group extension meeting was about 2.43 with the SD of 0.7. The statistical results of t-test in Table 2 showed that, there is positive and significant difference between female and male farmers on participation in group extension meeting at 1% probability level. This revealed that male farmers had better frequency of participation in group extension meeting than the female farmers at the study areas.

3.2. Farmers' participation difference on types of training delivered in the area

Table: 3. Identified participation differences of farmers' on types of training delivered in the area disaggregated by sex

No	Types of extension training	Identified' participation differences on training delivered disaggregated by sex					
		FHHs (N= 113)		MHHs (N= 247)		MHHs + FHHs (N= 360)	
		P (%)	NP (%)	P (%)	NP (%)	P (%)	NP (%)
1.	Use of improved seed (maize, pepper)	32.7	67.26	38.5	61.54	36.7	63.33
2.	Cattle production and management	26.5	73.45	28.7	71.26	28.1	71.94
3.	Soil and water conservation practices	48.7	51.33	48.6	51.42	48.6	51.39
4.	Forest management practices	42.5	57.52	43.3	56.68	43.1	56.94
5.	Poultry production and management	32.7	67.26	19.4	80.57	23.6	76.39
6.	Fertilizer application	34.5	65.49	47	53.04	43.1	56.94

Source: Own computation (2014), P=Participate and NP= Not Participate

Use of improved seeds

As indicated in Table: 3 above out of the total sampled household heads 36.7% of HHs get training on how to use improved seeds (of this FHHs accounted 32.7% and MHHs accounted 38.5%). This indicated that majority of sampled HH heads 63.3% (of which 67.3% of FHHs and 61.5% of MHHs) did not obtained training on how to apply or use of improved seeds. This showed that, in general there was less participation of all farmers on training delivered on how to use improved seeds in general and more sever for female farmers at the areas. This result similar to the finding obtained by Bedru Hassen (2011) that stated from the study results 47.9% of women had training on agricultural technologies. But this figure indicates that relatively there is less access of agricultural training for female farmers in the study area.

Cattle production and management

As showed in Table: 3 above, out of 360 of the total sampling frame, 28.1% (of which 26.5% FHHs and 28.7% MHHs) were obtained training on cattle production and management. However, from the total respondents 71.9% (of which 73.5% FHHs and 71.3% of MHHs) of farmers did not obtained training on cattle production and management. This showed that, the delivery of training on cattle production and management was low for both MHHs and FHHs in general and very low for female farmers in the study area.

Soil and water conservation practices

As revealed in the Table:3 above from the total HH heads 48.6% (of this MHHs 48.6% and from FHHs 48.7%) have obtained training on SWC practices, but 51.4% (from MHHs 51.4% and from FHHs 51.3%) did not obtained training in the study areas. The results showed that relatively there was comparable participation of FHHs and MHHs for training delivered on SWC practices in the areas.

Forest management practices

As depicted in Table: 3 above from the total respondent FHHs 42.5% were obtained training and 57.5% did not obtained training on Forest management practices whereas, out of the total sampled MHHs 43.3% were obtained training and 56.7% did not obtained training on Forest management practices at the study areas. This showed that FHHs were less participated in training delivered on Forest management practices than MHHs in the study areas.

Poultry production and management

Information collected on training delivered to respondents on Poultry production and management in Table: 3 disclosed that, 32.7% of FHHs and 19.4% of MHHs were obtained training on poultry production and management practices. However, 67.3% and 80.6% of the respondents did not get training on poultry production and management respectively. This indicated that, the delivery of training on Poultry production and management was low in general for all farmers in the study areas and more sever for Female farmers.

Fertilizer application

The study results in Table: 3 revealed that from the total HHs 43.1% (of which 34.5% FHHs and 47% of MHHs) were obtained training on fertilizer application. However, 56.9% of total sampled HHs (of which 65.5% FHHs and 53% of MHHs) were not get training on fertilizer application. This showed that FHHs were less participated in training delivered on fertilizer application than MHHs in the study areas.

4. Conclusion and Recommendation

From the finding of this research, its concluded that as there was positive and significant differences between female and male farmers' participation in extension service delivered at the study areas. The results revealed that female farmers were less participated than male farmers on training delivered in the areas on; how to use of improved seeds, Cattle production and management, Soil and water conservation practices, Forest management practices, Poultry production and management, and Fertilizer application. Female farmers are more confined to their localities than male farmers, training at their areas are best and suitable extension methods to reach female farmers for technology dissemination by extension training and services through practical observation and demonstrating farmers. Therefore, it is recommended that extension planner, local leaders and DAs should have to consider and develop gender aware extension training plan by due attention to female farmers for participating them in these types of training at the areas.

5. Reference

Amsalu Bedasso. 2008. Determinants of Farmers' Innovativeness in Alaba Special Woreda, Southern Nations, Nationalities and Peoples Region, Ethiopia. M. Sc. Thesis, Haramaya University.

ATA. 2013. Input use in Ethiopia: Results of the 2012 ATA Baseline Survey

Awol Zeberga, 2010. Analysis Of Poultry Market Chain: The Case Of Dale And Alaba 'Special' WoredaS Of Snnprs, Ethiopia. M.Sc. Thesis Haramaya University

Bedru Hassen Ergicho, 2011. Practices and Challenges on Economic Empowerment of Rural Women in Halaba Special Woreda S.N.N.P.R. Ethiopia. M.Sc. Thesis, Indira Gandhi Open University.

Buchy, M., and F. Basaznew. 2005. Gender-blind organizations deliver gender-biased services: The case of Awasa Bureau of Agriculture in southern Ethiopia. Gender, Technology and Development. DOI: 10.1177/097185240500900204 Gender Technology and Development July 2005 vol. 9 no. 2 235-251.

Catherine Ragasa, Guush Berhane, Fanaye Tadesse and Alemayehu Seyoum Taffesse. 2012. Gender Differences in Access to Extension Services and Agricultural Productivity. Ethiopia Strategy support program II. ESSP Working Paper 49.

Central statistical Agency. 2002. Population survey of Ethiopia

Cristina Manfre, al.et. 2013. Reducing the Gender Gap In Agricultural Extension And Advisory Services. How to Find the Best Fit for Men and Women Farmers. Modernizing Extension Advisory Services, Discussion Paper 2. Available at

https://www.google.com/search?q=Cristina+Manfre%2C+al.et.+2013.+Reducing+the+Gender+Gap+In+Agricultural+Extension+And+Advisory+Services.+&ie=utf-8&oe=utf-8. Accessed in March, 2014.

Duvel, GH. 1999. Institutional Structures for Participation, Empowerment and Ownership in Agricultural and Rural Development. South African Journal of Agricultural Extension, Volume 28.

Fatima Abdalla Suleiman and Awadalla Mohamed Saeed. 2013. Factors Affecting Women's Access to Agricultural Services And Farm Income in Sennar State. 3rd International Geography SymposiumGEOMED 2013. Available online at http://web.deu.edu.tr/geomed/proceedings/download/025_GeoMed_2013_Proceedings_235-242.pdf. Accessed in May, 2014.

Halaba Bureau of Agricultural Office. 2013. General information of the Woreda.

Hopkins, D., West, M. and Ainscow, M. (1996) Improving the Quality of Education for All: Progress and Challenge. London: David Fulton Publishers Ltd.

Messay Tegegne (2012) An Assessment on The Role of Women in Agriculture in Southern Nation Nationality People's Region: The Case of Halaba Special Woreda, Ethioa. Available online at https://cgspace.cgiar.org/bitstream/handle/.../ thesis_messay tegegne . Accessed in May, 2013 Muhammed Urgessa, 2011. Market Chain Analysis Of Teff And Wheat Production In Halaba Special Woreda, Southern Ethiopia. M.Sc. Thesis Haramaya University

Pallant, 2001). SPSS survival guide : a step by step guide to data analysis using SPSS (version 10). St Leonards, N.S.W. : Allen & Unwin.

Rebecca Holmes and Nicola Jones (2009). Gender inequality, risk and vulnerability in the rural economy: re-focusing the public works agenda to take account of economic and social risks.

Tewodaj Mogues, Marc J. Cohen, Regina Birner, Mamusha Lemma, Josee Randriamamonjy, Fanaye Tadesse and Zelekawork Paulos (2009). Agricultural Extension in Ethiopia through a Gender and Governance Lens. Discussion Paper No. ESSP2 007

Umunna Nnaemeka Opara. 2010. Personal and Socio-Economic Determinants of Agricultural Information Use by Farmers in the Agricultural Development Programme (ADP) Zones of Imo State, Nigeria.

Wakweya Tamiru Yada. 2004. Gender difference and its impact on agricultural Productivity: the case of Wenchi district in South West Shoa Zone, Ethiopia. MSc Thesis, Alemaya University, Ethiopia.

World Bank, FAO and IFAD (2009). Gender in Agriculture Source book. The World Bank, Food and Agriculture Organization of the United Nations, and International Fund for Agricultural Development, Washington, DC. Available online at http://go.worldbank.org/5Z9QPCC7L0. Accessed in May, 2013.

World Bank. 2008. Enhancing Agricultural Innovation: How to go beyond the strengthening of research systems. Washington, D.C.: World Bank.