

# Effects Of Livelihood Diversification On Food Security Status Of Farm Households In North Gondar Zone A Case Study Of Gondar Zuria Woreda

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**ABSTRACT:** Although still of central importance, farming on its own is increasingly unable to provide a sufficient means of survival in rural areas. Further, the asset base of farmers is not diversified, so loss of farming productivity during severe drought results in the total loss of assets and hence results in food insecurity and dependency on food aid. Therefore, it was crucial to identify the causes and consequences of food insecurity; assess the different livelihood strategies and their role to household food security status; and examine the effect of livelihood diversification to household food security status in order to recommend possible alternative actions. To achieve these objectives, data was collected from primary and secondary sources to understand the determinants, events and processes involved in people's livelihoods. Livelihood strategies and food security status of 120 farm households were examined. The qualitative data was analyzed in the form of narratives, content analysis, comparison and triangulation where as the quantitative data was analyzed using descriptive statistics, and chi-square to test the significance. The major findings of the study imply that rapid population growth, resource degradation and shrinkage of cultivated land, drought, land fragmentation, weak financial and institutional organizations have puts the farm households at risk of food insecurity. This necessitates the need for enormous efforts in interventions in areas that help households to diversify their livelihoods both within and outside the agricultural system even though the chi-square test indicates insignificant associations. However, based on this result the researcher did not jump to the conclusion that diversification has no effect on food security status of farm households, but this result may be due to the different types of livelihood diversification strategies, their nature, and level and I recommend further in-depth determinants studies/research for future policies/strategies and concerned stakeholders working towards achieving food security must coordinate and intensify their efforts to get feasible and tangible outcomes.

**Keywords :** North Gondar Zone, Livelihood strategies, Food security

## 1 INTRODUCTION

The world produces enough food to feed everyone with at least 2,720 kilocalories per day, which is well above the FAO's recommended minimum of 2250 (FAO, 2003). Ironically food insecurity remains globally widespread and stubbornly high (FAO, 2008). In 2003, the FAO estimated that there were 842 million undernourished (defined by FAO, 2003 as a situation of chronic food insecurity) people worldwide: 798 million (95 %) in the developing world, 10 million in industrialised countries and 34 million in countries in transition. Three-quarters of those affected live in rural areas and include those who have been displaced by civil conflicts and also those who scratch their living from dry-lands where adequate rainfall for crop production is a constant challenge (FAO, 2003; 2008). The most affected countries are those in the Central, Southern and Eastern parts of the continent and include countries like the Democratic Republic of Congo, Burundi, Ethiopia, Malawi, and Kenya (FAO, 2003; 2008). In Ethiopia, combinations of natural and man-made factors have resulted in a serious and growing food insecurity problem in many parts of the country (Ayalneh, 2002). Currently, about fifteen million people are facing food insecurity that is either chronic or transitory in nature. About five to six million people are chronically food insecure every year. The remaining ten million are vulnerable, with a weak resilience to any shock. Under any emergency circumstances, the likelihood of these people falling back into food insecurity is high (FAO, 2008). Livelihoods in Ethiopia are particularly vulnerable to shocks and Ethiopia is a shock prone country. Most of Ethiopia is subject to periodic and severe droughts (there were 15 droughts between 1978 and 1998 alone), to threaten livelihoods. These shocks reinforce food insecurity by undermining what little resilience and assets poor households possess. They also tend to drag new households into chronic poverty and food insecurity (Smith J. and Hamilton, K., 2001). The persistent and chronic nature of the food problem in sub-

Saharan Africa calls for drastic measures to arrest the situation (FAO, 2008). In Ethiopia, the strategic objective is to cut the food insecure people. One of the strategic plans for achieving the objective is identification and up-scaling of successful intervention strategies. But there is still the question of how to achieve this. This research aims to contribute by responding to this pertinent question.

## 1. The Problem

Empirical results indicate that incidence of poverty is higher in rural than in urban areas with poverty head count ratio 45.4 and 36.9 percent, respectively (MOFED, 2006). The country also faces recurrent draught and famine. It is estimated that more than half of the population is food insecure of which the largest group is rural people with inadequate means of livelihood. Thus, a major development challenge for Ethiopia is to reduce absolute poverty and food insecurity at acceptable environmental and economic costs. In Ethiopia, combinations of natural and man-made factors have resulted in a serious and growing food insecurity problem in many parts of the country. Currently, about fifteen million people are facing food insecurity that is either chronic or transitory in nature. About five to six million people are chronically food insecure every year. The remaining ten million are vulnerable, with a weak resilience to any shock. Under any emergency circumstances, the likelihood of these people falling back into food insecurity is high (FAO, 2008). Although still of central importance farming on its own is increasingly unable to provide a sufficient means of survive in rural areas. According to Mulat (2000), the depletion of natural resources particularly the continuous loss of forest and the expansion of agricultural land to marginal areas with the increase in agricultural population have led the country to sever climate change from time to time. As the result, the agricultural output is not predictable and therefore the country is prone to food shortage as well as famines. At household level,

the combined effects of insufficient domestic food production and increasing food prices have eroded the ability to access adequate food by many people (USAID, 2003). This is reflected in a high number and proportion of undernourished people in the country and in the study area. Similarly, although the proportion of the undernourished population dropped, it still remained relatively high at 31 percent (of the population) within 1990-92 and 2002-04 period, representing about 10 million people (FAO, 2008). Consequently, policy interventions designed to reduce food insecurity are becoming increasingly important, making it crucial to develop reliable and easily applied interventions to enhance the targeting efficiency of such policy measures. This entails the necessity of a research that investigate the overall food insecurity situation and its determining factors among these rural households, in order to make informed decision for policy and development interventions. Therefore, the general objective of the study is to examine whether livelihood diversification solve the problem of food insecurity or not in the study area. The specific objectives of the study are: to identify causes and consequences of the Problem of food security, to examine the different livelihood strategies with their roles to food security status of farm households and finally to analyze the effect of livelihood diversification to food security status of farm households.

## 2. The study area: Gondar Zuria Woreda

Gondar zuria Woreda is one of the sixteen Woredas of North Gondar Zone of the Amhara National Regional state. It is estimated that about 91,363 populations live in the Woreda comprising of 97,363 male and the remaining 93,988 are female. Around 172,981 people live in the rural areas and their livelihood mainly based on agricultural activities and 18,382 peoples in the urban areas (CSA, 2007). The altitude of the Woreda is 1982 meters above sea level and the average annual precipitation range between 950mm-1035mm. The annual temperature of the Woreda is 33°C maximum and 27°C minimum. The total area coverage is 1286.76 km<sup>2</sup>. (Gondar City Municipality, 2008). Gondar town, i.e. the administrative center of the concerned Woreda, is 748kms far from the capital of the country and 180kms from the capital of the national regional state. In the Woreda, there are four small urban centers including Makiseget, Teda, Enfranze and Degoma towns as well as rural Kebeles and peasant associations. This Woreda involves 5605 households with average size of households ranging from 4.5-4.866, and sex ratio is 103males for 100 females. Teda is located in the North Eastern part of Lake Tana. It borders with Azezo and Gondar towns in the north and with Makisgent in the south. The rural peasant associations around Teda settled by 5122 people including 2692 and 2429 male and female, respectively. The Keble has five peasant associations. Regarding the economic activity, agriculture is the dominant source of income for the farmers in the area. The major crop produced includes, Teff, Maize, Sorghum and Barley. Teda is far from Gondar town and the capital of the regional state, 24kms and 156 kms respectively (Teda Town Municipality, 2007).

## 3. METHODOLOGY

To adequately respond to the objectives of the research, a research approach involving explorative and descriptive research designs was used. The choice of the approach is based on the unique utility of each type. Experimental research tries to explore what the situation seems like. Descrip-

tive research on the other hand gives a logical description of the different groups under investigation according to specified criteria (Maddala G., 1983).

**Sampling method:** It has already mentioned that the study was conducted in Gondar Zuria Woreda. A three-stage sampling method was used to meet the requirements of intended household survey. Firstly, the study area, namely Gondar Zuria Woreda was selected purposively, since risk and disaster prevention office recommended the area as the study site. Secondly, a number of sample Kebeles were selected from the selected area, namely Teda, Tache Teda and Amberks. Lastly, from the selected Kebeles, a total of 120 household heads were selected based on proportionate random sampling technique from the list of households in the respective Kebeles.

**Source and Method of Data Collection:** Vital information about this study was gathered from both primary and secondary data sources. The data collection process was involve two phases. In the first phase, a preliminary survey of the district was undertaken. The purpose of the survey was to familiarize and collect explorative data on food security interventions in the study area. The data were collected from reports from the Zonal development office. It was used for selection of the study area. The next phase was collection of the empirical data for addressing the objectives of the study. Information basically quantitative was collected from sampled household farmers using unstructured and structured questionnaires. The survey was basically aimed at generating quantitative data on household demography, access to resources, and source of livelihood and food security, as well as various qualitative data pertaining to households perception and practices on a range of environmental and socio economic characteristics. The interviews were conducted with the aid of technical enumerators. The questionnaires were first pre-tested on some households outside the sampled population. They then adjusted and directly administered to the respondents. In addition, with the aim of understanding in depth some features of the people's livelihood and food security it was important to undertake key informant interview and focus group discussion i.e. was conducted in relation to the participatory community, where by individuals who were interviewed in person were brought together in to a panel discussion. Issues related to social, economic, institutional and natural circumstances were deal with households. In order to access secondary data relevant to the research work, the researcher conducted document review. In general, as a secondary data, the researcher reviewed different published and unpublished historical records and time serious data that have relevant information to the study. The source was form the back bone of the research, particularly in relation to the theoretical and historical context and trends in livelihood and food security over time.

**Method of Data Analysis:** Both qualitative and quantitative technique was employed to analyze information obtained through household and community survey. All data were cross checked with different sources and only refined and reliable information was used for the analysis. Furthermore, various methods of data analysis were employed to analyze both qualitative and quantitative types of data. The qualitative data gathered through Focus Group Discussion and Key-informant interview was analyzed by using triangulation, concepts and opinions interpretation, and compare and contrast methods,

and presented using narrative quotes. On the other hand, for quantitative data collected through households survey was analyzed with respect sample household's food security status through descriptive statistics (i.e. frequency, ratio, percentage and mean) and bi-variate analysis (i.e. chi-square test) to generate the necessary information.

**Conceptual Framework of the Study**

Many of the definitions and conceptual models agree that the key defining characteristics of household food security is to secure access to sufficient food at all times. Food security includes increasing the supply of food, food availability via increasing the purchasing power of poor people and provision of social protection for the poor through safety-net programs. The purchasing power of the poor can be increases by increasing the income of people through provision of jobs; Social protection includes protecting people from shocks either through market means or through different safety-net program. Different physical, social and economic factors can causes an impact on livelihood. However, the "societies across the world have a long record of adapting to and reducing their vulnerability to the impacts of different events" (Pachauri & Reisinger, 2007) and thus, the coping strategies used to reduce the impact, and the presence of other internal and external stressors determine the societal vulnerability to food insecurity. Identification of the current food security situation, its impacts on livelihood, current coping strategies and identification of vulnerabilities and stressors help to assess the future likely changes, impacts, coping strategies and social vulnerability linking with food security. The conceptual framework of this study, which focuses on the role of farmers coping actions in reducing vulnerability to food insecurity is based on the Social Risk Management approach drawn by Løvendal and Knowles (2005). In this framework vulnerability is the result of a recursive process: current socio- economic characteristics and exposure to risks determine households' future characteristics and their risk- management capacity. At every point in time households' current food security status is affected by their past status and affects their future status. In this conceptual framework, households have a two- period lifetime consisting of the present and the future. Present characteristics are known to households and policymakers and determine households' current food security status. Future characteristics, on the other hand, are unknown to households and policymakers. Between the present and the future, a number of previously unknown factors manifest themselves and determine, depending on households' risk management abilities, the future food security status. Both the current food security status and the expectation of the future status determine the overall household food security situation over a period of time.

**4. Results**

**Characteristics of Sampled Households**

Majority of the sampled households (72.5%) were male headed households while the remaining (27.5%) of the respondents were female headed households. The result of food security status by the sex of the household head indicates that among all food secure households 75% belong to male headed household while the remaining 25% were female headed. On the other hand, among all food insecure households 70.6% were male headed, while the remaining 29.4% were female headed household. Thus, Percentage figures for female

households reveal larger tendency to food insecurity (29.4%) than food security (i.e. 25%) (See table 1). Regarding the marital status of the households, about 93.4% of sampled households were married while 3.3% and 3.3% were unmarried and divorced. Considering the educational status of sampled households 55% were literate, while 45% illiterate. The survey result indicate that food secure households are (80.8%)were more literate than food insecure households (35.3%).Thus, educated households in a better position to get information, services, know how to use modern agricultural technologies, perform farming activities based on cropping calendar and manage resources properly, these factors boost production and improve availability and accessibility of enough food.

**Table 1 Distribution of Sex, Marital, and Educational status of sample household heads**

	Status of food security					
	Food secure		Food insecure		Total	
	N	%	N	%	N	%
<b>Sex of the household head</b>						
Male	39	75	48	70.6	87	72.5
Female	13	25	20	29.4	33	27.5
<b>Marital status of household head</b>						
Married	47	90.4	65	95.6	112	93.4
Unmarried	3	5.8	1	1.5	4	3.3
Divorced	2	3.8	2	2.9	4	3.3
Single	-	-	-	-	-	-
<b>Educational level</b>						
Illiterate	10	19.2	44	64.7	54	45
Read and write	8	15.4	14	20.6	22	18.3
Primary education	30	57.7	10	14.7	40	33.4
Secondary education	4	7.7	-	-	4	3.3
<b>Educational status</b>						
Illiterate	10	19.2	44	64.7	54	45
Literate	42	80.8	22	35.3	64	55

Source: Survey data (2009)

The mean family size of the sample households were 6.05 persons which is above the national average family size of 4.9 persons per household (CSA, 2007).The mean household size of food insecure and food secure households was 6.8 and 5.3 persons, respectively. There exist a difference in mean household size of the food insecure and food secure household as the former group has relatively large mean size of households than the later. This difference implies that as the household size increase, vulnerability to food insecurity is high in the study area because as the size increase the amount of food consumed per household decrease.

### ***Institutional Characteristics of Sampled Households***

The major source of credit is government institutions. These institutions provide credit for the farmers aiming to build the assets. Thus households who participate in credit service can improve their income status through under taking different activities with the credits acquired and hence improves their food security. In the study area it was found that 46.7 percent of the sampled households had only access credit. Food secure households accessed more credit than the food insecure households 69.2 percent and 29.4 percent respectively. Moreover, farmers during the focus group discussion mentioned that the collateral system, repayment schedule and the risk allowance issues of the credit scheme as the major drawbacks of accessing credit services. In countries like Ethiopia, where most rural farmers depend their livelihood in traditional agricultural, the use of modern agricultural input increase the productivity of the sector and hence improve the food status of poor farmers. Almost all food secure households access modern agricultural input but only 54.4% of the food insecure households access it. Regarding the extension service, 78.8% food secure households and 58.8% food insecure households benefited from accessing the service. This indicates that use of modern agricultural input and accesses to extension services have a paramount role in the improvement of household access to food.

### **Livelihood Characteristics of Sampled Households**

#### ***Farm Size***

Owing to rugged terrain of the area, land is a very critical resource to household's livelihood. Farm land possession means a lot to the rural livelihood in the area. Farmers who own farm land are richer, in relative terms, than those who do not. As discussed in focus group discussion, the size of farm land owned per household has been shrinking for so long due to the ever – increasing human population and the severe problem of land degradation in the farm land which has transformed most of the farm land un-fit for cultivation. On top of this, further expansion of the farm land is not possible as the potential is limited by the rugged nature of local topography and land tenure system. The survey result showed that the mean land holding of total sampled households by food insecurity and food security of households. Thus, the mean land holding of food insecure and food secure households was 0.75 and 1.21 hectare, and about 0.85 and 1.48 hectare of land cultivated by food insecure and food secure, respectively. This indicates households with larger cultivated land had more access to enough food.

#### ***Livelihood Sources***

As the survey indicated that, around 73.3% of the respondents are engaged in mixed farming. In addition, 94.2% and 57.4% food secure and food insecure involve in mixed farming, respectively. This indicate that the majorities of food secured households benefited from the activity while food insecure households are not able to benefit from mixed farming because of large family size, land shortage and lack of access to modern agricultural inputs. The major crops grown in the area are cereals, pulses and oil crops. From the total respondents, whose livelihood is depend on only production of crop accounts 26.7% and 5.8% from the food secure side and 42.6% from the insecure side involve. This shows that the vulnerability of households to food insecurity increase as their livelihood

only attached to crop production. This is due to the prevalence of drought, pests and land degradation in the area. Moreover the survey reveal that there is no household whose livelihood is depend on only livestock production. But, production of livestock with crop production contributes a lot to food security of households. Since the two enterprises are complimentary. The income from off –farm activity is another sources of households income. 26.7% among the total sampled respondents involve in off – farm activity. Relatively larger proportion of food insecure households (44.2%) engaged in off-farm activity than food insecure (13.2%). The low level of off-farm work indicates there is high dependency on natural resources for livelihood and efforts should be made by the concerned bodies in order to create opportunities for farmers in off-farm employment. Only 6.7% of the sampled households receive food aid and remittance to assist the food availability in particular and livelihood in general. All the receivers are food insecure households.

### **Causes and Consequences of Food Insecurity**

#### ***Causes of Food Insecurity***

In order to identify the major cause of food insecurity at household level, the sample farm households were asked to respond by rating major cause and the level of contribution for food insecurity by ranking. Regardless of the differences in perceived magnitude of their influence, households ranked shortage of farm land (24.5%) and shortage of rain fall (24.2%) are the most influential of all factor under consideration, followed by land degradation (20.6%) crop pest and animal disease (13.4%), large family size (10.6%) and lack of women participation (6.7%) are causes of food shortage, respectively at farm household level. A number of factors can be exhibited, ranging from bio-physical to socio-economic factors, which can explain the cause of food insecurity, even though it demands a detail investigation. According to key informant interviewers, the major causes of food insecurity entails drought, shortage of land, shortage of food production, cultural barrier, lack of modern technology and family size of the household i.e. is not cope with the land which they have used to produced and cover the annual consumption. However, the focus group discussion revealed that, the major causes of food insecurity in the area includes shortage of farm land, inadequate rain fall and severity of land degradation.

#### ***Consequences of Food Insecurity***

Farmers in group discussion indicate that migration and change the original market place are the major consequences of food shortage in their locality. Moreover, losses of their livestock due to sell them for purchasing crops to consumption purpose, health problem, famine and education with-drawl are mentioned. According to the household survey, migration and place of market change are attributed to famine and starvation which are resulted from the poor performance of the agricultural sector. The response of households to the problem of food security involves migration, selling their asset, income diversification and renting of land which represents. Food insecure households are migrating to adjacent Woredas for searching of jobs to cope with the problem.

### **Households' Coping Mechanism**

**Safety-net program (SNP):** SNP is a program designed to address the basic food needs of food insecure households. However, there is little involvement in safety-net program. Among the total food insecure households only 27.9% were involved in the program. These indicate that the effort to improve food security status by the concerned body is minimal. From the focus group discussion farmers indicate that, the program hasn't benefited their area well because of its limited quota coverage for kebeles and its limited duration.

**Migration:** Migration as a coping mechanism is adapted by 41.2% of food insecure sampled households in the area. The farmers migrate temporarily to Metema and Humera to mitigate the problem of food shortage. As one of the key informant states that, shortage of labor is common during the peak seasons of agricultural practice in the area. This in turn affects the productivity of the agricultural sector which plays a great role in food self-sufficiency of farm households.

**Off –farm activity:** In the study area, the most common off-farm activities daily laborer in the nearby towns, petty trade and preparing local food and drinks. Due to very limited nature of income and return from these activities, most households do not consider off-farm income as a primary income source. According to the survey result, out of the total food insecure households heads, only 13.2% are involved in off-farm income generating activities.

**Selling livestock:** From the total food insecure households about 17.6% sold one of their livestock to cope the problem of food shortage.

### **The Effect of Livelihood Diversification to Food Security**

This section provides the effect of livelihood diversification to food security status of sampled households in particular and to their livelihood status in general.

### **The Role of Livelihood Diversification to Food Security**

According to Ellis (2000) diversification is one of the strategies to build the livelihood of farmers by integrating different sources of livelihood. Numerous factors determine the abilities of rural farmers to diversify their livelihood strategies away from both crop and livestock production in to off-farm and non-farm economic activities. These determinants identifiable both as pre condition, namely history, social context and agro ecology, and ongoing social change influenced with extreme intervention such as infrastructural and service provision (Smith, 2001). The main diversification scheme in the study area is on-farm diversification and off-farm diversification. From the total sampled households only 36.7% are diverse their livelihood means's. According to the survey result, food secure households (59.6%) more involved in diversification than food insecure (19.1%). This shows that, diversification (i.e. on-farm and off-farm) has an effect to food security status of households in the study area. The chi-square result indicates no systematic association between livelihood diversification and food security status of households. However, the nature and type of diversification, especially in case of food insecure households, still in infant stage as a result, the concerned body should involve in the area to diversify the livelihood source of both food insecure and food secure households.

### **Effect of Livelihood Diversification to Households Livelihood Status**

The tendency for rural households to engage in multiple occupations is off remarked, but few attempts have been made to link this behavior in a systematic way to rural poverty reduction policies. In the past it has often been assumed that farm output growth would create plentiful non-farm income earning opportunities in the rural economies via linkage effect. However, this assumption is no longer tenable; for many poor rural families, farming on its own is unable to provide a sufficient means of survival (Ellis, 1999). According to Scoones (1998), adverse portfolio of activities contributes to the sustainability of a rural livelihood because it improves its long-run resilience in the face of adverse trends or sudden shocks. Livelihood diversification has an effect to household's access to basic infrastructure, asset building, risk reduction and it also reduces the effect of seasonality in the agricultural sector. Concerning the study area, the effects of diversification is minimal due to limited diversification status of the sampled households. However, almost all livelihoods diversify sampled households benefited from diversification in case of access to education. While 86.4% and 31.9% respondents, were benefited from diversification regarding health access and asset improvement, respectively. However, diversification does not have an equalizing effect on rural incomes overall. Better off families are typically able to diversify in more favorable labor markets than poor rural families and benefited more. The major challenges and opportunities to implement the livelihood strategies so as to reduce the problem of food insecurity and build the livelihood base of the households in the study area has been discussed with different stakeholders. From focus group discussion revealed that, there is little participation of local as well as international NGOs to ameliorate existing livelihood situation of the study area, even though, they are important agents to diversify the income of the rural poor. But, the following are the major efforts to be carried out in order to reduce the problem of food insecurity and build the livelihood base of households which encompasses provision of credit facilities, extension services, and inter-sectoral linkage for provision of input. As opportunities survey and focus group discussion results revealed that settlement pattern, having good policies and strategies, and governmental commitments to the subject are mentioned. The main issue is that government and other stakeholders are responsible for the rural dwellers through implementing best strategies which help to improve the existing livelihood sources of the households in the study area.

## **5. CONCLUSION AND IMPLICATIONS**

Given the significance of ensuring food security at household level in Ethiopia, micro-level analysis on the linkage between food security and livelihood diversification, must be given due emphasis and adequate considerations. As such, this chapter presents what has been learned from the study as conclusion and forwards possible recommendations for various stakeholders and development agents to address these problems.

### **Conclusion**

Causes of food insecurity are quite diverse and complex. Some of the causes constrain peasant's production and hence directly affect food availability, some are predicaments related to access and opportunities, some are the political economy attributes affecting people's access to livelihood asset and inhibiting the producer's decision making power, and some are

peasants own failure to properly manage and utilize assets and out puts from their livelihood activities. The ways these attributes are inter related and interact with each other to affect livelihoods vary from one household to another as well as between communities. This study was conducted in Northern part Ethiopia, where food insecurity is almost all season concern of the rural households. The prolonged effects of poor land management and ever increasing population pressure coupled with rugged terrain in the area has resulted in land resource degradation, which in turn responsible for low productivity and diminishing cultivable land holding per household. Shortage and decline in farm land productivity are the major responsible factors for household food shortage, and thus most of the farming households have difficulties to cope with the challenge. The result of the analysis indicated that the determinants of household's food security are characterized by distinctive socio-economic and bio-physical features that are mostly attributed to resource endowed households. Food shortage, land fragmentation and decline in agricultural production at household level are proved to be intricate and inter-linked problems exerting greater challenge on the rural livelihood of farm households in the study area. Diversification has been found to reduce the food insecurity of rural poor households by smoothing seasonal income fluctuations and improving their resilience to shocks. The empirical of regularity of association between income diversification and wealth, consumption earnings leads to many analysts to the facile conclusion that promoting diversification is equivalent to assisting the poor. But this rural reality is not reflected in policy which continues to treat rural people as mainly agriculture dependent.

### Policy Implications

Hence, based on the assessments of the existing scenario on the problems of food security and livelihood situation in the area, appropriate strategies and a range of intervention options, that are viable both in light of short and long-term food security perspectives, are suggested. Even though farmers are exposed to the same bio-physical environment, their understanding of the process and subsequent action to livelihood diversification may vary. In this study, it was found that those farmers who are aware of the effect of livelihood diversification on food security are more likely to be food secure. Therefore, similar and consistent effort should be made to improve farmers' awareness on livelihood diversification. Put it other way, integrating awareness creation on the diversification of livelihood into the extension services could help to improve farmers' capacity to diverse their livelihood and to cope and adopt with any food shortage problem. Livelihood diversification is very important in the livelihood strategies of most rural farm households of the study area. Mere reliance on crop production seems necessary but not sufficient to sustain the livelihood of the farming households without diversifying their income/livelihood sources. As an integral part of farming system, on-farm and off-farm diversification contributes a lot to household food security and improving living conditions of the poor. The findings of this study revealed that, livelihood diversification contribute positively to the food security status of the household. However, diversifying the livelihood of households in the study area is in its infant stage due to lack of assets. Thus, efforts to develop rural financial institutions, providing farmer's remunerative and less risky saving alternatives to diverse their livelihood as a source of wealth could be helpful (Pender *et al*, 2004). Promote growth polls such as rural

town's development that could create employment and other alternative livelihood, which reduce the impact of seasonality on agricultural production patterns. As discussed in the foregoing part of this paper, households with large (dependent or inactive) number of family member are most likely face food insecurity problem because of high dependency burden. Thus, the government and NGOs, particularly operating at the grass root level should design and implement sound programs to enforce the already endorsed population policy in to effect. To this end, the focus must be on family planning and integrated health service and education provisions must catch the attention of decision-making bodies. It was discovered that factors related to institutional services (i.e. extension and credit) were found to have negligible contribution to household food security. Thus, the primary step to provide these services is, identifying and promoting profitable income generating strategies and sustainable land management practices in different bio-physical and socio-economic contexts of the rural poor farm households. To this end, agricultural research and extension are vital to enhance the productivity of the agricultural production systems with judicious use of natural resources for attaining food security and sustainable agricultural development through synchronized, farmer-centered and demand-led approach. Lastly, the livelihood of many households in the *Woreda* was and is seriously affected by recurrent drought and food shortage. Thus, although food assistance may not be long-term solution to the underlining causes of household food insecurity, it seems imperative to continue the relief handout for some time to for those who have no access either to produce or buy food. But, the link with the employment generating system would help both in reducing dependency syndrome and contributing to local development as well as resource management.

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