

Determinants of smallholder farmers' engagement in non-farm activities in Damot Woyde Woreda of Wolaita Zone, Ethiopia

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Abstract: *Ethiopian Poverty has been deep rooted in the community that leads to unemployment, lack of income and lack of resource mobilization etc. All these challenges posed farmers to enter into the labor market. Therefore, non-farm activities provide different types of employment opportunities to the farmers to divert their minds to involve many sources of income. The main objectives of the study are to analyze the existing situation of the farmers on non-farm activities and to identify the determinants of non-farm activity participation in the Damot Woyde Woreda in Wolaita Zone, Southern Ethiopia. The primary data were collected from 140 farmers' households, out of which 80 farmers were involved in both farm and non-farm activities but the rest 60 respondents were involved in farm activities only. There were eight Independent variables included in the model of which five variables were found to be significant at less in a 10 percent probability level. The significant variables are age, education, credit use, distance from the road and distance from the market were found to be highly influencing the farmers' involvement in non-farm activities. Therefore, these factors have to be considered while planning of rural farm and non-farm activities by the policy makers to come up with project to implement for the farming community.*

Key words: Non-farm activities, farmers' engagement, smallholder farmer and Annual Income

Introduction

The farmers are predominantly following the agriculture as main source of income for their livelihood. They are depending upon the monopoly of income generating activities which is generated from the agriculture that may not be sufficient for their livelihood. It is highly recommended to have one more additional sources of income through non-farm employment activities according to their capacity as well as the resources available in the surrounding environment. The time has come out to find out the alternative sources of income generating activities to support the needy farmers and landless laborers. Ethiopia is one of the least developed countries in the world that facing a lot of problems at the ground level. Its per capita income is the lowest among the least developed countries and its reliance on agriculture is among the highest of the group (IMF, 2010).

It has been identified that many factors have affected the weak performance of agriculture in Ethiopia. The rigid policies, natural catastrophe like drought and environmental

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degradation as well as rapid population growth are the obvious lacuna in the development of agriculture. The total population of Ethiopia is about 109, 224, 41 (CSA, 2017) that resulted in too small and fragmented holdings, reducing labor productivity and causing widespread underemployment over the nation. There is great demand for the land and its use. The average holding sizes per household and per holder were 1.04 hectare and 1.01 hectare (CSA, 2017). The growing rural unemployment and underemployment have aggravated the problem of landlessness. Scarcity of land has become a critical bottleneck in the nation in general and in the study district in particular (Tassew, 2000). This particular research on Non-farm Employment activities demands more because alarming population growth has resulted in too small fragmented holdings, reducing labor productivity.

Objectives

This particular research study has focused on the specific objectives are to analyze the existing situation of the smallholder farmers and to identify the determinants of non-farm employment activities in the rural areas.

Importance of Non-farm Employment Activities in the rural areas

The rural people started earning through many sources apart from agriculture. The rural non-farm economy (RNFE) is growing through times. The serious attention was paid to improve the RNFE can create wider opportunities for the economic growth and poverty reduction in rural area, often by supporting multiply and spread the benefits from growth in sectors such as agriculture, and by linking urban to rural areas (Wiggins and Hazell, 2011). There are many empirical literatures have been explained that the agriculture is not only source of income earning but also the non-farm employment sector which is defense mechanism during the climate change and hazardous situation in the rural areas. On the top of that there are some research studies in the third world countries have shown that the non-farm activities plays a major role in providing employment and income in the rural areas (Lanjouw, 2001; Haggblade *et al.*, 2007). Apparently Wiggins and Hazell (2011) indicated that nonfarm activities are highly supportive to create the new livelihood opportunities to the rural poor.

It has been cross-checked with many literatures that the he Rural Non-farm activities are purely seasonal based up on which the availability of raw materials and the level of the income of the rural households posed them to engage both in agriculture and in non-farm activities. (Wiggins and Hazell, 2011).

Categories of Non-farm Employment Activities

According to Woldehanna (2000) non-farm activities in which farm household participates can be categorized into wage employment and self-employment activities. Three types of wage employment can be distinguished, namely paid development work, manual non-farm work, and non-manual (skilled) non-farm work. Paid development work involves jobs in community micro-watershed structures, soil and water conservation works such as construction of retaining walls, terraces and afforestation, and other community works done under the food-for-work program. It can be explained that the non-farm activities are available in the secondary and tertiary sectors which will enhance the employment potential either through permanent or temporary situation. The Non-farm activities have been diversified by its nature of different activities amalgamated into the available environment. The smallholder farmers have engaged in petty trade, handicrafts activities, daily wage labor, pottery and tanning etc.

Empirical Literature

The last three decades, the reality of the benefit of the non-farm activities were widely recognized due to the expansion of the employment opportunities as well as increasing the resource potential to have reduced the poverty conditions in the LDC countries. (Reardon, 1998; Ellis, 1998; Lanjouw and Lanjouw, 2001; Davis, 2003). The Non-farm activities are one of the survival livelihood strategies among the poor households in the least developing countries. (Mduma and Wobst, 2005). The empirical research studies have shown that nonfarm sources contribute 40–50 percent to average rural household incomes across the developing world (World Bank 2008a). In Ethiopia, according to Davis (2003) and Deininger (2001), some 20 percent of rural income originates from nonfarm sources. In some parts of Ethiopia, other than agriculture non-farm and off-farm have generated the household income which accounts for up to 35 percent. (Woldehanna, 2000).

The Non-farm activities promote the employment opportunities to the migrated people from rural to urban areas thereby assuring income and welfare to the rural households. For example, Barrett *et al.*, (2001) found that there is positive correlation between income and wealth of the rural households in rural Africa. The non-farm activities help to promote household income and assets in the rural Ethiopia to get out of the clutches of the poverty stricken community in general. The positive wealth–nonfarm income correlation may also suggest that those who begin poor in land and capital face an uphill battle to overcome entry barriers and steep investment requirements to participation in nonfarm activities that are capable of lifting them from poverty. Decisions by rural households concerning involvement in nonfarm activities depend on two major factors: incentives offered and household capacity (Reardon *et al.*, 2001).

Most of the research investigations entailed that the factors that influencing the rural people participation in the Non-farm activities and an opportunity of selecting anyone of the activities according to their taste and interest as well as their capacity and experience. For example, Mduma and Wobet (2005) found that the following factors such as educational status, level, availability of land, and access to finance and market were highly attracting more rural households to engage in the non-farm activities successfully.

Bezu *et al.*, (2008) observed that there is an ample opportunity of selecting the suitable non-farm activities according to their choice of the rural households. These scholars have identified that education, sex, and land holding could determine the choice of selecting the right non-farm activities in a given environment. In sum, involvement in rural nonfarm activities, as a livelihood strategy among poor rural households, plays a vital role in promoting growth and welfare and offers a pathway out of poverty, if nonfarm opportunities can be seized by the rural poor. Moreover, the “push-and-pull” factors are also determine their decision making power of selecting the preferred non-farm activities of the rural households according to their choice and interest. For example, some might be attracted either by the incentives offered and labor availability (when households have more than enough laborers for their farm), or others might be pushed into the nonfarm sector due to a lack of opportunities on the farm (for example, from drought or insufficient land holdings).

There are several results have showed that nonfarm activities is an age old practice undertaken by the rural households in indigenous way but the modern era has attracted a large number of non-farm laborers in the developing countries to engage in the Small and Micro Enterprise activities in general. The pertinent was data collected to investigate the surplus labor assumption of the dual economy model in the 1970s showed large size of nonfarm labor use in developing countries initiating interest in small scale and rural nonfarm business activities

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Haggblade (2007). The studies on micro and small scale industries on income diversification give some insight in to the rural nonfarm economy in developing countries.

Economic Importance of Non-Farm Activities

Several cross-sectional studies in Africa and Latin America show a positive correlation between non-farm participation and total income Reardon *et al.*, (2001). There are some research studies also found non-farm employment creates an opportunity to increase in agricultural investment (Ruben and Van den Berg, 2001; Bezu and Holden, 2008). These findings suggests that, the expansion of nonfarm economy may play a positive role in reducing poverty. Nonfarm Expansion can play a significant role in reducing poverty if most of the poor have access to employment in the sector. But it is not always the case that the nonfarm sectors are more inclusive of poor. It has been identified that the poor rural farmers have engaged in non-farm activities more than richer one in East African countries. (Matsumoto *et al.*, 2006). The empirical research findings have confirmed that there was positive correlation between the non-farm income and total income or wealth is not so uniform. According to Janvry and Sadoulet (2001) opined that non-farm expansion creates income equality but in some cases but most of the Africa researches investigated by Reardon, (1997) there was income equality existed in the non-farm economy . It is not equal of earning income both rich and poor households who have engaged in non-farm activities that there was income inequality existed between the rich and poor.

Challenges of Non-farm Activities in Ethiopia

Some research studies examined the factors that influencing the participation in non-farm activities used different methodologies and different units of analysis, due to this condition comparison of results become difficult. The researchers have found that nonfarm participation to be negatively correlated with agricultural income and self-sufficiency and positively correlated with adult male labor. In their participation analysis, Matsumoto *et al.*, (2006) set out to estimate multinomial probit model of occupational choice for individuals in farm, local nonfarm, and migration activities in Ethiopia, Uganda and Kenya. However, because of the number of migrants in the Ethiopia sample was very low (only 15 individuals in the members of 420 household), they combine local nonfarm and migration activities in the Ethiopia.

Nonfarm income decreases with the number of children in the household. Woldenhanna and Oskam (2001) estimated tobit models for household labor supply to nonfarm employment, separately for wage and self-employment. They found upward sloping labor supply curve for both types of activities. Moreover, they found that labor is negatively correlated with agricultural land, livestock and non-labor income. These researchers also estimated a multinomial logit model to analyze the choice between the two types of non-farm activities. The researchers have found that nonfarm wage employment increases with family size and decreases with agricultural production and the number of dependents. On the other hand, self-employment increases with agricultural production and is not affected by demographic factors.

The researchers have argued that the results imply that households engage in self-employment to gain attractive returns while they engage in wage employment because of push factors. Their study does not find significant effect of education. Van den Berg and Kumbi (2006) estimated tobit models for income from handicraft, food/drink and trade separately. They found that own cultivated land is positively correlated. This is similar to the result from Woldenhanna and Oskam (2001). Moreover, they also found that households with heads who are married and literate are more likely to engage in food/drink production and trade.

Methodology

Description of the Study Area

The research study was conducted in Damot Woyde district of Southern Ethiopia. Damot Woyde is located 335 km South of the capital, Addis Ababa. Damot Woyde district at lies between 60 40'N and 60 57'N latitude, and 370 51'E and 380 06'E longitudes. The altitude ranges from 1001m to 2100m above sea level. In addition, the altitude of lowlands varies from 1001 to 1600m above sea level. The district has two agro-ecological zones namely lowland (Kola), and mid land (Woynadega) of which the largest part is covered by mid land (Woinadega) which accounts for 60% and the remaining 40% accounts for kola. The minimum and maximum average annual temperatures are 18 0^C and 21 0^C respectively. The total mean annual rain fall is 804.1mm in lowland area to 1116.5mm in midland (Woinadega). The prevailing production system in the area is mixed crop and livestock production. The vegetation of the study peasant associations (PAs) is dominantly occupied by Woody Grass Land (WGL) including shrubs (CSA, 2017).

Sampling Size Determination

The Multi-stage sampling technique was employed to select the sample households for this study. At the 1st stage, Damot Woyde Woreda was purposively selected. In the 2nd stage, 4 Kebeles (Tora Wulisho, Tora Ofore, Chifisa and Anka Shashara Kebeles) were selected by using simple random sampling based on the agro-ecological difference from the Woreda where the numbers of non-farm activities plus the farm laborers are high in number. In the 3rd stage, 140 sampled farmers were selected by using Probability Proportionate to Size (PPS). The Yamaneh (1967) was used to select the sample respondents by using the formula

$$n = \frac{N}{1+N(e)^2} = 140$$

Research Design

The descriptive research design was employed which is concerned with describing the characteristics of a particular individual, group or situation are all examples of descriptive research studies. The research design must make enough provision for protection against bias and must maximize reliability, with due concern for the economical completion of the research study. Moreover, this research has both Qualitative and Quantitative approach what is called Mixed Methods Research Approach was used in this research.

Types of Data and Data Collection Techniques

Both Primary and Secondary data were collected for this research study. The primary data were collected through household survey from the 140 sampled farmers of which 80 farmers who have involved both farming and Non-farm activities and 60 farmers who do not have involved in Non-farm activities but only farming. The primary data were collected by trained enumerators by using a pretested semi-structured Interview Schedule. Secondary data from Agriculture and Natural Resource Department Offices, Reports, Statistical reports, websites etc. The Secondary data were collected from documents of different offices of Damot Woyde Woreda. Finally, the data was triangulated for further clarity and error reduction purpose.

Both Qualitative and Quantitative data were collected from the sampled and non-sampled respondents. The primary data were collected from the sampled farmers in the study area. The qualitative data were collected from the Focus group discussion (FGD) Key Informants interview (KII) including Field observation. The Qualitative data were collected from the key informants

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interview was conducted with Development Agents, local leaders, model farmers and District Agricultural Development Office representative in the study area. Focus group discussion (FGD) was conducted with small group of non-sampled respondents. At each Kebele, one Focus Group Discussion was assigned. The FGD qualitative data were collected from the selected persons who were local elder, religious leader, women and young farmers of the sample Villages. The main purpose of Focus Group Discussion was to triangulate with quantitative data in order to ascertain the reliability of the research.

Method of Data Analysis

Descriptive statistics such as mean, standard deviation, percentages and frequency and inferential statistics of t-test and chi-square were used along with econometric model to analyze the collected data. For deciding the model specification from liner, logit and prohibit: the dependent variable farmers participation on Non-farm activities which is dichotomous and the Binary logit regression was selected taking into consideration the nature of dependent variable (engaged or not engaged in non-farm activities).

Table 1: Description of Explanatory Variables and their hypothesized signs

S. No.	Independent Variables and Measurements	Type	Signs
AGE	Age of the Farmer in year	Continuous	-
CREDIT	Credit service (if Yes = 1 Otherwise = 0)	Dummy	+
SEX	Sex of the farmer (if Male=1, Female=0)	Dummy	-
EDUCA	Illiterate and Literate	Categorical	+
INCSOUR	Income from Farm & Non-farm activities	Continuous	+
LANDSIZ	Land size measure in Hectare	Continuous	+
DISMARKET	Distance measured in terms of Kilometer	Continuous	+
DISROAD	Distance measured in terms of Kilometer	Continuous	+

Results and Discussion

Age: The age structure of the sampled respondents showed that the average age of the Participant farmer was about 47 Years where as that of Non-participant farmers was 51 Years. As t-test shows that there is significant difference in average age of the two groups reported in the Table 2.

Table 2: Distribution of the sample respondents by Age

Variable	Participants		Non-Participants		t-value	Total	
	Mean	SD	Mean	SD		Mean	SD
Age	46.85	12.44	50.75	11.02	1.926**	48.52	11.97

Table 3: Distribution of the sample respondents by sex

Characteristic	Participants		Non-Participants		x2	Total	
	No.	%	No.	%		No.	%
Sex							
Male	66	47.14	59	42.14	8.985***	125	89.28
Female	14	10	1	0.7		15	10.72

*** Significant at 1% probability level

Sex: The survey results showed that the total number of Male and Female respondents in the study area. Among the sampled households 89.3 percent were males, while the remaining 10.7 percent are females represented in the Table 3.

Education: The educational status of the sampled farmer households indicates that 41.25 percent of the participant farmers were literate, while the remaining 58.75 percent were illiterate (Table 4). On the other hand, 50 percent of the non-participant farmers were literate and the other 50 percent were illiterate. The chi-square test showed no significant variation between the participants and non-participant farmers.

Table 4: Distribution of the sample respondents by educational status

Educational Status	Participants		Non-Participants		Total	
	No.	%	No.	%	No.	%
Literate	33	23.57	30	21.42	63	45
Illiterate	47	33.57	30	21.42	77	55
Chi-square			1.061			

Table 5: Distribution of the sample respondents by landholding size

Size of Land (Ha)	Participants		Non-Participants		t-value	Total	
	Mean	SD	Mean	SD		Mean	SD
0-0.25	0.618	0.586	0.637	0.362	-0.23	0.626	0.501
0.25-0.5	0.132	0.375	0.008	0.055	2.911***	0.079	0.291
0.5-1	0.112	0.327	0.023	0.17	2.078**	0.073	0.275
Above 1	0.207	0.32	0.206	0.198	0.051	0.207	0.274
The average land size is 0.5 hectare							

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Land size: Farmers who participated in Non-farm activities and non-participants farmers had almost similar size of average land 0.618 and 0.637 ha respectively (Table 5). As the t-test indicates the mean difference of the land for the two groups was not significant. Participant farmers 0.25-0.5 ha. in an average of 0.132 ha land while the non-participants owned 0.008 ha. The mean difference of the two groups was statistically significant at 1 percent significance level. The land size of the both the participants 0.5-1 ha of the sample households was 0.5 ha. The t-test indicates the mean difference of the total land holding is significant at 10 percent level of significance.

Sources of Income

The major Non-farm economic activities that help rural households in the study area comprise trading, traditional handicrafts, wage employment, selling of foods and drinks. As the household survey depicted, the total sample households 25 percent reported that the non-farm income accounted for the highest proportion of the annual household income but 72 percent of the sample respondents reported that agriculture accounted for the highest share but the remaining 3 percent had got almost equal proportion of annual household income from both non-farm and farm activities (Table 6).

Table 6: Distribution of the sample respondents based on sources of income

Category of Income Sources	Number of Households	Percent
Agriculture sources	101	72.1
Non-farm sources	35	25
Both Agriculture+Non-farm	4	2.9

Determinant of Farmers Involvement on Non-Farm Activities

This research study has eleven explanatory variables were used. Based on the model results envisaged the variables such as Age, Education, Access to Credit, Distance from Road and Distance from Market are significant and the rest are Sex, Land size, and Farm Income were found to have a negative sign of association with participation in Non-farm activities. Out of the 8 proposed explanatory variables, five of them were statistically significant in the Binary logit model while the rest were not significant at less than 10 percent probability level.

Results of Quantitative Data Analysis

The significant explanatory variables included Age (AGE), education (EDUCA), credit (CREDIT), distance from road (DISROAD) and distance from market (DISMARKET). The interpretations of the significant explanatory variables are given below:

Age: This variable is significant at less than 10 percent probability level and negatively associated with the participation in Non-farm activities (Table 7). The sign shows that the Age of the farmer increases, the probability to be non-participation in non-farm activity increases. All the other things being kept constant, the odds ratio in favor of showing interest to participation in Non-farm activities decreases by a factor of 0.955 as the age of the farmer increased one unit. The possible justification is that in the study area, participation in non-farm is higher for younger farmers than for older farmers. The negative impact of the Age on participation in non-farm activities may be explained by the fact that due to the population pressure, young farm households cannot get enough land to support their livelihood compared to older farmers. A

study was conducted in Northern Ethiopia in Tigray by Tassew and Oskam in 2001 have also presented similar results (Tassew and Oskam, 2001).

Table 7: Parameter estimation of the Binary Logit Regression model

Explanatory Variables	Estimated Coefficients	Odd Ratio	Wald Statistics	Significance P-value
AGE	-0.046	0.955	3.241	0.072 *
SEX	1.033	2.811	0.777	0.378
EDUCA	1.351	3.862	4.245	0.039 * *
LANDSIZ	0.722	2.059	1.580	0.209
INCSOUR	-0.001	0.999	2.627	0.105
CREDIT	1.090	2.973	3.262	0.071 *
DISROAD	-1.107	0.330	15.045	0.000 * * *
DISMARKET	-0.968	0.380	8.749	0.003 * * *
CONSTANT	5.114		4.266	0.039 * *
Chi-square			97.874	
2 log likelihood			93.340	
Count R ²			84.3	
Sensitivity			92.5	
Specificity			73.3	
Number of observation			140	

*** Significant at 1 percent probability level

** Significant at 5 percent probability level

*Significant at 10 percent probability level

Education: (EDUCA): This variable has an important influence on participation of the farmers in Non-farm activities. The results showed that the variable had positive impact on the probability of being participant in non-farm activities in the study area. In other words, the probability that farmer would be non-participant decreases as the education level increases. This variable is significant at less than 5 percent probability level. The odd ratio in favor of the participation in Non-farm activities increases by a factor of 3.862 for a farmer who is literate. This indicates that education attainment is proved to be one of the most important determinants of the participation in Non-farm activities. The skilled and educated farmers have a positive interest in the involvement of Non-farm employment in the study area. This may be because Non-farm activities require some skill and training. Hence, the farmers with some skills and educational background tend to engage in Non-farm activities than others. Education tends to

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improve rationality and stimulate diversified use of resources. Similarly, studies conducted by Bartell, Reardon and Webb in (2001); have showed the same results.

Access to Credit (CREDIT): This variable has a positive correlation with the participation in Non-farm activities. The result shows that the variable is a positive impact on the probability of participating in Non-farm activities in the study area. In other words, the probability that farmer will be non-participant decreases, as the farmer does not take credit. This variable is significant at less than 10 percent level. The odds ratio in favor of participation in Non-farm activities increases by a factor of 2.973 for farmers who have access to credit. This is because the availing of credit enables the farmers to finance to purchase of agricultural implements, skills, acquire, capital for initial investment and purchase of inputs. The study was conducted by Tassew (2000) supports the finding of the study.

Distance from Road (DISROAD): This variable correlated negatively with the participation in Non-farm activities and was significant at less than 1 percent probability level. The interpretation of negative correlation is that those households living at a longer distance from the roads were less participative in Non-farm activities the others. The odds ratio for explanatory variable shows that, other variables being given, the odds ratio in favor of participating in Non-farm activities decreases by a factor of 0.330 has the household increases by one more hour distance from all-weather roads. The reason for this may be, as the household is nearer to the main road, access to transport the produce and inputs form and to the residence would be facilitated at a least cost. This result is also supported by the earlier studies of (Alene *et al.*, 2008).

Distance form Market (DISMARKET): The distance form market has a negative association with participation in Non-farm activities and it is significant at less than 1 percent probability level. The odds ratio for this explanatory variable shows that the odds ratio in favor of participating in Non-farm activities decreases by a factor of 0.380 has the household increases by one more hours distance from the market center. The plausible explanation is that if a farmer is living in a remote from market place, getting inputs and produce from and to the market place is costly. Therefore, farmers are discouraged to diversify their income from different sources. A study was conducted by Barret. C. (2007) showed that farmers who have access to market get high opportunity to involve in Non-farm activities.

Conclusion

The Non-farm activities are the one of the sources of income that the farmers can involve in order to stabilize their livelihood in the given environment. The main objective of this study was to examine the existing the situation of the farmers involvement in the study area and to identify and analyze the determinants of the farmers involvement in Non-farm activities. The data were collected from 140 farmers households from Damot Woyde Woreda in Wolaita Zone. The multi-stage sampling was employed in this research. At the 1st stage, four Peasant Associations were randomly selected out of 17 PAs found in the District. Taking a list of farmers households in the selected PAs, which was obtained from the PA offices, the households in each PA were purposively selected. In the 2nd Stage, simple random sampling was used by using Probability to Proportional to Size (PPS) was used to select the farmer respondents. Apart from this primary data, the secondary data were collected from the relevant sources to supplement the data obtained from the survey.

Recommendations

The recommendations was highlighted here based on the research results findings, the following points need to be considered as possible policy implications in order to strengthen the farmers' involvement in the Non-farm activities as substitute for agriculture income sources.

- The results showed that farmers who have engaged in Non-farm activities earn diversify income and lesser risks from farming. The fact that Non-farm income is positively related with agricultural income and those farmers with higher non-farm income are better-off than those with low non-farm income establishes the close relationship between farm and non-farm incomes in the study area. Therefore, the rural development strategy should not only emphasis in increasing agricultural production but concomitant attention should be given in promoting non-farm activities also in the rural areas.
- The educated farmers who are more likely to involve in Non-farm activities. Thus education could be an effective tool in increasing involvement in Non-farm activities. Therefore, the task of upgrading the skills and production techniques of local farmers should be given a special attention.
- The special agri-preneurial training has to be given by the respective Institutions to the eligible farmers who are really interested can gain the knowledge and skill oriented trainings for entrepreneurial skills for undertaking small business ventures with small investment.
- Access to road and market can support the farmers who are really interested can utilize these resources for their own benefits to enhance the Non-farm activities successfully.
- Encourage the Micro Finance Institutions to issue the loans to the farmers who are aspire to establish the micro-business or endeavors with minimum seed money of the initial capital that could support them efficiently. Credit is crucial input for the needy farmers can start the any one of the Non-farm activities according to his will and interest.
- Non-farm activities are many in the field but which one is more suitable to the farmers according to their land, accessibility and environment etc should be provided to them.
- Climate change is threatening factor to the farmer on this decades that the farmers have to look at the second option of income generating opportunities through this Non-farm activities.

Ethiopia Technical Terms

Dega – Highland altitude

Kolla : Lowland mainly lower than 500 m above sea level.

Woyne Dega – Mid Highland altitude

Kebele : A type of administrative division at lower level which is higher than village. Kebele means “Village” in Ethiopian language. The Kebele is the basic administrative unit of the Ethiopia Government.

Woreda- is called as “District”. Local administrative above Kebele level which is equivalent of a District.

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