

# The Role of Gender in Agricultural Development and Food Security: The Case of Halaba and Gedeo Areas of Southern Ethiopia

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**Abstract:** Although the role of gender play a great role in the livelihoods of greater portion of rural households in the study area, the participations level on the activities of the agricultural production is little focused. This study, therefore was designed to assess gender participation and integration constraints in Gedeo and Alaba Zones in southern Ethiopia. The study was designed in cross sectional design. The data were collected in two zones, 3 woredas, and 8 rural kebeles. Samples who randomly selected were 86 men and 69 women farmers a total 155 farmers were selected so as to collect the required data through triangulation of different tools, which are key informants interview, focus group discussion and household survey and the data was analyzed using descriptive statistics, participation index scoring and ordered logit analysis. Based on the data analysis result frequency of men and women participation in selected agricultural practices were computed. There were six gender participation factors evaluated in descriptive statistical tools, based on the respondents, 118(76.2%) respondents believed that community norm can affect the participation of gender in agricultural practice and 1(0.6%) respondent believed that cultural norms couldn't affected by community norm. The average task share of the household is 30%, 15%, 43% and 12% for men, boy, women and girl, respectively. Women and men performed larger share of the gender role in rural household as compared to boys and girls. The reproductive work of women in the household covered 67% of the total household care work. Generally the gender participation index was 73.8 which indicated that the gender participate on all agricultural activities but concerning to women it needs effort to amend the factors affecting women participation. Even though the gender role of boys and girls in selected agricultural commodities is very low, they were highly engaged in their academic persuasions in school and at home. According this statistical result household members spent agricultural labor hour in differently, as converted this labor share in to daily labor hours indicated that women, men, boys, and girls are spending 10, 7, 4 and 3 hours per day on average, respectively. Results obtained from the ordered logit model indicated that institutions, awareness level, opportunities to agricultural extension, credit access, education level and land size showed positive significant relationship with their gender participation in farming activities Women are just as efficient agricultural producers as men and can achieve similar yields when given access to resources, including training and services. Therefore, increasing the opportunities for women and youths can have a powerful impact on productivity and agricultural-led growth and are recommended for better rural development.

**Keywords:** Influencing/affecting Factors, gender role and gender Participation, selected agricultural practices, participation index.

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## Research Paper

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## 1. INTRODUCTION

### 1.1. Background and Justification

In eastern and southern Africa, agriculture keeps up to be a main engine for national and regional economies, stands for a significant source of income and

ensures food security and nutrition. However, as erstwhile commonly renowned, gender inequalities in access to and control over productive and financial resources hold back agricultural productivity and reduce food security (UN, 2015). Women's activities in

agriculture are differentiating by global gender gap in vulnerabilities, access to resources, and productivity. As a result of these differences, men and women farmers in developing countries; especially, in Ethiopia have different opportunities and abilities to adopt and adapt new technologies and climate changes respectively.

According to World Bank group report (2019) in Ethiopia, the participation of men and women has been addressed that from 2011 to 2014 the engagement of men 59% and women 41% and from 2015 to 2016 men 57% and women 43% correspondingly. Although gender participation in agricultural production increasing in slight progress, access to and control over improved agricultural technologies is not fair and equal. Thus, the research output testifies that women are victims of poverty as compared to men, that is, they are not equally benefited from agriculture.

Hence, the view of gender is given attention in agriculture due to the persistence of differentials in contribution and benefits from agricultural activities between men and women.

Most studies on gender division of labor in agricultural sector in Ethiopia revealed that 77 percent of labor and time inputs required for livestock production produced by women (Wodenesh, 2000). Resulting from these situations, role of gender participation contribution to agriculture and other sectors in the economy remain concealed and not being fully recognized. In addition to this, the major constraint for the effective recognition of rural women's, girls and boys actual roles is the scarcity of gender-disaggregated data available to planners and policy makers in the Afar region. However, contrary to rural women, there are considerable research findings (Reshid, 2004; Getaneh, 2006; Ametemariam, 2009) on the roles gender participation, especially of women farmers in crop production and household economy where their importance is widely recognized and lesson are emerging about how best to reach and support women farmers through these interventions.

Nevertheless, the government policy intervention aimed at improving the livelihood and food security conditions of rural communities do not consider their specific roles, responsibilities, constraints and concerned a one size fits to all approach has been implemented for all women and the same as men. In spite of this, rural women are continued to have limited access to credit, health, training and extension services in the area that already lag far behind the provisions available in other parts of the country. Particularly, the rural women's discrimination is doubled; hence they have less opportunity than rural men to participate in the decision that affects their lives and livelihood (Kipury & Ridgewell, 2008). The last concept that demands definition is Gender analysis, as it is the main tool of analysis adopted in this study. According to a definition given by Miller and Razavi (1998) gender analysis is a

systematic gathering and examination of information on gender differences and social relations in order to identify understand and redress inequities based on gender. Gender analysis is a valuable descriptive and diagnostic tool for development planners and crucial to gender mainstreaming efforts. The methodology components of gender analysis are shaped by how gender issues are understood in the institution concerned. There are a number of different approaches to gender analysis, including the Gender Roles and participation in agricultural practices, a tool that is focused in this study.

Therefore, there is a need to contribute to efforts of filling this gap by doing more in-depth gender analysis research in order to value women's and youth's potential role in rural household livelihood and the constraint that limit a rural gender segments ability to break the vicious circle of poverty trap. This study was intended to identify gender roles, gaps on participation and benefits from agricultural technologies and to explore the intra-household interaction in relation to access to and control over resources, assess the major socio- economic and institutional factors that affect women's potential role in enhancing and sustaining their households food security, explore specific gender issues in crop production, animal husbandry, and natural resources management in overall gender development and economic growth; and it evaluates the productivity differences among men, women and youth farmers and evaluate the level of benefits obtained by male and female farmers from agriculture sector.

## 2. METHODOLOGY

### 2.1. Description of the Study Area

The study conducted in selected woredas of Alaba and Gedeo Zones, Southern Ethiopia. The 2007 Census conducted by the CSA of Ethiopia reports Gedeo Zone has a total population of 847,434, of whom 424,742 are men and 422,692 women; with an area of 1,210.89 square kilometers, Gedeo has a population density of 699.84. While 107,781 or 12.72% are urban inhabitants, a further 39 individuals are pastoralists. A total of 179,677 households were counted in this Zone, which results in an average of 4.72 persons to a household, and 172,782 housing units. According to a May 24, 2004 world Bank memorandum, 11% of the inhabitants of Gedeo have access to electricity, this zone has a road density of 231.7 kilometers per 1000 square kilometers (compared to the national average of 30 kilometers), the average rural household has 0.3 hectare of land (compared to the national average of 1.01 hectare of land and an average of 0.89 for the SNNPR) and the equivalent of 0.2 heads of livestock. 19.6% of the population is in non-farm related jobs, compared to the national average of 25% and a Regional average of 32%. 65% of all eligible children are enrolled in primary school, and 17% in secondary schools.

Based on the 2007 Census conducted by the CSA of Ethiopia, Alaba Zone has a total population

of 232,325, of whom 117,291 are men and 115,034 women. With an area of 994.66 square kilometers, Halaba has a population density of 233.57; 26,867 or 11.56% are urban inhabitants. A total of 49,028 households were counted in this Zone, which results in an average of 4.74 persons to a household and 47,205 housing unit (*source: Wikipedia, the free encyclopedia*).

**2.2. Method of Data Collection**

Both primary and secondary data were collected. The primary data were collected from selected

farm households in the study area through a structured questionnaire. Prior to the collection of main data, Qualitative information gathered via informal surveys such as Focused Group Discussion (FGD) and Key Informant Interview (KII) conducted to gather extra information in order to strengthen the study. During the FGD and KII discussion, the gender role and its impacts on agricultural practices were determined.

**Table 1: Sample Distribution by Zone, Wereda and Kebele**

Zone	Wereda	Kebele	Number of Respondents
Gedio	Dila zuria	Chichu	58
		Andida Gola	36
	Yirga chefe	Wegida	
Halaba	Woirra	Qonga	61
		Tach Bdene	
		Habibo Alem tena	
<b>Total sum</b>			Women= 69 Men = 86

} = 94  
} = 61  
} = 155

**2.3. Review of Secondary Sources**

Based on the nature of the research topic, secondary data were collected from desk review or document review in order to utilize as a supportive source of data. The documents and research outputs of the GOs as well as NGOs were engaged in the research activities related to women's role in agricultural practices and gender issues. The author reviewed in order to complement the data gathered during the field investigation. In addition to these, other sources of information that are found at different documentation centers, internets, books and proceedings were also reviewed and incorporated with this report in order to further enrich the research findings

**2.4. Data Analysis**

In order to meet the research objectives, the present study used both descriptive and gender analysis framework techniques. The descriptive statistics such as mean, standard deviation, mean difference, frequency distribution and inferential statistics such as t-test were used to analyze the quantitative data. More specifically, the limited quantitative information is gathered through structured interview schedule, analyzed with the help of computer software such as Excel and Statistical Package for Social Sciences (SPSS). The data are depicted using statistical techniques such as frequency distributions, tables and simple measures of dispersion specifically ranging using percentiles and/or counts. Explanation has provided to clarify information on observed data. The respondent was asked to what extent they are participating in those activities. This was based on their intervention as always, often, sometimes, rarely and

never. Point was awarded for each response with sufficient scoring values as 4, 3, 2, 1 and 0 respectively. The frequency counts of responses were recorded to compute the Participation Index (PI) of a respondent on gender issues for each of the selected activities. Then Participation Index for each individual activity had been computed by using the following formula;

$$PI = (N1 \times X1) + (N2 \times X2) + (N3 \times X3) + (N4 \times X4)$$

Where,

- PI=Participation Index for different activities of participation in the agricultural practices
- N0= respondent who never Participate
- N1= Respondent who participate rarely
- N2= respondent who participate some times
- N3=respondent who participate frequently (often)
- N4=farmer who frequently Participate always

The Participation Index described above expresses to what extent respondents are involved in each activity of a given agricultural works. But in order to measure the status of respondents' participation in agricultural works as a general, the scores of these activities were calculated for each respondent and converting them in to significant index value as Tilahun (2008) and Roman (2010). The study have a categorical or ordered nature of data, So that, the Ordered logit regression models have been widely used to analyze such types of data and used (Liao, 1994).

**Categorization of GPI**

The GPI value calculated in a particular gender participation in different agricultural Practices was categorized into three categories suggested by Bagdi (2002), and based on the normal distribution curve

values. The index was constructed using a 3-point likert type scale after Ayoade, Ibrahim and Ibrahim (2009). The 3- point scale was weighted for gender segments in order of importance as table below.

**Table 2: Normal distribution of the gender according to Participation Index (PI)**

Normal distribution curve range	GPI value range category	Gender participation level
< Mean – S.D.	0 to 36.13	Low
Mean – S.D. to Mean + S.D.	36.14 to 71.26	Moderate
> Mean + S.D.	71.27 to 100	High

**Ranking of Farm Activities Based on Gender Participation Index (PI)**

Result showed that the average participation in marketing and control over resources by male farmers was the highest followed by participation in land preparation activities and weed management which are mainly outdoor activities. Participation in poultry rearing by male farmers placed in the last position. In case of female farmers, participation was the highest in poultry rearing operation followed by large and small ruminants’ management and rearing, which are homestead activities. They participated lowest in land preparation. Thus, it showed that gender participation role in land preparation phase is low. It was computed as 73.8 percent (table). This showed that the level of gender participation on Agricultural activities in the study area fall within high level category.

limited because of limited focus, gender equality issue is not considered and aware, no gender bases training on agricultural commodity packages. Additionally, limited gender officer assignment at regional and kebele level to implement focus on the gender sensitive issues.

**Agricultural Activities:** Sowing, transplanting, weeding, irrigation, fertilizer application, plant protection, harvesting, winnowing, storing etc of Barley (Gedeo) and Maize (Halaba).

**Domestic Activities**

Cooking, child rearing, water collection, fuel wood gathering, Generally, the overall gender participation index on Agricultural practices in the study area household maintenance, cattle management, fodder collection, milking etc. Mainly rural women are engaged in agricultural activities.

There is a limited information on gender potential on agricultural sector and their involvement is

**Table 3: Normal distribution Analysis of the gender according to Participation Index (PI)**

Selected farm activities	PIM	R	PIW	R	PIB	R	PIG	R	PI	R	Over all
Land preparation	26.80	3	12.34	11	17.12	4	6.95	9	62.5	11	73.8
Seed/fertilizer sowing	26.41	9	18.10	7	19.11	3	6.12	10	69.74	7	
Weed management	23.12	4	18.00	8	21.01	2	15.05	4	77.18	5	
Harvesting	24.01	6	17.01	9	13.13	7	8.90	7	63.05	10	
ansporting	21.91	8	22.06	5	13.11	6	11.00	6	68.08	8	
Threshing	19.00	10	16.33	10	18.23	5	14.23	5	67.68	9	
Livestock	21.52	7	31.71	2	12.81	8	16.04	3	82.08	3	
Shoat	23.09	5	29.01	3	21.07	1	21.55	2	80.43	4	
Poultry	8.09	11	33.01	1	12.21	9	29.34	1	82.65	2	
Marketing	32.05	2	20.11	6	12.00	11	9.05	8	73.21	6	
Control over	42.12.	1	26.09	4	12.11	10	5.11	11	85.43	1	

**Data source:** HH survey data, 2021/22

PI = Participation Index of all farmers, PIM = Participation Index of male farmers. PIW = Participation Index of female farmers, PIB- Boys, PIG=girls, R = Rank order

**Table: Variable and hypothesis**

Dependent variable	Unit	Description
Participation	Dummy	1 participant 0, otherwise
Age	Continuous	+/-
Sex	Dummy	+
Education	Continuous	+
climate	Dummy	+/-
institutions	Dummy	+
poverty	Dummy	+/-

Dependent variable	Unit	Description
Social cooperation	Dummy	+
Land size	Continuous	+
Income	Continuous	+
Opportunities	Continuous	-
Family size	Continuous	+
Awareness level	Continuous	+

### 3. RESULT AND DISCUSSIONS

The result in table below shows that the average land size in ha between woredas is 0.912 and the family size average is of five. The average annual income of the respondents in the study area is 11,000 spends by

farmwomen in household and agricultural activities. In the peak season an active farmwoman spends five to nine hours per day on the farm. Agriculture and allied activities almost take the equal time and energy with household activities.

**Table 4: Demographic Characteristics of study districts**

Characteristics of respondents	Mean	Minimum	maximum	SD	P-value
Land size in ha	0.912	0.03	4	-0.73	0.09 **
Family size (in number)	5	1	14	6.63	NS
Age in years	25	20	50	10.09	NS
Marital status	3.5	1	5	1.08	NS
Occupation	4.1	4	10	1.75	NS
Total annual income	11,000	1000	150,000	149	Ns

Source: HH survey, 2021/22

Results from FRG and KII on Gender and Roles in Agricultural production shows that, there is a limited information on gender potential on agricultural sector

and their involvement because of limited focus, gender equality issue are not aware, no gender bases training on agricultural commodity packages.

**Table 5: Welfare status between respondents**

Welfare status	% of responses		
	% yes	% No	% Undecided
Agr. practices Encourage gender	102	51	2
Fair benefit to gender	107	48	
Improve nutrition of household	94	61	
Getting agr. technology equally	120	35	
Equally participate in crop, Livs,NRM	116	39	
Generate income from agr. technology	90	58	7
Spent equal on farming	57	96	2

Source: survey data, 2021/22

The Majority of the respondents agree that the welfare status of gender in agricultural works and their participation aware and they don't agree that the time

spent between male and female in agricultural works are not equal, regarding the nature and the maternity case.

**Table 6: Participation category between gender segments on agricultural research, extension and technology demonstration**

No	Variables	Participation Categories					Total	$\chi^2 -$ value
		Never	rarely	Sometimes	Often	always		
1	Gender included agr. research activities	21	29	55	22	27	155	0.090
2	Gender participate in field/farmers day	62	37	19	25	12	155	0.21***
3	Training	39	31	43	36	6	155	0.054
4	Participate in technology demo	27	21	47	39	14	102	0.061

As it was discussed with key informants, the men farmers and households more participate on agricultural trainings and technology demonstration than others. The significant test indicates that more of the sample respondents are aware on including gender on

agricultural works and gender participation and has more accesses to the training, technology demonstration, but they not satisfied and aware on field day participation which is provided by the agriculture office and other organizations.

**Table 7: Agricultural opportunities for respondents based on gender**

S. No	Participation Opportunities	S.disagree	disagree	Indiffer	agree	S.agree	Mean score
1	Women and men on Farmers training	25	35	13	55	22	3.71
2	Men Training on technology demo	14	19	15	76	30	4.50
3	Youth training on technology demo	20	69	18	34	21	3.50
4	Men participation on technology demo	10	23	15	91	16	3.96
5	Women on technology demo	17	61	24	40	14	3.32
6	Youths on technology demo	29	41	19	51	12	3.00

The respondents agreed that the men farmers awareness and participation on training and demonstration participation and it scores (4.5), which means, 1.5 is a narrow disparity between men and youth

(boys and girls) and 0.79 between women's. As it was discussed with key informants, and FGD, the men farmers and households more participate on agricultural trainings and technology demonstration than others

**Table 8: Gender segments in crop commodities (maize& Barley) between woredas**

Woredas					
Roles	G.Segments	Dila zuria	Halaba	Total	X <sup>2</sup>
N		61	94	155	
Productive roles of crops	men	51	68	129	23.6
	boys	39	66	105	
	women	33	49	82	
	girls	21	26	47	
Large ruminants	men	41	59	100	11.01
	Women	49	62	111	
Poultry	Men	29	43	72	0.89**
	women	47	68	115	
Shoats	Men	43	51	94	0.69**
	women	49	62	111	
Asses to assets usage	men	50	71	121	0.196*
	boys	31	21	52	
	women	39	53	92	
	girls	17	20	37	
Control over assets-decision	men	43	69	112	10.09
	boys	18	31	49	
	women	42	59	111	
	Girls	18	25	43	

\*\* - Women significantly participate more than men, \* - Women participate significantly equal

**Table 9 Gender Division of labor in Reproductive Activities**

Activities type	Level of participation			
	Men	Women	Girls	boys
Fetching water	2	5	5	3
Fuel wood collection	2	5	5	3
Food preparation	2	5	5	2
House cleaning	2	5	5	2
Washing cloths and dishes	2	5	5	2
Milk Processing	2	5	3	1
Childcare	2	5	5	3
Care of Elderly and Sick	2	5	3	3
House construction	5	3	1	4
<i>Source: Survey data (2021/22)</i>				

**Note:** 5 = Most involved, 4 = more often involved, 3 = Sometimes involved, 2 = rarely involved, 1 = not involved: those activities identified through discussion with both women and men (triangulated).

Reproductive activity is mostly associated with domestic chores, which include all activities carried out around the homestead and in the house.

#### Access to and Control over Resource and Benefit

Access indicates the opportunity to use a resource or benefit without limitations to make use of it. Control represents the full authority to make decision about the use of resources or their benefits. It is the

assumption that, improving access to economic capital, gradually improves capacity of women that would contribute to livelihood strategies in order to achieve remarkable outcomes including increased income,

enhanced self-confidence and empowerment. Table provides us with more figures on access to and control over in various household resources and support service according to their gender in the study area.

**Table 10: Access to resource control between two gender segments (men and women)**

Major economic resources	Access		Control	
	Women	Men	Women	men
Income from sale of crop production	2	5	3	5
Income from sale of livestock	2	5	1	5
Income from sale of poultry	5	3	3	3
Income from sale of shoat	4	3	4	4
Income from sale of livestock products	5	2	5	1
Income from some off farm activities	5	4	3	5
Annual incomes	3	5	3	5
Training /education	2	4	2	4
Information	4	4	2	5
<i>Source: HH survey data (2021/22)</i>				

*Note: 5 = Most access and control 4 = intermediate access and control 3 = some access and control 2 = Limited access and control 1 = No access and control*

### Social Setting

According to the survey data from study districts triangulated with FGD and KII, the male and female members of the society have distinct positions in which males are relatively dominant in position than females. During data collection time, researchers observed that the social setting of households depends on both Men and women of which men dominates.

### Economic Setting:

#### Livestock Holding

The livelihoods of the rural community are mainly dependent on livestock production and their contribution for household's economy is enormous. Major Livestock that had owned by the sample households include cattle, sheep, goat, poultry and donkey.

### Domestic Workload of Women

**Table 11: daily activity calendar of women with respect to men**

Daily activities	women																	
	Time hours																	
	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	
Breakfast preparation	x																	
Cleaning house		x	x						x						x			
Making coffee	x	x								x								
Fetching water		x								x	x							
Collecting firewood		x		x			x				x							
Milking Animals	x							x							x	x		x
Milk processing			x													x	x	
Serving meal for family	x					x					x	x						
Grinding grain				x					x	x								
Harding sheep and goat	x					x			x	x		x	x					
Caring of children's	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

*Source: survey date, 2021/22*

The daily activity calendar of this study shows that almost all rural women wake up early in the morning at 6 am and they undertake their domestic role throughout the day without any rest until 10 pm (i.e. 17hr/day). As can be seen in table, rural women are restless and busy throughout the time. Although the activity calendar table depicts domestic chores that are undertaken on daily bases, there are also other domestic tasks performed by rural women, such as: washing cloth,

marketing tasks, taking care of elders, cleaning and maintaining and so on.

It has reported that domestic task including constructing house from local materials and control over activities and follow up, and field works which are mainly performed by men due to cultural influence (PCDP, 2005). This is in support of the view of Wude (2006) that more time is spent in less productive activities (which have less economic value) hence, she

losses other important opportunities and has got less time to involve in off-farm activities, too. Therefore, this study concluded that heavy burden of work and double responsibilities of the rural women in and outside the house has been limited their time availability, mobility and involvement in other economic activities. This, in turn, affects their lives and capacity to improve and sustain their livelihood that can lay the bases for ensuring household food security.

### Multi-Dimensional Role of Women

**Agricultural Activities:** Sowing, transplanting, weeding, irrigation, fertilizer application, plant protection, harvesting, winnowing, storing etc.

**Domestic Activities:** Cooking, child rearing, water collection, fuel wood gathering, household maintenance etc.

### Allied Activities

Look after cattle and Cattle management, fodder collection, milking etc. Mainly rural women are engaged in agricultural activities in three different ways depending on the socio-economic status of their family and regional factors. They are work as: Paid Laborers and Cultivator. Managers of certain aspects of agricultural production by way of labour supervision and the participation in post harvest operations.

### Main Obstacles in Women Growth in Agriculture Sector

There are a few agricultural resource owner women such as land, animals, and machinery. Women involved in limited decision making process, either inside or outside home. Women perform all un-mechanized agricultural tasks and perform multiple tasks, which add more burden to them. Women workers in agriculture suffer from high illiteracy rate among them and drop-out of schools. Women earn fewer wages, especially in joint, informal and private sector. Women do not know their legal rights.

### Factors Affecting the Gender Participation in Agricultural Practices

As the data analysis result shows that the most of the respondents were evaluated the expected gender participation determinant factor in selected agricultural practices, the expected factors for gender participation were questioned in the form of tri-polytomous scale that is 'yes', 'no' and 'undecided' and the collected data was tested in econometric ordered logit model as the dependent variable was gender participation agricultural practices. The maximum likelihood estimates of the parameters on the factors influencing the gender/females participation are presented. The data analysis result was described in table 11 below.

**Table 12: Relationship between the dependent and independent variables**

Independent variables	Coefficient	Std. Error	Wald	Sig.
[Intercept = P1]	12.074	.927	169.506	.000
[annual income=1]	-.110	.494	.049	.824
[opportunity=1]	-.125	.478	.069	.079**
[climate=1]	.212	.470	.204	.654
[institutional norm=1]	-1.060	.489	4.707	.030**
[poverty=1]	.248	.491	.254	.614
[social cooperate=1]	.076	.562	.018	.892
[land size=1]	16.051	.591	736.593	.000**
[education=1]	-1.425	.519	7.545	.006**
[age=1]	-.661	.628	1.107	.293
[family size=1]	.543	.599	.820	.365
[credit access=1]	-2.280	.627	13.242	.000**
[awareness level=1.00]	-.779	.492	2.502	.014**

Pseudo R<sup>2</sup> = 0.361

Significant at \*\* 1% level of probability

Accordingly the data analysis result institutional, awareness level, opportunities to agricultural extension, credit access, education level and land size showed positive significant relationship with their gender participation in farming activities. The result was quite logical because more farm size facilitated them to participate in farming activities. Social cooperation had significant positive relationship with participation of farmers in farming activities.

It was so because cooperation from family members, neighbors, relatives, etc. helped them to

continue farming activities even in the scarcity of farming inputs as also found by Aktaruzzaman (2006). Farmers' participation in farming activities were increased with the increase of access to community facilities like marketing of farm produces, availability of seeds, fertilizers, pesticides, irrigation water, etc. because these were directly influential to the farming activities. Knowledge of the farmers on organic farming has created an opportunity for them to have exposure on additional farming practices. Furthermore the community norm of rural areas recognized women's contribution in agriculture it can pave the ways for



gender participation. In the same way when there is applicable policy, well-functioning institutions leadership commitment for credit facility and availability of cash in micro-financial institutes and government provision gender participation is highly enhanced in agricultural sector. Similarly when the welfare of the rural household maintained, the gender participation in agriculture is positively increased. This means that when improved agricultural technology accessed to women and youths the productivity of households' increased that can have helped rural households to produce sufficient and diversified food year round, and can attain food security of the family. This has a significant effect on the health of rural households in turn participation and productivity of gender in the sector. Welfare in this gender research perspective indicated that obtaining fair benefits, improved food, devotion of their time in respect to agriculture and getting diversified food availability in rural households.

### Community Norm

Among 155 respondents, 118(76.2%) respondents believed that community norm can affect the participation of gender in agricultural practice and 1(0.6%) respondent believed that cultural norms cannot be affected by community norm however 36(23.2%) respondents responded as undecided on the effect of community norm in relation to gender participation in selected agricultural practices in the study area.

### Institution

In respect to institution contribution 38(24.5%) respondents believed that institutional factor has negative effect on gender participation however 82(53%) respondents confirmed that it has no negative effect on gender participation in the study area. On the other hand 35(22.5%) of the respondents chose the response undecided on the effect of institutional factors on gender participation.

### Decision Making

Of the 155 respondents 118(76.2%), 0(0%), and 37(23.9%) were responded 'yes', 'no' and 'undecided' the decision making as a factor on gender participation in agricultural practices which can affect, not affect and undecided on the effect of household decision making on gender participation agricultural practices in the stated order.

### Rural credit Service

Within the total of 155 respondents 117(75.5%), 3(2%) and 35(22.5%) were responded 'yes', 'no' and 'undecided' the credit as a factor on gender participation in agricultural practices which can affect, not affect and undecided on the effect of credit on gender participation agricultural practices, respectively.

**Descriptive and non- parametric statistical summary on factors affecting gender participation**

Factors	wom	norm	instut	oppor	decimak	credit
intercept	1.0000 155					
norm	-0.6512* 155 0.0000	1.0000 1555				
institute	0.6579 155 0.0000	-0.9511* 155 0.0000	1.0000 155			
Different opportunities	0.5427* 155 0.0000	-0.6079* 155 0.0000	0.5454* 155 0.0000	1.0000 1555		
Decision making	-0.6423* 155 0.0000	0.9707* 155 0.0000	-0.9370* 155 0.0000	-0.6091* - 155 0.0000	1.0000 155	
Resource use	-0.6384* 155 0.0000	0.9283* 155 0.0000	-0.9417* 155 0.0000	-0.5302* 155 0.0000	0.9082* 155 0.0000	1.0000 155

As descriptive statistical analysis result shows that there was positive and negative association between dependent variable (women participation) and independent variables (cultural norm, institute, opportunity, decision making and rural credit facility) their association and significant level was observed in table 12 below

Table 12 Descriptive and nonparametric analysis on gender participation affecting factors.

By way of shown in the table 3 above community norm, decision making, and rural credit were negatively associated with women participation in selected agricultural practices. These independent variables association coefficient observed in Spearman association table above cultural norm ( $r = -0.6512$ ), decision making ( $r = -0.6423$ ), and rural credit ( $r = -0.6384$ ) was as spearman description the coefficients were depicted good relationship. And these relations were significant with probability of ( $p < 0.0001$ ) this

indicated that they are significant at 1% confidence level. Therefore government community and kebele leaders should give awareness creation training to improve credit facility and farm community norm. On the other the government should establish availability of rural credit through the establishment of saving and credit association. Government should devise the mechanism to avail financial resources for credit with their land and other properties.

However, the government and concerned bodies should give emphasis on rural community, decision making (Statistical not expected there is no women participation increment but when there positive gender responsive decision practiced, this implied that real understanding of decision making was missed hence there should provision and delivery of farmers training and awareness on the knowledge of men and women in relation to household decision making in the study area.

Conversely, the dependent variable women participation shown positive association with the independent variables which were institution ( $r=0.6579$ ), and opportunity ( $r=0.5427$ ). Moreover these factors were found statistically significant with probability ( $p<0.000$ ) this shown that the association is significant at 1% confidence level. Therefore government and bureau and office of agriculture should promote the existing institutional practices and equal sharing of opportunities between men and women to equal participation of women and men in agricultural selected practices.

#### 4. CONCLUSION

This study confirmed that men and women do not have equal rights in the community. Women shoulder more workload, work for longer hours and bear the responsibility of reproductive as well as productive activities. But they have less access to and control over resources and benefits. They also have poor position in making critical and key decisions regarding the welfare of the household.

Accordingly, poor decision making status and domestic workload of rural women in the household forced to live in subordinate position, that importantly constitute to determine their potential to opt a viable livelihood strategies apart from livestock husbandry.

The rural female work participation rates in study areas and its districts is very low and varies widely among the districts. The disaggregated district level data in study districts exhibits high variations in female participation rates. The real employment status of rural females as measured by coefficient of equality is also low. Although females participate in all agricultural production levels index, interstate disparity coefficient of equality is very glaring.

The above finding clearly brings out the fact that in women in general have low participation in work as compared to males. This participation is conditioned by socio economic characteristic and cultural issues.

These women work either to supplement low household income or to cope up with distress and economic shocks. It seems that the growth of non-farm sector has not benefitted women as much as men.

#### Recommendations

Based on the findings and above conclusion, the following recommendation are forwarded:

- Conduct additional gender-sensitizing programs for policy makers and project implementers.
- Collect gender-disaggregated data on rural and agricultural activities.
- Encourage a more participatory approach, particularly involving more rural women.
- Ensure equitable access to productive resources and extension services.
- Design situation-specific implementation strategies, taking into account the unique socio-cultural and ecological variations of each locality
- Adapt programs to women's needs and skills.
- Allow sufficient time to enable women to acquire new skills and adjust schedules to fit women's existing workloads.
- Provide training in agricultural and other productive activities, not just home and family welfare topics.
- Emphasize activities for which there is an actual income-generation potential.
- Ensure the involvement and full participation of women from poorer and less educated backgrounds.
- Use trainers who are not only technically competent and up-to-date, but who empathize with the needs and aspirations of rural women.
- Provide practical field experience in the use of innovations.
- Shift more resources to village-based training rather than residential training
- Extension services need to be intensified among rural farming households in the study districts and on the region. It is also imperative that the government should design programs and policies with consideration of the gender inclusive.
- The policy needs to be informed to focus about this regional and socio economic characteristics of target groups for a better manpower planning. A spin off of this may result into improvement in women's empowerment. The policy must take cognizance of these variations into account.

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