

# Rural Livelihood Diversification Strategies of Sodo Zuria Woreda: Determinants and Constraints

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## Abstract

Agricultural activities are subjected to a variety of risk arising from natural and manmade factors. These factors endanger not only the household's livelihood and income but also undermine the viability of agricultural sector. Therefore, supplementary sources of livelihood and household diversification strategies assume an important place in this situation. The present study investigated factors and constraints that influence the rural households' choice of livelihood strategies in Sodo Zuria, Woreda, Wolaita Zone of Southern Nations Nationality and Peoples' Regional State. The main objective of the study was to identify the determinants of rural livelihood diversification strategies. A multistage stratified sampling technique was employed to select 123 household heads from 6 selected kebeles. The data was collected using survey questionnaire, key informants interview and focus group discussions. Both descriptive and econometric analyses were used. Descriptive analysis addressed the wealth status and strategies practiced by household heads. The results showed that age of HH head, family size, education level, dependency ratio, training conducted, operational land size, agro-ecology, livestock holding, input use, cooperative membership, extension contact and proximity to market were found to be significant among the sample households who pursue different livelihood strategies. The majority of households from poorest of the poor, poor and medium, and better off, choose a livelihood strategy of AG + nonfarm, AG + Off farm and AG + Nonfarm + Off farm income diversification, respectively. The Multinomial logit model results revealed that out of 14 explanatory variables, choice of AG + Nonfarm livelihood strategy was determined by livestock holding, proximity to market and dependency ratio, and choice of AG + Nonfarm + Off farm livelihood strategy was influenced by agro-ecology, land size, credit access, dependency ratio and training received. Poor asset base, poor credit and training facility, agro-ecology and risk fearing becomes the major constraints. Thus, interventions must be undertaken regarding asset status of rural household and targeting specific group of societies. Infrastructure development, accessing credit service and training will expand the household's choice of livelihood strategies.

**Keywords:** Constraints, Livelihood diversification strategies, Multinomial logit, Stratified, Wolaita

## 1. Introduction

Ethiopia with an estimated population of 86 million of which about 83% are rural population is an agrarian country (CSA, 2009). *It is a multi-ethnic country with diverse geographic and climatic conditions, rich traditions and a complex history.* The agricultural sector plays an important role in the national economy, livelihood and socio-cultural system of the country. The sector supports 85 percent of the population, constitutes 43 percent of Gross Domestic Product (GDP), and 80 percent of export value. It has about 51.3 million hectares of arable land but only about 11.7 million hectares is currently cultivated, just about 23% of the total cultivable area (MoARD, 2010). This indicates that, given the ecological diversity, Ethiopia has a good potential to produce a wide variety of crops and in large quantities. Despite this potential however, the country is one of the poorest in the world with annual per capita income of US\$ 1,017 which is much lower than the sub-Saharan Africa average (US\$ 2,010) in the year 2012 and below the average of US\$ 1,633 for countries in the low human development group (UNDP, 2013; Tsegaye, 2012).

Agricultural activities are subjected to a variety of risks arising from rainfall aberrations, temperature fluctuations, hailstorms, cyclones and climate change. These risks are exacerbated by price fluctuation, weak rural infrastructure, imperfect markets and lack of effective financial services. These factors not only endanger the household's livelihood and income but also undermine the viability of the agricultural sector (Sharma, 2010) though this sector has long been recognized as a source of livelihood for the African poor rural households as well as the engine for economic growth. Farming remains important but rural people are looking for diverse opportunities to increase and stabilize their income (Corney, 1998). Several studies confirmed the inability of agriculture to fully support livelihood security of the rural poor (Unni, 1996; Shylendra, 2002; Samal, 2006; Shukla and Shukla, 2007). Therefore, supplementary sources of livelihood and household diversification strategies were assumed important in this situation.

Very few people collect all their income from any one source, hold all their wealth in the form of any single asset or use their asset in just one activity. Whereas in rural areas of developing countries, livelihoods and

diversification have always been there and become a core strategy of contemporary rural livelihood systems (Reardon, 1997; Ellis, 2000; Barret *et al.*, 2001;; Reardon *et al.*, 2001; Niehof, 2004). The mainstream households' economic theory may serve as a point of departure for the analysis of rural households' diversification behavior (Ellis, 1998; 2000). It considers diversification as a rational economic behavior adopted in given circumstances of constraints and opportunities. Household economic models (Singh *et al.*, 1986) assume that rural households make free choice decisions of allocating their labor and material resources to alternative activities in response to the comparative returns of these engagements. When diversification is discussed in the rural development context, it is usually posed in terms of either the need for on-farm changes in the mix of agricultural activities or of the desirability of developing rural based non-farm industries (Ellis, 2000). By keeping the capability to operate a heterogeneous set of activities, diversifying households are likely to enjoy higher flexibilities and resilience capacity than agricultural development rural households (Warren, 2002).

Rapid population growth in Ethiopia has resulted in too small and fragmented land holdings, reducing labor productivity and causing widespread underemployment in the country. Over 75% of the households have landholdings of one and below one hectare, and are cultivating only once a year. Growing landlessness in rural area aggravated the problem of underemployment and unemployment. Drought, erratic rainfall, backward production technologies, small size of farmlands, and land degradation are the major causes for the low agricultural productivity in Ethiopia. On the other hand, because of shortage of startup capital, limited skills, weak marketing systems and inadequate policy attention, employment opportunities in non-farm or off-farm activities are extremely rare in rural Ethiopia (Gebrehiwot and Fekadu, 2012). *The livelihood approach employed here assumes that people are already doing a number of creative and productive activities. They have, over generations, developed strategies, including livelihood diversification, appropriate to their context and culture. This study, therefore, attempted to see the determinants of livelihood strategy choice of rural people in Sodo Zuria woreda of Wolaita, Southern Ethiopia.*

## 2. Methodology

### 2.1. Description of the Study Area

Sodo is a town in south-central Ethiopia. According to the population census report of Ethiopia (CSA, 2009), the total projected population of the Woreda was 186,779, out of which 91,847 are male and the remaining 94,932 are female. The livelihood system mainly depends on agriculture (farming and animal rearing). Land shortage, environmental degradation due to natural and man-made factors, loss of land fertility due to prolonged cultivation are major problems among others that resulted in low agricultural productivity. The Woreda is located in the tropics at high altitude and possesses a well-moderated Subtropical highland climate. The Presence of adequate infrastructure is an important vehicle for the transformation of a rural economy.

### 2.2. Sampling technique

A mix of purposive and multistage stratified random sampling techniques were used. Sodo Zuria was selected purposively and then first classified it in to two agro-ecological zones; highland and midland, and kebeles' were selected randomly systematically using probability proportional to size sampling technique. Second, typology of households in to different wealth categories was done for each kebele to define socio-economic classes based on local perceptions and criteria to get relatively homogeneous wealth groups of households. With this wealth ranking criteria household were classified in to four; poorer of the poor, poor, medium and better-off. Finally, the sample households were selected randomly systematically from each stratum using probability proportional to size. Therefore, a total of 123 household heads were selected for the survey from six sample kebeles.

### 2.3. Methods of Data Collection

Primary data on household's demographic, socio-economic characteristics, institutional services were collected from sample households using structured interview through questionnaire. In the case of qualitative data, to have better socio-economic context and type of households in the area; rapid rural appraisal, focus groups discussion and key informant interview were conducted at each kebeles. Secondary data was gathered from various sources like Sodo Zuria Woreda bureau of agriculture and rural development office, and other relevant sources.

### 2.4. Data Analysis Techniques

#### 2.4.1. Econometric model

In order to determine factors that affect choice of livelihood strategies by rural households, categorical data analysis in which the dependent variable is qualitative deemed to be appropriate. When there are more than two alternatives among which the decision maker has to choose (unordered qualitative or polytomous variables), the appropriate econometric model would be multinomial logit or multivariate probit regression models. To identify the determinants behind rural households' decision to engage in various livelihood diversification strategies the assumption is that in a given period at the disposal of its asset endowment, a rational household head chooses

among the available mutually exclusive livelihood strategy alternatives that offers the maximum utility. Following Greene (2003), suppose the  $i^{\text{th}}$  household is faced with  $j$  choices, we specify the utility choice  $j$  as:

$$U_{ij} = Z_{ij} \beta + \varepsilon_{ij} \quad (1)$$

If the household makes choice  $j$  in particular, then we assume that  $U_{ij}$  is the maximum among the  $j$  utilities. So the statistical model is derived by the probability that choice  $j$  is made, which is:

$$\text{Prob}(U_{ij} > U_{ik}) \text{ for all other } K \neq j \quad (2)$$

Where,  $U_{ij}$  is the utility to the  $i^{\text{th}}$  household from livelihood strategy  $j$ , and  $U_{ik}$  the utility to the  $i^{\text{th}}$  household from livelihood strategy  $k$ .

If the household maximizes its utility defined over income realizations, then the household's choice is simply an optimal allocation of its asset endowment to choose strategy that maximizes its utility (Brown *et al.*, 2006). Thus, the  $i^{\text{th}}$  household's decision can, therefore, be modeled as maximizing the expected utility by choosing the  $j^{\text{th}}$  livelihood strategy among  $J$  discrete livelihood strategies, i.e.,

$$\max_j = E(U_{ij}) = f_j(x_i) + \varepsilon_{ij}; j = 0 \dots J \quad (3)$$

In general, for an outcome variable with  $J$  categories, let the  $j^{\text{th}}$  livelihood strategy that the  $i^{\text{th}}$  household chooses to maximize its utility could take the value 1 if the  $i^{\text{th}}$  household choose  $j^{\text{th}}$  livelihood strategy and 0, otherwise. The probability that a household with characteristics  $x$  chooses livelihood strategy  $j$ ,  $P_{ij}$  is modeled as:

$$P_{ij} = \frac{\exp(X_i' \beta_j)}{\sum_{j=0}^J \exp(X_i' \beta_j)}, \quad j = 0 \dots J \quad (4)$$

With the requirement that  $\sum_{j=0}^J P_{ij} = 1$  for any  $i$

Where:  $P_{ij}$  = probability representing the  $i^{\text{th}}$  household's chance of falling into category  $j$

$X$  = Predictors of response probabilities

$\beta_j$  = Covariate effects specific to  $j^{\text{th}}$  response category with the first category as the reference.

Appropriate normalization that removes an indeterminacy in the model is to assume that  $\beta_1 = 0$  (this arises because probabilities sum to 1, so only  $J$  parameter vectors are needed to determine the  $J + 1$  probabilities)

(Greene, 2003) so that  $\exp(X_i \beta_1) = 1$ , implying that the generalized equation (4) above is equivalent to

$$\Pr(y_i = j / X_i) = P_{ij} = \frac{\exp(X_i \beta_j)}{1 + \sum_{j=1}^J \exp(X_i \beta_j)}, \quad \text{for } j = 0, \dots, J \text{ and}$$

$$\Pr(y_i = 1 / X_i) = P_{i1} = \frac{1}{1 + \sum_{j=1}^J \exp(X_i \beta_j)}, \quad (5)$$

Where:  $y$  = A polytomous choice variable with categories coded from  $0 \dots J$ .

Note: The probability of  $P_{i1}$  is derived from the constraint that the  $J$  probabilities sum to 1. That is,

$P_{i1} = 1 - \sum P_{ij}$ . Similar to binary logit model it implies that we can compute  $J$  log-odds ratios which are specified as;

$$\ln \left[ \frac{P_{ij}}{P_{i1}} \right] = x' (\beta_j - \beta_1) = x' \beta_j, \text{ if } j = 0 \quad (6)$$

#### 2.4.2. Constraint Analysis

It was done through rapid rural appraisal (RRA) and focused group discussion (FGD) in all the six kebeles after finalizing **fourteen** determinants to livelihood diversification strategy for interrogation from the sampled households. These constraints are measured at five point scale for their severity.

### 3. Results and Discussion

#### 3.1. Livelihood diversification strategies pursued by different wealth groups

Broad categorization of livelihood strategy is important to guide policy (Scoones, 1998). The most common livelihood diversification strategies in the study area were agriculture plus off farm, agriculture plus nonfarm and agriculture plus off farm plus nonfarm income diversification activities. Out of the total sample households, 42% households derive their livelihoods from agriculture plus off farm, 30% HHs combined agriculture and

nonfarm income diversification activities, and the rest 28% of HHHs diversify their livelihood into agriculture, off farm and nonfarm income diversification activities in combination as indicated in the table 11. Out of AG + off farm livelihood choice group of households, medium level households held the maximum and, poor and better off households follow. From the AG + nonfarm livelihood choice group of household, poorer of the poor household held the lions' share and poor level households follow. From AG + off farm + nonfarm livelihood choice group, better off and medium level household held the majority and, poor and poorer of the poor household follows. Generally, the majority of better off, poorer of the poor and, medium and poor level household groups choose the livelihood diversification strategies of AG + off farm + nonfarm, AG + nonfarm and AG + off farm, respectively. This shows, as the wealth status of the household raise the level and amount of livelihood diversification strategy also increase. The chi-square test reveals that there is a statistically significant difference between different wealth groups in terms of livelihood diversification strategies they choose at less than 1% probability level.

**Table 1.** Distribution of different wealth categories of sample households along varying livelihood diversification strategies

Wealth Category	Livelihood Diversification Strategy				$\chi^2$
	Ag + off(%)	Ag + non(%)	Ag + off + non(%)	Total (%)	
Poorer of the Poor (%)	0	65	6	26(21%)	85.05***
Poor (%)	40	30	18	38(31%)	
Medium (%)	54	5	44	45(37%)	
Better off (%)	6	0	32	14(11%)	
Total(%)	52(42%)	37 (30%)	34(28%)	123(100%)	

\*\*\* Indicates significance at less than 1% probability level of significance

This result leads to the understanding of the factors which affect the rural households from engaging in diversified livelihood choices. *Under important livelihood assets related variables which were hypothesized to influence rural households' livelihood diversification strategies choice were identified and analyzed using multinomial logit model. The model was selected based on the justification illustrated earlier.*

The independent variables (continuous and dummy) and their definition are given below in Table 2. Moreover, the result from Tables 2 and 3 below showed the definition and out puts of variables entered in to the multinomial logit models. Out of the **fourteen** variables hypothesized to influence choice of livelihood strategies, seven were found to be statistically significant. Among these agro ecology, land size, livestock holding, dependency ratio, frequency of extension contact, credit access and training were found to influence choice of livelihood strategies by the household at different probability levels.

**Table 2.** Definition of variables affecting choice of livelihood strategies

Dependent variable	Variables definition and unit of measurement
<b>Livelihood strategies</b>	<b>if the choice of the HH lies in</b>
Y=0, AG+OFF	Agriculture and off farm
Y=1, AG+NF	Agriculture and non-farm
Y=2, AG+OFF+NF	Agriculture, off farm and non-farm
<b>Independent variables</b>	
SEXHHH	Sex of household head
AGEHHH	Age of household head in years
FMS	Family Size (Adult Equivalent)
EDUHHH	Educational level of household head in years
DEPRT	Dependency ratio of the household
LIVSTK	Livestock holding (TLU)
LAND	Cultivated land holding in hectares
EXTN	Frequency of extension contact in number/year
MKTDIS	Distance to Market in kilometers
COOPME	Cooperative Membership (0=No 1=Yes)
AGRECO	Agro-ecology of Area (0=ML 1=HL)
CREDIT	Credit Access (0=No 1=Yes)
INPUT	Inputs Use (0=No 1=Yes)
TRAIN	Training Conducted (0=No 1=Yes)

### 3.2. Interpretation of the significant variables

**Agro-ecology (AGROECO):** As hypothesized, this variable has a negative and significant ( $P < 0.10$ ) correlation with the likelihood of choosing agriculture, nonfarm and off farm livelihood strategy in combination. This means the tendency that the household diversify their livelihoods into agriculture, off farm plus nonfarm strategy relative to the base AG + off farm strategy decrease as we go from midland to highlander. Hence, the probability of diversifying into agriculture plus off farm and nonfarm drops by 28.8 % for highland households as compared with midland due to agro ecology difference, under ceteris paribus assumption. The result is in line with that of Soussan *et al.* (2000). This might be because of differences in the quality and size of land, the amount and distribution of rainfall and population densities that influence the amount of return obtained from and invest to other form of activities.

**Land size owned (LAND):** As hypothesized, the land size owned by the household has a significant ( $P < 0.05$ ) and positive correlation with the likelihood of choosing agriculture, off farm plus nonfarm diversification strategy. The results of this study suggest that rural households with more land tend to follow agricultural intensification and so diversifying agricultural activities. This result is in agreement with that of Adugna (2005). And this in turn become a source **for the start-up capital needed for non-farm and off-farm activities. This is in line with Meser and Townstey (2003).** This implies that the chance of diversification in the context of having large land size increase the probability to diversifying in to agriculture, off farm and nonfarm activities relative to the base AG + off farm strategy by 60 %, under ceteris paribus assumption. This is because, farmers with more land size supposed to enjoy higher return and this leads to use the extra money and labor for further diversified activities.

**Livestock holding (LIVESTOK):** This variable was expected to influence the choice of livelihood strategies by the household positively because it is perceived as proxy of wealth status and important source of income even at the time of financial short falls. But, in contrary with prior expectation, livestock holding in TLU negatively influence household's choice of agriculture plus nonfarm livelihood strategy at less than 5 % probability level of significance. That means the farmer with lower livestock holding would be obliged to diversify livelihoods into agriculture plus off farm in order to meet their needs. This is in line with Nigussie (2011). Thus, the likelihood of diversifying livelihoods into agriculture plus nonfarm diversifying activities decreases by 3.1 % for households with less livestock number in TLU relative to the base category AG + off farm diversification strategy, under ceteris paribus assumption.

**Credit access (CREDIT):** In line with prior expectation, credit access is found to have a positive significant ( $p < 0.10$ ) impact on the likelihood of choosing diversified livelihood strategy which combines agriculture, off farm and nonfarm. This implies that, the likelihood of participating in diversified livelihood strategy by the household increased by 38.2% for a household who has access to credit relative to the base category AG + off farm diversification strategy, under ceteris paribus assumption. This positive impact may be attributed to the fact that credit access allows farmers to expand agricultural production within agricultural diversification and which in turn improves productivity. Out of agricultural diversification, accessing credit leads the farmers to engage in other livelihood divers' strategy. This is in agreement with that of Meser and Townstey (2003). This implies that the formal and informal credit facilities that avail for rural farmers are a very important asset in rural livelihoods not only to finance agricultural inputs activities and for further investments, but also to protect loss of crucial livelihood assets such as cattle due to seasonal food shortage, illness or death (Tesfaye, 2003). The result of the study, therefore, strongly suggest that farmers' access to credit would play important role in promoting agricultural development plus nonagricultural diversification.

**Distance from market center (MKTDIST):** As hypothesized, it is found to have a positive significant ( $P < 0.01$ ) correlation with increasing the probability of diversification in to agriculture plus nonfarm activity. This positive relationship tells us that the smaller the distance the higher the tendency of households to diversify in to agriculture plus nonfarm activity. The possible justification could be households who are closer to the market centers do not have much cost to access market incentive for diversification of livelihoods in to nonfarm in addition to agriculture. **Improved market access can lead to stimulate production of cash crops and other marketable crops, and participation in petty trading which is diversification of livelihoods.** The coefficient of the variable also confirms that when a household is near to market center by one kilometer, diversification level increases by a factor of 1.2% relative to the base category AG + off farm diversification strategy, under ceteris paribus assumption. This finding is in agreement with that of (Rao *et al.*, 2004) and Carswell (2005).

**Table 3.** Multinomial logit regression output of livelihood diversification strategies

Variables	Y=1			Y=2		
	Mar. Ef	Std. Err.	Z-value	Mar. Ef	Std. Err.	Z-value
AGROECO	0.005	1.208	-0.00	-0.288	1.261	-1.83*
SEX	-0.003	1.137	0.14	0.302	1.722	1.51
AGE	-0.000	0.059	-0.43	0.000	0.056	0.02
EDUCAT	0.003	0.150	1.11	-0.010	0.115	-0.43
FAMILY	-0.007	0.513	-0.81	0.088	0.479	0.96
LAND	-0.073	4.682	-0.97	0.599	1.437	2.16**
LIVESTK	-0.031	0.935	-2.35**	0.029	0.272	0.41
INPUT	-0.051	1.345	-1.42	0.043	1.533	0.11
EXTENS	0.004	0.414	0.68	-0.029	0.186	-0.79
COOPER	-0.011	1.545	-0.52	0.086	0.962	0.44
CREDAC	0.005	1.145	0.85	0.382	0.963	1.84*
MKTDIST	0.012	0.278	3.30***	0.032	0.204	0.91
DEPRAT	0.018	0.779	2.29**	0.366	0.824	2.40**
TAINING	0.003	1.065	-0.64	-0.491	1.092	-2.02**
<b>Dependent Variable</b>	<b>Livelihood Diversification Strategy</b>					
Base Category	AG + off farm					
Number of Observations	123					
Log likelihood	-57.67					
LR Ch <sup>2</sup> (28)	150.52					
Pseudo R <sup>2</sup>	0.57					
Significance level	0.000					

\*\*\*, \*\* and \* Indicate significance at 1%, 5% and 10% probability level, respectively.

Source: Model output result based on computation results

**Dependency ratio (DEPRATIO):** As hypothesized, dependency ratio is found to have a significant ( $P < 0.05$ ) positive correlation with choice decision of agriculture, off farm plus nonfarm livelihood diversification strategy and also found to have a significant ( $P < 0.05$ ) positive correlation with choice of agriculture plus nonfarm livelihood diversification strategy. This indicates that with increase in dependency ratio, the ability to meet subsistence needs declines and the dependency problems make it necessary in the household to diversify their income source (Khan, 2007). This means when the dependency ratio increase, the ability of farmers to meet family needs decrease and chance of diversifying livelihood in to AG + nonfarm and, AG + nonfarm + off farm activities increases. This result is consistent with that of Warren (2002) and Roa et al. (2004). As the dependency ratio increases by a ratio the probability of the household's falling into agriculture plus non-farm and, agriculture plus off and nonfarm livelihood strategy increases by 1.8% and 36.6%, respectively relative to the base category, under ceteris paribus assumption. The result of this pattern clearly implies that a need to address rapid population growth as well as the provision of job opportunities for adult labor.

**Training Conducted (TRAINING):** In contrast with prior expectation, training received is found to have a negative significant ( $p < 0.05$ ) impact on the likelihood of choosing diversified livelihood strategy which combines agriculture, off farm and nonfarm. That means the farmer who has access to training would favor to diversify livelihoods into agriculture plus off farm. This might be due to the training is mainly focused in agriculture. Integrating agricultural training with non-farm enterprise training can help HHs to manage and market their farm production more effectively, to take advantage of new agricultural opportunities. The result is in agreement with Khatun (2010). In the study the likelihood of diversifying livelihoods strategy into agriculture plus off-farm and nonfarm activity decreased by 49 % for households who receive training relative to the base category, under ceteris paribus assumption.

### 3.3. Constraints to Choice of Diversification Strategies

Livelihood diversification is an important survival strategy for the rural households in the developing countries and too choice of diversification becomes another options for survival. However, there are several constraints to successful choice of livelihood diversification. Identification of constraints for a particular specific area is crucial for future policy formulation and implementation. This study has identified some of the socio-economic, institutional, technological, and policy constraints to livelihood diversification choices. These constraints have been found to vary across regions as well as across livelihood groups. The results are discussed below. Based on the result of detail studies the major constraints to choice of livelihood diversification in rural area of Sodo zuria woreda were: poor asset base, lack of credit facilities, lack of training facilities, fear of taking risk, and lack of opportunities in non-farm sector.

**Asset Base** – Poor asset base is the most important constraint to livelihood choice of diversification in the study area. Ownership of even a small asset enables the households to take opportunities in the non-farm sector, particularly in the self-employment sector. For example, ownership of a donkey cart may induce a person to start his own tailoring business. Similarly, possession of a bicycle may help the worker in going to the nearby town for non-agricultural employment. Most of the small landholder farmers in this area do not have any asset which acts as a big barrier to choice for livelihood diversification.

**Credit Facilities** – Economically poor and medium level households in the rural area need credit facilities to develop their choice of livelihood strategy. Without access to institutional credit they are not able to undertake any income-generating activity which requires some initial investment. Poor access to institutional credit is a restrictive factor in choice of livelihood diversification in the study area. In the absence of credit support from the institutional agencies, the resource poor households are not able to start their own nonfarm business or enterprises. Katona-Apte (1988) had reported the vital role played by the Bangladesh Grameen Bank in providing credit to women which enabled them to carry out diversification activities. Many households in the study area reported that after completion of training, provided by the private or government agencies on some self-employment activities, they could not start their own business due to lack of credit.

**Training Facilities** – Most of the kebeles in the rural area of the woredas are located in highly nearby area of the town with good communicating. But, rural households have not enjoying training regarding modern income-generating activities. They remain engaged with their traditional activities because the raining mainly focus on agriculture related issues. Integrating agricultural training with non-farm enterprise training can help HHs to manage and market their farm production more effectively, to take advantage of new agricultural opportunities.

**Fear of Taking Risk** – Because of poor asset-base and lack of institutional support, the risk-bearing ability of the rural households becomes very low.

**Agro-climate** – Along with poor credit facility and asset base, the agro-climate of the study area is highly fluctuating. Poor access to irrigation, extreme temperatures, erratic rainfall, and poorly productive small landholding prevent the rural households to tighten their choice of livelihood strategy.

**Table 4.** Rank of some major constraints to choice of livelihood diversification

Constraints	Score	Rank	Most vulnerable groups
Credit problems	3.98	I	poorer of the poor, poor, medium
Poor asset base	3.76	II	poorer of the poor, poor
Agro-climate	3.63	III	poorer of the poor, poor, medium
Lack of training	3.31	IV	poor, medium, better off
Fear of taking risk	3.25	V	medium, better off

#### 4. Conclusion and Recommendations

The result of the study leads to the conclusion that the livelihood source of income for the rural households derived from more than one source. The factor affecting rural households in choosing their livelihood diversification strategy are vast and cannot be easily solved by concentrating on agricultural sector alone. There should have inter sectorial linkage to address the rural livelihood diversification strategy as well.

Understanding the livelihood assets and determinants of choice of livelihood diversification strategies would help the government, donors or any development practitioners to design and implement the most effective programs for the rural households. The result of the finding also showed in general; livelihood diversification across the strategy helped households to increase the probability of their maintaining livelihood security through integrated livelihood approach.

Infrastructure facilities have higher contribution to households in diversifying their livelihood. The more the market is closer to the rural community, the higher the mobility of people, resource and output. So, giving high emphasis for the development of market center in the nearby area of rural household add extra options like producing cash crops and participate in petty trade for diversifying their livelihood.

Livelihoods attempts not to capture what just people do in order to make a living but also institutional context that either helps or hinders their living. Accessing the service like credit facility in combination of affordable price and after service training; will make the number of effective users to rise and helps to meet the objective the two parties.

Training is an important tools widely utilized by development programs. It stimulates people to find work related to their skill and experience, and can have positive future implications and facilitate socio-economic integrations in the area. So, in addition to agricultural training accessing training on construction, trading and handcrafting will expand the household's choice of livelihood strategy.

The rural poor tend to exhibit a highly eroded asset status manifested by small land holding, small/no livestock and poor linkage with social capital. So, the livelihood approach undertaken by every development practitioner must regards awareness of the asset status of the rural households as fundamental to understanding of the options open to them.

The main constraints faced by the rural households are of various kinds. While most of them are socio-economic and institutional in nature, and some are of agro-ecological in nature. The main constraints faced by the households slightly diversified area are: lack of credit facilities, lack of objective training facilities, fear of taking risk, and lack of opportunities in non-farm sector, while the main constraint in less-diversified area are: poor asset base, fluctuating agro-climate, lack of credit facilities and to some extent lack of objective training. Based on this reality, efforts should be made to make remunerative non-farm opportunities accessible to the rural households, particularly for the poor and poor of the poor. This includes the development of market, electrification, telecommunication, and also institutional innovations to reduce entry costs and barriers to poor livelihood groups and provide target specific objective training.

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