

# Review on Determinants of Rural Livelihood Diversification Strategies in Ethiopia

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**To cite this article:**

Zelege Zewdie Goba. Review on Determinants of Rural Livelihood Diversification Strategies in Ethiopia. *International Journal of Science, Technology and Society*. Vol. 9, No. 2, 2021, pp. 98-106. doi: 10.11648/j.ijsts.20211002.17

**Received:** October 26, 2019; **Accepted:** November 24, 2020; **Published:** March 26, 2021

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**Abstract:** Driving force of livelihood diversification strategies can be different on the basis of location, assets, income levels, opportunities, institutions and social relations. Determinant Factors that undermine the rural house hold in Ethiopia; Land holding, Labor, financial access, Technology adoption, Water resource, Institutions & Organizations and Education Demographic factor (sex, age, and dependency ratio) and Choice of Livelihood strategies are On -farm activities; Off- farm activities; Non- farm activities and Combinations of two or three of above activities and the finally the outcome; Higher Income level; improved Wellbeing; Farmland scarcity; Agro-climatic condition and Decline in livestock productivity, crop and animal disease; Negative attitude of the society, lack of raw materials, low institutional capacity, lack of time, lack of storage facilities and costly inputs and lack of coordination. Hence, improved food security and sustainable resources utilization was the main of policy makers in the country. But, gender based impact on livelihood diversification option like agriculture; non-farm; off farm and mixed all kind option is common difference in common in many investigation which occurred all parts of Ethiopian regional settlement male and female participation and involvement is differ..

**Keywords:** Determinant, Diversification, On Farm, Off Farm, Non-farm and Rural Livelihood

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## 1. Introduction

### 1.1. Background of the Study

Enough food in terms of quantity and quality for all people is an important factor for a nation to continue its development. Lack of food in long terms will lead to hunger and starvation that can cause death. So that enough food is a necessity condition to be well nourished. In today's world food insecurity, malnutrition and hunger would remain the main agenda and much more serious problems [1].

Undernourished people were estimated to have reached 821 million in the world, which is around one person out of every nine in the world [2]. However, 99% of the food in sub-Saharan Africa is grown under rain fed agriculture. Hence, food production is vulnerable to adverse weather conditions. The reason behind is that there was an over decline in farm input investment including fertilizers, seeds, and technology adoptions. Other causes include rapid population growth, limited access to agriculture-related

technical assistance, underdeveloped agricultural sector and lack of knowledge about profitable soil fertility management practices leading to expansion in to less-favorable lands. Inappropriate governmental policies and institutional weakness are main responsible factors for the recurrence of food shortage or poverty and underdevelopment in general. Whenever food shortage or famine occur in a given country, the government is responsible for either causing the crisis or failing to prevent in developing country [1].

Therefore, the situation in Ethiopia is not much changed from the conditions in other developing country in general.

### 1.2. Importance the Review Study

Ethiopia is a country which resides in sub-Saharan Africa the population of country is more than 112 million. Therefore, the country has multi-ethnic, multi-region, different agro-ecology and different settlement of

population due the reason this livelihood situation also affected different factors. Therefore, the review focus on study of determinants of livelihood diversification strategies is vital because it provides with information that will enable effective measures to be undertaken so as to know how people settle in given area. However, it also differentiates the food security and non-secured area. It will help development experts and policy makers to have better knowledge as to where and how to intervene in rural areas to bring food security or minimize the severity of food insecurity in Ethiopia. Though Ethiopia's economy has been growing at an average rate of 7% in recent years the increasing population growth in rural Ethiopia obliged households to cultivate and make their living on extremely small size of land [3]. According to recent FDRE evidence, nearly 55 percent of all smallholder farmers operate on one hectare or less. This suggests that the necessity of alternative livelihood diversification strategies in on-going rural Ethiopia. However, this helps reducing poverty and food insecurity in rural Ethiopia. Multiple motives prompt households and individuals to diversify assets, incomes, and activities. Diversification may be derived by limited risk bearing capacity in the presence of incomplete or weak financial systems that create strong incentives to select a portfolio of activities in order to stabilize income flows and consumption, by constraints in labor and land markets, and by climatic uncertainty [4].

### 1.3. Statement of Problem

It was found that for a vast majority of the rural population, livelihood diversification was distress driven [5]. Furthermore, due to the insufficient land resource to absorb the household's full labor force and the rain fall pattern variability, the farming households in rural Ethiopia are becoming unable to meet the annual family food requirements. Diversification can assist households to insulate themselves from environmental and economic shocks, trends and seasonality - in effect, to be less vulnerable. Livelihoods diversification is complex, and strategies can include enterprise development. Research into the nature of rural poverty utilizing the livelihoods approach tends to uncover aspects of rural poverty that have not been well understood, or have been neglected in mainstream policy discourses [6]. In addition to these, off farm and non-farm strategies make an important contribution to household incomes. In this regard, interventions that enhance these activities in sustainable manner need to be designed. Other study also conducted by [7] on Household livelihood strategies and forest dependence in the highlands of Tigray mainly focuses on identifying factors that condition a household's livelihood strategy choice with a particular emphasis on forest products. However, the main limitation of the research was it only focuses on a single resource to examine its dependency on Household livelihood strategies. Many researches didn't focus on all livelihood option of rural house hold and their determining factor them choice to

diversify their option. And also does not consider the gender difference and livelihood option so from above gap. As a result, more of them are obliged to engage in low return daily labor works, and the others depend on subsistence agriculture to drive their livelihood. Therefore, as a seminar this review want to achieve the existing livelihood strategies adapted by rural households; factors that determine rural households' decision to choose alternative livelihood strategies in Ethiopia and Review on the gender related impact of rural household livelihood diversification in Ethiopia.

### 1.4. Objectives of the Review Paper

The general objective of this seminar is to review the determinants of rural households' livelihood diversification strategies in Ethiopia

#### *The Specific Objectives:*

- 1) To Review the existing livelihood strategies adapted by rural households in Ethiopia
- 2) To Review factors that determine rural households' decision to choose alternative livelihood strategies in Ethiopia
- 3) To Review on the gender related impact of rural household livelihood diversification in Ethiopia

## 2. Literature Review

### 2.1. Concepts and Definitions

Diversification refers to integrating different sources of livelihood like on-farm with non-farm activities, and combining a variety of non-agricultural activities; and migration refers to seasonal mobility or permanent change of place of residence in search of better sources of livelihood

Household livelihood diversification refers to income strategies of rural individuals in which they increase their number of activities, regardless of the sector or location [8].

Livelihood defined as the course by which households establish progressively diverse livelihood portfolios [9]. Livelihood strategies are the range and combination of activities and necessity versus choices that people undertake in order to achieve their livelihood outcomes. It is a dynamic process in which people combine activities to meet their various needs at different times and on different geographical or economical levels, whereas it may even differ within a household [10].

### 2.2. Theories of Livelihood Diversification and Environment

#### 2.2.1. Poverty and Environment

There are conflicting debates about the nexus between poverty and environment. According to [11] specifically, in the debate whether poverty is the cause for environmental degradation, mostly the two occur together; however, it is not clear whether household poverty causing environmental degradation or vice versa is not yet proved. The conformist view argues that extent of poverty and environmental

degradation appears in a downward spiral, indicating that the necessary condition to minimize environmental damage is through alleviating poverty. Because the conformist concept of environment and poverty) relationship is based on the following important assumption: the livelihoods of aggregate people are based mainly from natural resources. There is direct and causal linkage between poverty and environmental depletion, and poverty is assumed to be the pivotal cause of environmental degradation, and vice versa also holds true [12]. They argue that, the relationship is sometimes “self-enforcing” in which the poor people mainly depend on farming and exploiting the available natural resources for survival and subsistence purpose and the depletion of the environment impoverishes back themselves that makes future survival difficult [21].

### **2.2.2. Livelihood Diversification and Environment**

The debates mainly rest on two contradicting views. Some scholars argue that diversification affects the environment positively by improving the efficiency of the system by recovering from environmental degradations and by improving its resilience capacity [13]. The poor farm households labor input allocation may be shifted from natural resource based livelihood activities to other environmentally non-harmful off farm and non-farm activities, such as, trade, rural manufacture, and so on. Therefore, the adverse impact of natural resources caused by such as firewood and charcoal production, collecting and gathering of forest products, hunting animals, and so on are expected to decline [13]. The reviewer argues that poor people are more endowed with labor resource than other assets. Therefore, where labor is coordinated to the other assets while engaging in the livelihood activities, the rural poor people are less likely to degrade the environment compared to anyone else.

### **2.3. Typology of Livelihood Strategies**

There are different methods of identifying livelihood strategies but most commonly, economists group households' livelihood strategies by shares of income earned from different sectors of the rural economy (14). The same source stated that the approach adopted here is a simple one, but it effectively delineates households into different categories. According to [15], there are four types of livelihood strategy; these include on-farm only, on-farm plus non-farm, on-farm plus off-farm, and on-farm plus off-farm plus non-farm. Farm income refers to income generated from own farms which includes livestock as well as crop income and comprises consumption in kind of own farm output as well as the cash income obtained from output sold. Off-farm income refers to wage or exchange labor on other farms (within agriculture). Non-farm income refers to non-agricultural income sources such as self-employment (business, rental income from leasing land and remittances).

### **2.4. Rural Livelihood Diversification and Strategies in Rural Ethiopia**

Policy of Ethiopia states that rapid and sustainable economic development would be ensured through agriculture-led and rural-centered development. Though farming has relatively given a prime focus so as to address food shortage and to trickle-down surplus to the development of other sectors, the importance of the non-farm sector is not overlooked.

[16] Suggested that, in the rugged and difficult topography of Ethiopia, many remote areas might see their potential for dynamic private sector growth and diversification out of agriculture hindered by the lack of basic infrastructure. For example, isolation by limiting trading opportunities reinforces reliance on agricultural activities and the accompanying environmental degradation. It has been also identified that insufficient land or labor to diversify into non-food crops and other activities is another constraint. Poor farmers are understandably reluctant to depend on the market for their food, so they often prefer to supplement food production with high-value crops and other activities rather than reallocate a large portion of land to high-value crop production. This constraint affects areas where the population density is high relative to the agro-ecological potential of the land. In addition lack of social capital such as network of friends and business associates with mutual trust would have an influence to diversify. Land Tenure insecurity is found to be among the causes for poor development of non-farm income in Ethiopia, in particular poor households in fear of losing their land if stay long away from their land. In rural Ethiopia the level of household income diversification is 39%. Income diversification of households based on share of income from each sources show that, the share of crop income takes the highest share which accounts 45% of the total household income followed by livestock income which accounts 41% of the total income. The remaining 14% of the household income generates from off-farm activity [17] Therefore, the annual contribution of non/off-farm activities for the total annual income of the farmers is low.

### **2.5. Factors Determine Rural Household Decision to Choose Alternative Livelihood Strategies**

Different livelihood activities demand different asset combinations. Those households who have diverse assets can choose between available livelihood options than being forced to limited activities available. Possession of human capital such being trained and access to credit enable farmers to spur the range of choices. Push factors are negative factors that may force farm households to seek additional livelihood activities within or outside the farm [18]. Pull factors are positive and these may attract farm households to pursue additional livelihood activities to improve their living standards [18].

**Table 1.** A summary of pull -push factors for choice diversification.

Level	Push factors	Pull factors
Micro	Risk reduction Gradual transition to new activities Diminishing returns in land and labour or coping with inefficiency Seasonality Comparative advantages based on the Compensating for failures in credit existence of skills, resources and markets/liquidity constraints Incomplete or weak financial Commercial agriculture; Macro systems Location (proximity to urban centre's)	Gradual transition to new activities Building on Complementarities between Micro labour and coping with Inefficiency activities, e.g. crop-livestock integration. Comparative advantages based on the Compensating for failures in credit existence of skills, resources and Markets/liquidity constraints technologies [19].
Macro	Constraints in labour and land markets; Lack of support to agricultural prices, Population pressure and Climatic uncertainties	Commercial agriculture Macro systems Location (proximity to urban canters) [19]
micro and macro	Micro level Individuals and households may diversify their assets, incomes and activities in response to incentives that may be classified as push and pull factors.	They are able to diversify their income activities in more favourable labour markets or take advantage of off-farm opportunities created by technological advances, new market possibilities, proximity to urban centres or improved infrastructure [20] and [21]. High returns to nonfarm activities may emerge from increased demand for nonfarm goods and services or off-farm opportunities created by growth motors in different rural sectors such as agriculture, mining or tourism [22].

**Table 2.** Factors Determine Rural Household Decision to Choose Alternative Livelihood.

Authors	Research finding area	Investigations in different parts of Ethiopia w/c discuss factor determine livelihood strategies
[23]	Artuma Furssi woreda, Oromia special zone, Amhara National Regional State, Ethiopia	Indicated that household participate agriculture alone, agriculture plus non-farm, agriculture plus migration, agriculture plus off-farm livelihood strategies. The result also showed that agriculture alone livelihood strategy was determined by education level negatively and significantly and credit access and receiving remittance positively and significantly. Agriculture plus non-farm was affected positively and significantly by credit access and negatively and significantly by distance from market center and land holding. Agriculture plus off-farm was also influenced negatively and significantly by sex of household head and positively and significantly by credit access and remittance. Found that the households derived their income from agriculture alone, agriculture plus non-farm and agriculture plus off-farm. Multinomial logistic regression model revealed that livestock holding, sex, age and market distance significantly and negatively affected the choice of agriculture plus non-farm and education, remittance, family size and dependency ratio was positive and significant determinants. Agriculture plus off-farm were negatively and significantly determined by age, market distance and livestock holding and it was positively and significantly determined by family size and dependency ratio. Based on these review, the choice of rural livelihood diversification strategies is determined by demographic, socio-economic and institutional factors and the effect of these are vary from one area to others, even with in households and through time.
[24]	Jijjiga woreda, Fafam zone, Somali Regional state, Ethiopia	Found that rural farm households have followed one, two or a combination of these livelihood activities to pursue their livelihood strategies. Accordingly, four livelihood strategies were identified which includes farm only strategy, farm plus non-farm, farm plus off-farm and farm plus non-farm plus off-farm livelihood activities. In addition to this, the study argue that sex, land holding size and livestock holding were negative and significant determinants of farm plus non-farm strategy and access to mass media, urban linkage and total household income were positive and significant determinants of farm plus non-farm choice. Moreover, farm plus non-farm plus off-farm were negatively and significantly determined by land size and livestock holding. Similarly, it is positively and significantly determined by market distance, mass media access, urban linkage and total income.
[25]	Debre Elias Woreda, East Gojjam Zone, Ethiopia	Found that rural farm households have followed one, two or a combination of these livelihood activities to pursue their livelihood strategies. Accordingly, four livelihood strategies were identified which includes farm only strategy, farm plus non-farm, farm plus off-farm and farm plus non-farm plus off-farm livelihood activities. In addition to this, the study argue that sex, land holding size and livestock holding were negative and significant determinants of farm plus non-farm strategy and access to mass media, urban linkage and total household income were positive and significant determinants of farm plus non-farm choice. Moreover, farm plus non-farm plus off-farm were negatively and significantly determined by land size and livestock holding. Similarly, it is positively and significantly determined by market distance, mass media access, urban linkage and total income.

## 2.6. Determinant Factors of Rural Livelihood Diversifications Strategies in Ethiopia

[26] Discussed different factors affecting income diversification and assess patterns of income diversification in the Akaki district in Ethiopia using cross-sectional data from 155 farm households using a structured questionnaire and the Tobit model. Their results indicate that family size, number of extensions visits per year and education levels had a positive significant effect on income diversification, whereas age of the household head, land size and average distance from the market had a negative and significant influence on a household's decision for diversification.

[27] Examined the determinants of income diversification among rural households in Ethiopia. Using cross-sectional data and a multinomial logit model, their results show that human capital related variables (gender and age of household head, number of economically active family members,

education level of household head and presence of children attending school), livelihood assets (livestock holdings, size of cultivated land), livelihood diversifying strategies (crop based diversification through the number of crops grown and harvested) and infrastructure related variables (proximity to market) influenced participation in non-farm and off-farm employment activities and the level of income in the study area.

### 2.6.1. Basic Resources (Land, Labor, Financial and Economic Capital)

Land labor and capital are interlinked resources in expansion of income generating activities of rural households. Farm households, who owned large land size and having high share of land, could require more labors to invest more on land. Households with more labor also could allocate some of them in to non-farm activities to maximize the production efficiency. Capital is also a central factor to

diverse income sources. Labor shifting from on-farm activities in to other production sectors especially in to non-farm self-employment, requires capital to invest on the labor skill and to set up productive business activities. Thus, land, capital and labor are interrelated essential factors for both on-farm and non-farm income generation [28]. Similarly, [29] stated that farmers with smaller land size are involved in off-farm diversification activities because of shortage of land to support their livelihood. In many parts of Ethiopia, cultivated land may not bigger than one hectare. It is too small and unusually evenly distributed and more than one third of households farm less than 0.5 hectare. Hence, land resource in Ethiopia is the most significant factor with the highest inequality weight on agricultural income.

**Labor Access:** it is one of the determinant factors of households' livelihoods and its contribution is varying depending on household and the community. The principal

contributions are: Labor is a vital factor to operate agricultural productions and to take all necessary care at

Appropriate time; it can be exchanged with other inputs of production in cases of scarcity and can be directly used to generate cash income [30].

**Financial Capital:** this refers to the financial resources available to people. Whether it is savings, credit supply, or regular remittances or pensions and which provide households with different livelihood options. Credit scheme in Ethiopia is still impeding to credit services. The country's public and private banking system is not designed to address the specific savings and credit needs of the food-insecure rural households. Even in urban areas, where more financial services exist, rigid banking criteria effectively place these services out of the reach of poor households. Rural households have even access to banks and correspondingly fewer options [31].

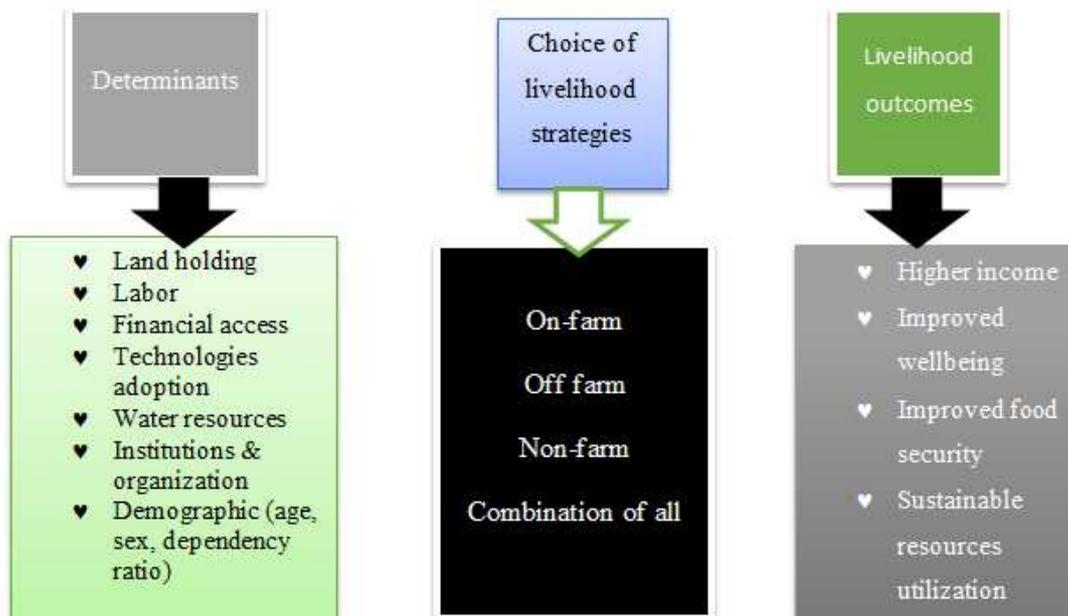


Figure 1. Determinant factors of rural livelihood diversification strategies in Ethiopia

**2.6.2. Technology Adoption**

*“Technology adoption refers to utilization of new technological input and enhancing production amount. High production with effective resources utilization could promote income level of farm households and thus technologies endorse harvesting of higher output from the same inputs with reducing farming cost. Agricultural innovations such as improved seeds, chemical fertilizers, agricultural chemicals such as pesticides and insecticides, improved farm implements, improved land preparation methods, planting methods, improved animal production, etc. have a vital role in raising total production and productivity. ”*

**2.6.3. Organizations and Institutions**

Institutions and organizations are arrangements to facilitate any socio-economic and political activities in economic under takings. Organizations like NGOs and any

development actors have comparative advantages to test out new technologies over government and scaling up of successes beyond the local level. Nearness to market and access to road motivates rural households to engage in agriculture plus non-farm [24]. However, market distance was negatively related with the choice of farm plus off-farm, farm plus non-farm and farm plus off-farm plus non-farm livelihood strategies. Institutional factors also play a significant role in creating opportunities or constraints to the improvement of rural livelihoods. In some regions, institutional factors such as regressive tax systems at local level tend to discourage rather than foster livelihood diversification [32].

**2.6.4. Educational Level**

The education status of households' heads is an important factor that could determine the livelihood strategies of households [33]. There is positive relationship between

educational status and livelihood diversification strategies. If a person learned well /literate he/she can perform well unless the not learned they exposed to fail their job satisfaction and livelihood strategy may be disturb.

#### **2.6.5. Demographic Factors (Sex, Age, Dependency Ratio)**

**Sex:** Men and women have different access to resources and opportunities. Thus, it influences the choice and participation of livelihood strategies [34]. This is common many rural part of Ethiopia access to and control of resources men dominance are high.

**Age:** Age has been found one of significant factor that influence farmers decision to diversify their livelihood to farm plus off-farm, farm plus non-farm and farm plus non-farm plus off-farm respectively In here also the above productive age and bellow productive age disturb the livelihood strategy of individual living condition.

**Dependency ratio:** It is calculated by dividing the sum of young (below 14 years), old (above 64 years) and disable person by economically active population (14 to 64 years old). The high number of economically active population, were more participation in livelihood strategies.

### **2.7. The Gender Based Impact of Rural Household Livelihood Diversification in Ethiopia**

International women's conferences held consecutively in Mexico City in 1975, in Nairobi in 1985 and in Beijing in 1995 were measures towards realizing women's political, social and economic equality with men (UN. 2003). Many gender issues which are very important to well-being of millions of women around the world got public attention after these conferences. In Ethiopia, the key objective of the national policy on women is creating conditions conducive for equality between men and women in development sectors of political, social, and economic decisions with the aim of poverty reduction in the country [36]. Women as a group enjoy fewer advantages, work longer hours than men do, and their work and opinions are undervalued in livelihood activities in many countries. They earn less than men, do not own land, and face numerous obstacles, threats and violence [37]. In almost any country, women and men have different means for access to critical economic resources and varying power to make choices that affect their lives, as a consequence of the state of gender relations that exists in a given society. The direct result of this is seen in the unequal roles and responsibilities of women and men in Ethiopia [36].

[38] Investigates the determinants of diversification using the Ethiopian Rural Household Survey (ERHS) of the first and second rounds and finds that age of household head and number of female family members increases participation in non-farm diversification. Women-headed households are generally expected to increase their participation in non-farm earning activities given the rigid and patriarchal agricultural division of labor that limits women's employability in farming rural Ethiopia. For instance [39], the study on the 15 villages included in the ERHS data set indicate that ploughing, a major agricultural activity, is only undertaken

by men. However, the participation of women in non-farm activities is also limited to less-remunerative activities such as selling food and drink due to their limited asset base. It is widely acknowledged as that poor access to livelihood resources and services is the major cause of food insecurity in many rural parts of Ethiopia [35]. The promotion of equitable men's and women's access to natural and economic resources and social services requires specific actions to address gender disparities (FAO Strategic Framework 2000-2015, Rome, Italy, as cited in [40]). The main structural constraints for gender inequality gaps and equity problems are mainly societal norms and practices existing within the society. Norms and practices generally allocate different roles and responsibilities to women and men and assign lower value to aptitudes, abilities and activities conventionally associated with women, creating inequalities in the distribution of resources and capabilities [41].

Women faced many constraints such as household headship, property ownership and collateral, household work burden, illiteracy, culture/tradition, poverty, top-down institutional systems and poor infrastructure for access to and control over livelihood resources and agricultural extension services as compared to men in rural areas of the district. Thus, strong development efforts toward gender-sensitive rural development programs and implementation of gender equality and equity measures should be made to improve household livelihood of both men and women living in rural areas of the Gog district in Gambela Ethiopia Stated by [42]. Poverty reduction, food insecurity and the problem of high fertility in rural Wolaita cannot be addressed without improving the condition of women. Economic dependence, which is further enhanced by cultural and religious factors, makes women completely subordinate to their husbands. They face a heavy work burden, both in and outside the home, in addition to meeting the task of bearing many children [43].

#### **2.7.1. Gender Based Impact in Agricultural Production in Ethiopia**

Women play a major role in the different aspects of agricultural production. Although men and women participate in most agricultural tasks, men predominate in land preparation, and ploughing; women are primarily engaged in watering, planting, fertilizing, weeding, harvesting and marketing activities that are typically labor-intensive. In most parts of Ethiopia, women are intimately involved in most aspects of agricultural production, marketing, food procurement, and household nutrition, the view is widely held that "women do not farm". This cultural perception remains strong even though numerous agricultural tasks are deemed "women's work" including weeding, harvesting, preparing storage containers, managing all aspects of home gardens and poultry raising, transporting farm inputs to the field, and procuring water for household use and some on-farm uses [44].

#### **2.7.2. Gender Based Impact Non-farm Activity in Ethiopia**

In Ethiopia, most of the studies conducted identify three

rural livelihood diversification strategies: on farm, Non-farm and off farm [46] Engagement in non-farm economic activities in rural areas is conditioned by different factors both male headed and female headed household. Non-farm activities include petty trade, handicraft (weaving, spinning, carpentry, house mudding, poet making) [47] Non-farm livelihood activities in which farmers engage were renting (hiring) of oxen and Land [48]. The major limitations of the studies conducted in rural livelihood diversification strategies in Ethiopia were incapable to differentiate non-farm and off farm activities and broad view of livelihood activities somewhat ordering them based with its livelihood strategies.

### 2.7.3. Gender Based Impact on Off-farm Activity in Ethiopia

A study by [43] in Ethiopia about the determinants of off-farm participation using the bivariate Probit model concluded that ages of the male-headed households have significant impact for participation decision on the off-farm diversification activities. On the other hand, education had no significant impact on participation decision to off-farm activities. However, taking training skills by the household, such as handicraft trainings, had positive and significant impacts to off farm employment. Similarly, male-headed farm families have shown a better chance of participating in non-agricultural livelihood activities than female-headed households. In dissimilarity to this study [45] in the same study area concluded that sex of the household head had no effect on the adoption probability of the farm households' engagement in the non-agricultural income sources. So As reviewer argue that age, education level, ploughing land, significantly affect both male and female headed household and female household in every age category less participated than male house hold by off farm activities.

## 3. Conclusion

Different livelihood activities demand different asset combinations. Those households who have diverse assets can choose between available livelihood options than being forced to limited activities available. Possession of human capital such being trained and access to credit enable farmers to spur the range of choices. Livelihood strategies are the range and combination of activities and necessity versus choices that people undertake in order to achieve their livelihood outcomes. Rural Livelihood can be diversified through undertaking different strategies; on-farm, off-farm, non-farm and their combinations are the common typologies. There is positive relationship between educational status and livelihood diversification strategies. Determinant factors of livelihood strategies are organized in terms of basic resources such as land, water, labor, capital, and technological inputs, institutions and/or infrastructures such as road/ transport access, market, education and credit service. However, the occurrence of such factors could vary based on the level of HH livelihood, topography and climatic conditions in Ethiopia.

Farm households, who owned large land size and having high share of land, could require more labors to invest more on land; Households with more labor also could allocate some of them in to non-farm activities to maximize the production efficiency; Capital is also a central factor to diverse income sources. The direct result of this is seen in the unequal roles and responsibilities of women and men in Ethiopia. Women-headed households are generally expected to increase their participation in non-farm earning activities given the rigid and patriarchal agricultural division of labor that limits women's employability in farming rural Ethiopia. In many investigations the proportion of male-headed households engaged in nonfarm activities seems higher than female-headed ones and similarly, male-headed farm families have shown a better chance of participating in non-agricultural livelihood activities than female-headed households.

## 4. Recommendation

Based on the review the reviewer forward the following recommendations:

- 1) Major attention should be given from Ethiopian government to build infrastructures like road networks, market centers that help to promote farm, off farm and non-farm enterprise employment, to overcome the entry barrier and make it accessible for rural farm households,
- 2) Non-farm and/off-farm activities need to be incorporated in governmental plans and policies for balanced growth between urban and rural households,
- 3) Programs that encourage the rural women to be participated in non/off-farm activities should be in place in order to overcome the gender bias and improve rural women educational status to enhance livelihood diversifications in the study area,
- 4) Education level of rural household in the study area was found to be one of the important determinants of livelihood diversification strategy. Thus, The Ministry of Education should give emphasis on integrated functional adult literacy and should focus and investing on educations of Adult and youth farmers based on gender equality
- 5) The negative effect of exploitations of natural resources; Sales of wood and sales of charcoal on agricultural production suggest that the Woreda and kebele development agent should facilitate and encourage the farmers to plant the trees to replace the trees that used for income generating purpose.
- 6) The negative and significant level of market distance and road access on livelihood diversification strategies choice suggested that the responsible bodies should design work on expansion of rural road, infrastructure and on creation of local market center.
- 7) There was significant impact of sex on the choice of livelihood diversification strategies; Public sectors works with small enterprise development should organize program and meeting for female headed farmers to equally participate with men in different

livelihood strategies. Despite to these women and youth affairs sector capacitate women and youth participant.

## Acknowledgements

I would like to thank almighty God given healthy to learn in this appropriate state in Jimma University. Next I would like to thank Jimma University College of agriculture and Veterinary Medicine preparing this practical work to review many research ideas from previous work many authors. My gratitude also goes to my advisor Fenet Belay (assistant. prof) for her good comment and thought according to my seminary work. Finally, the author would like to acknowledge all other concerned bodies that have shared their support for the successful development and completion of this seminar review work.

## Acronyms/Aberrations

EEA	Evaluation of Ethiopian agricultural extension
ERHS	Ethiopian Rural Household Survey
FAO	Food and agricultural organization
FDRE	Federal democratic republic of Ethiopia
GDP	Gross Domestic Product
JUCAVM	Jimma university college of agriculture and veterinary medicine
MOFED	Ministry of Finance and Economic Development
MOFEC	Ministry of Finance and Economic Cooperation
NGOs	Non-Governmental Organizations
FDROE	Federal Democratic Republic of Ethiopia
SSA	Sub-Saharan Africa
PASDEP	Plan for Accelerated and Sustained Development to End Poverty
WB	World Bank
WCED	World Commission on Environment and Development.
UN	United nation

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