



## RESEARCH ARTICLE

### WOMEN'S PARTICIPATION IN AND BENEFIT SHARING FROM AGROFORESTRY PRACTICES IN MATTU ZURIA AND GECHI WOREDAS, OROMIA REGIONAL STATE, ETHIOPIA

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#### ABSTRACT

Traditionally, women were not allowed to do certain types of outdoor jobs, and have limited participation and benefit sharing from agricultural and related practices. Thus, this study was conducted to investigate the major barrier and positive lessons of women participation in and benefit sharing from Agroforestry, agriculture, livelihood and conservation practices taking at the Gechi and Mattu woredas. Purposive sampling technique was applied to select six study villages from two woredas, based on their agriculture and agroforestry system and practices in those sites. A combination of household survey, FGD and KII were employed to collect qualitative and quantitative data. Out of 90 participants of the household survey, 52% (47) respondents were female from male headed households, while 48% (43person) were female from female headed household. All (100%) of the respondents confirmed that women in the study areas do participate in different agricultural activities. The majority (80%) of the respondents reported their participation in fruit tree production followed by annual crop farming (69%) and fattening (64%). Equal proportion (62%) of household respondents reported their participation in dairy and poultry production. Moreover, about 35%, 38% and 27% of the respondents agreed the role of women in income generation to the great, medium, and less, respectively. Almost all respondents (96%) perceived that women do benefit from agroforestry and ALC activities they engaged in. About 91%, 57% and 4% of the participants perceived women gain economic, environmental, and socio-cultural benefits from the activities they participated in, respectively. All sources of information identified three major conservation practices implemented in the study woredas namely physical, biological and conservation practices. FGDs and KII reported that women do participate in physical conservation practices such as digging, pit preparation and stone transportation for building structures and biological conservation practices. Household survey respondents reported specific challenges in the communities for taking in tree and tree based value chains and ALC practices including financial shortages (79%), limited access to preferred and quality seedlings (62%) and social barriers/attitude of the community towards engaging women in business (54%). Moreover, the assessment revealed that gender related challenges such as social barriers in gender equity (34%), lack of access to HH resources and empowerment (decision-making power) (29%), limited information access to women (17%), knowledge gap (16%), poor time management (12%) and lack of access to farm inputs (11%) limited their participation in and benefit from agroforestry and ALC practices. About 78%, 76%, 70% and 65% of the household survey respondents reported women's preference to involve in improved avocado, coffee, banana and tree seedling multiplication activities, respectively. Moreover, 52% of respondents have shown preference to engage in the integration of fruit production with annual crop and animal production, 29% in fruit production with Animal production including dairy cows and 11% in fruit production with beekeeping and fattening. Despite the enormous participation and contribution of women to the agroforestry and ALC practices, their resource management and benefit sharing are constrained by gender related challenges. Development practitioners and Government should work towards increasing awareness of communities to improve their attitude towards women's resource management and benefit sharing from the farming and other outdoor activities they participated in. Create access to improved and good quality and preferred planting materials at an affordable price at appropriate time. Development organizations and policy makers strongly focus on green job creation for youth and women

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## INTRODUCTION

Agroforestry is a system of natural resources management that integrates trees on farms and in the agricultural landscape to diversify and sustain production. The World Bank estimates that over 1.2 billion people derive their livelihoods from agroforestry systems (World Bank, 2009). Across Africa, women's participation in agroforestry is integral to the success of the practice, as they play a crucial role in most production systems in the household (Kiptot and Franzel, 2012, Kiptot et al., 2014). Women play an active role in the agricultural sector and constitute the bulk of global agricultural producers (Mulugeta and Amsalu, 2014). Women are also known to be primary holders of knowledge and managers of traditional home gardens, and make up about 60% of the practitioners of innovative agroforestry practices such as domestication of indigenous fruit trees and production of dairy fodder, crop production (World Bank, 2009). For women's income, agroforestry value chains are particularly important, but low access to capital, technology and information, constrain women from developing their enterprises further (Degrande and Arinloye 2014). They also possess wide specialized knowledge about the use and conservation of natural resources (Clarke and Shaw 1999). However, the society development practitioners gave pay them less attention to the efforts women are contributing and do not give them the chance to manage the resource they produced. This study tried to assess, and examine the key barriers and opportunities of women's participation in and benefit sharing from Agroforestry practices in Gechi and Mattu woredas and come-up with recommendations to encourage and acknowledge the responsibility of women in the production, management and benefit sharing from the resource they produce.

## RESEARCH AND METHODS

**Location of the study area :** The study was conducted in Gechi woreda, Buno Bedelle zone and Mattu woreda, Illu-Abborora zone of Oromia regional state, Ethiopia. Geographically, Buno Bedele zone administration is located at latitude of 8° 27' - 8°45' N and longitude of 36° 21' - 36°35' E, with altitudinal range of 1500-2100 meters above sea level (masl), while Illu Ababorora zone found at latitude of 7°27' 40 to 9°20' 10 N and longitude of 34°52' 12 to 41°34' 55E with altitudinal range of 500 - 2575 meter above sea level. The two zones, Buno Bedele and Iluabborora have annual precipitation ranges of 1200–1800 mm and from 1500–2200 mm, respectively. Buno Bedele and Iluababorora zonal administration located at distance of 481 km and 600km from Addis Ababa, respectively. Gechi woreda has 28 rural kebeles with the total population of 83,180, of which, 41,509 (49.9%) are female (Gechi Woreda Agriculture and Natural Resource office data, 2022). While Mattu Zuria woreda has 29 rural kebeles with total population of 91039, of which, 50849(55.8) are female (Mattu Zuria Woreda Agriculture and Natural Resource office, 2022).

**Sample Size Determination and Sampling Techniques:** Purposive sampling technique was used to select the 6 peasant association (PA) from two woredas (Gechi and Mattu Zuria), based on their agriculture and agroforestry system and practices applied in the study areas. Lewis and Sheppard (2006) explained that purposive sampling is most effective when selecting study areas within a cultural domain that

possesses the specific characteristics under investigation. The number of respondents (n) was sampled from each PA purposively based on their status of participation in farming activities. A total of 90 females were selected who are very active in Agricultural activities and active members of different tree and tree based associations (15 female from each kebeles).

**Data collection method:** In order to attain the stated objectives, the assessment team employed both primary and secondary data collection methods. The primary data were collected through household survey, FGD, KII, reconnaissance survey and field observation. Secondary data are very crucial in order to fill information gap from primary data sources. These are published materials, literature review, processing materials and woreda reports on basic data etc.

**Data Analysis:** The data (information) obtained from primary data collection methods (household survey) were analyzed using spread excel sheet and also computed by SPSS statistical software (version 20) and data collected through focus group discussion and key informants interview were analyzed by using the qualitative data interpretation techniques.

### 2.Result and discussion

**Demographic characteristics of the household survey respondents:** Out of 90 female respondents, about 18 (20%) were divorced women, 19 (21%) widow women while 47(52%) of the respondents were married (women in Male headed households) and the rest 6 (7%) were single female respondents. Based on Ethiopian national age structure, about 14% of the household respondents were in the age range of 15-25 years, 40% were in the range of 25-54 years, 31% were 55-64 years old, while the rest 14% were more than 65 years old. About 59%, 30% and 11% of the household survey respondents were primary school, secondary school and illiterate, respectively. Regarding engagement of respondents on livelihood activities, about 96% of the respondents' livelihood depends on farming activities, while about 4% of the respondent responded farming and petty trading as their main livelihood activities.

**Participation of women in agricultural activities:** Regarding women's participation in Agricultural activities, all (100%) of the respondents confirmed that women in the study area do participate on different agricultural activities. Regarding the perception of women's participation in farming activities, about 22%, 60% and 18% of the respondents agreed with high, medium and low level of women participation in agricultural/farming activities such as weeding, plantation of agroforestry trees, animal rearing. The results of the FGD and KII confirmed that women in the study area are participating in various agricultural activities as their male partners; the only farming activity that females were not participated in the study area was oxen ploughing. This finding is in line with other similar assessments conducted by ICARD (2012), UN-REDD (2013) and FAO (2015).

**The role of women in Agricultural livelihood income generation:** Regarding extents of women's role in income generation from farming activities, about 35% of the respondents confirmed that the role of women in agricultural income generation is to great extent; whereas, the remaining 38% and 27% of the respondents agreed the role of women in income generation to be medium and low, respectively.



**Figure 1. Key Informant Interview held at Gixo and Geyi kebeles**

The respondents participated in FGD and KKI confirmed that the role of women in bringing income generation from different agroforestry and agricultural activities were huge. The assessment team observed that women were participating in fruit production like avocado, coffee and different tree seedlings to sustain their livelihood and get benefits from activities both as cooperative members and independently. Similar studies confirmed women's role in agricultural income generation (Meaza (2010), Amarech (2004)). Women generate around 50% of income of the sector by actively participating in production (FAO, 2007).

**Types of Farming activities Women participated in:** The results of the household survey revealed that women are participating in different farming activities in both woredas. About 69% of the respondents confirmed that women do participate in all farming activities except oxen plowing, such as weeding, planting, harvesting and threshing. Majority (80% of household respondents reported their participation in fruit tree production, whereas 64 % of them reported in fattening, equal proportion (62%) of household respondents reported their participation in dairy and poultry production. About 26% of the respondents agreed their participation in beekeeping business.

**The perception and opinions of women on benefit sharing from the practices they managed:** Regarding the perception towards the benefit sharing of women from farming activities they participated in, about 96% of respondents confirmed that women benefited from agricultural practices they managed. Only 4% of the women participants responded as women have no or less benefit from the agricultural activities they participated in. But the FGD and KII participants added that the resources produced both by women and other family members were totally under the control of the husband, which means the resource management is the responsibility of male partner; women have limited role in resource management. The perception and opinions of women toward the feasibilities and importance of the practices they managed are promising to bring the attitudinal changes among their male partners and the society they are living with.

**Conservation practices in the study areas:** The respondents depicted that, about 99% of the participants have reacted positively towards the conservation practices undergoing in their woredas (Gechi and Mattu), while only 1% of the respondents reported that they have no idea about conservation activities. According to the KII with woreda experts, conservation practices started in 2011/12 for the purpose of rehabilitation of the degraded land, reforestation and control of soil erosion.

In this case women participated in physical and biological soil and water conservation activities such as digging, pit preparation stone transportation for the structures and at planting of grasses and trees. Similar studies confirmed the roles of women in conservation activities at different areas. Agarwal, (2009) stated that including local women as knowledge-holders and decision-makers in community based conservation has been linked to improved outcomes globally. On the other hand Bell and Braun (2010), stated women have been influential leaders of grassroots environmental campaigns at local, national, and international level.

**Gender related challenges facing women's participation in ALC:**

In this study almost all (99%) participants of the household survey confirmed gender based challenges to women's participation in tree and tree based ALC activities in their locality, only 1% of the participants responded as of no idea about gender related challenges. Among different challenges reported by participants of the household survey, 34% of the participants responded challenges from society attitude. As per the results from KII and FGD the social barriers in local society have extensively challenging the women's participation in supporting their livelihood through income generation from Agricultural activities. Especially young age women are afraid of the social stereotypes from other community members. Social barriers which hinder the women's participation are the community attitude for women's participation in such field works, lack of permission from their family to engage in such outdoor work, lack of permission for maternity leave (women already organized in different youth association), lack of training and awareness for their husband for the recognition and acceptance of women work, responsibility to care child, especially during breast feeding. About 30% of the participants reported lack of resource management and decision making power due to husband's dominancy in the family (patriarchy system) which needs training and awareness for their husband for the recognition and acceptance of women work, 17% of the participants responded information gap due to lack of women network. About 16% and 12% of respondents reported skill gap and time management as the main gender related challenges. According to the KII and FGD, women allocate time to food preparation, childcare and other household responsibilities in addition to the time they spend in agricultural activities. As per the assessment conducted by Ilahi, (2000) across the woredas and kebeles, time allocation studies have shown that women work significantly more than men if care-giving is included in the calculations. And about 9% of the participants responded as lack of access to farm inputs to diversify the short term income generating activities, purchase farming inputs, like fertilizer and pesticides, purchase the instruments and necessary materials, lack of quality seedlings (coffee), fencing materials, shortage of shade-net and land for production and guarding at night for female members of RRC group.

**The preferences of women for tree species and agroforestry practices:**

As we can understand from both household survey and individual interviews, majority of the respondents reported that women have own interest to engage in different Agroforestry and ALC practices with high value and improved fruit trees such as Avocado, coffee and Banana fruit trees both for fruit production and raising of seedlings. About 79%, 76%, 70% and 69 of the household survey respondents reported their interest to improved avocado, coffee, banana and tree seedling multiplication, respectively. Among

Agroforestry practices listed in the choices, about 52% of respondents have shown the interest to engage into the integration of fruit production with annual crop and fattening, about 29% of respondents shown their preference to fruit production with animal production mainly dairy. The remaining 11% of the respondents reported preference to fruit production with beekeeping and fattening. Only about 3% of the respondents have shown their preferences to other practices like small ruminant animal production such as sheep and poultry. The FGDs and KIIs confirmed that the female's preferences in agricultural activities are fruit production, vegetable production, livestock rearing and home garden agroforestry managements.

## CONCLUSION

### CONCLUSION AND RECOMMENDATION

All sources of information highlighted women's role in agroforestry and agricultural activities to be immense in generating income for their livelihood from the previous ancient time to the present life in both study woredas. In these study areas, women were participating in agricultural activities like fruit and vegetable production, livestock rearing and poultry production, dairy/milk production, home garden and field agricultural practices, and to some extent beekeeping. Both assessment woredas are favorable for agroforestry practices and comparatively there are good practices of women participation in agroforestry to increase household food consumption and income. As per the results of this study women have shown the interest to engage in different Agroforestry and ALC practices such as Avocado fruit production, coffee seedling raising, improved banana fruit production and multiplication and tree seedling rising. The majority (52%) of respondents have shown the interest to engage into the integration of fruit production with annual crop production and animal production mainly fattening.

## RECOMMENDATION

Based on the result revealed, the assessment team forwarded the following recommendations for different development practitioners, policy makers and the community.

- Lack of skill in agroforestry and farming practices and poor access to information were recognized as the limiting factor for women to scaleup the best practices of agriculture and agroforestry practices. Therefore, it is recommended to capacitate the knowledge and skill gaps and improve the access to information through improved networking of women in the community.
- The results of the assessment revealed that despite the active participation of women in agricultural activities, the attitude of the community towards women's resource management is low. Therefore, there is a need for development practitioners and policy makers to strongly work towards awareness creation to bring attitudinal changes within the community/society.
- The results of the assessment concluded that women prioritized their agroforestry technology requirements to be high value fruit trees such as avocado, coffee, banana and vegetables. But their expansion is limited due to the shortage of good quality planting materials and associated

inputs. Therefore, it is recommended to create an improved access of good quality and preferred planting materials at an affordable price and appropriate time.

- All sources of information concluded that agroforestry (the integration of high value fruit trees with agriculture and livestock production) increases the food and nutrition security in addition to ecological and environmental benefits. Moreover, the income from homestead agroforestry benefits more than other agricultural practices as they are the once actively engaged in its management and sale of the products. Therefore, it is recommended for development practitioners and policy makers to promote and advocate for the integration of trees with crop and animal production since such practice is economically profitable, socially sound, ecologically feasible and environmentally sustainable.

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