Analysis of Determinants of Access to Credit among Smallholder Farmers in Edja District, Guraghe Zone, SNNPR, Ethiopia

Gizachew Argaw
Department of Agricultural Economics, Wolkite University, Ethiopia

Abstract
Efficiency in production requires utilization of improved technologies. Smallholder farmers in Ethiopia cannot adopt improved agricultural technologies using their savings. Therefore, the dependence of the subsistent farmers on financial institutions for credit has become substantially increasing nowadays. The major concern of this study was to identify factors that determine farmers' access to credit from Micro- finances. For the purpose of the study primary data were collected from three sample kebeles. A total of 120 households comprising 60 credit users and 60 non-users were selected randomly in each sampled kebeles. In addition, secondary data were collected from relevant organizations. Descriptive statistics such as mean and percentage were used for analyzing the data. Moreover, t-test and χ2 - test were employed to compare credit users and non-users with respect to the hypothesized and other related variables. A binary logit model was employed to examine factors influencing microfinance credit access. The education level of the household head, age of the household head, the household size, non and/off-farm income of the household and size of cultivated land were important factors influencing farmers' credit access. Promoting microfinance institutions in wider range of areas, providing farmers with other factors of production and adding non and/off-farm income generating activities are critical factors that should be practiced by stakeholders in the study area to increase farmers' access to microfinance credit.
Keywords: Micro Finance, Credit, Logistic regression

1. INTRODUCTION
1.1. Background of the Study
Ethiopia's economy remains heavily reliant on the agricultural sector. It contributes about 80 percent of total export earnings, generates around 40 percent of total Gross Domestic Product (GDP), and directly or indirectly provides a livelihood to almost 73 percent of the population (UNDP, 2014). Although its contribution to economic development has declined steadily during the past years due to the focus devoted to the industry and service sectors, agriculture remains to be an engine of growth for many years to come. Ethiopia has huge potential for agricultural production. Despite this potential, Ethiopian agriculture has remained underdeveloped because of different factors. Moreover, most of the agricultural production is by small-scale subsistence farmers who engage in non-market production and work under a myriad of production and post-production constraints.

As high potential agricultural land per capita holdings in Ethiopia diminishes due to high population growth, it is critical that farmers attain high levels of economic efficiency to contribute to household food security and to overall national development. The only option for the smallholder farmers is to increase production by use of improved technologies. Thus, farmers need capital to finance their operations. For smallholder farmers, such capital can only come from credit sources because their marginal propensity to save is low. The small scale farmers can compete with the industrialized world's biggest producers if they were not constrained. The constraints they face are mainly land, labour and capital. Capital is the most important, since labour can be supplemented with family labour as opposed to hired labour, while land can only be improved through use of improved technologies which require capital (Serah. 2013).

Agricultural credit is very important for sustainable agricultural development to be achieved in any country of the world. Rural credit has proven to be a powerful instrument against poverty reduction and development in rural areas (Ololade & Olagunju, 2013). Farmers are particularly in need of such instrument (i. e credit), because of the seasonal pattern of their activities and the important uncertainty they are facing. Recognizing the potential contribution of credit to enhance the productivity of farms, the government of Ethiopia has been pursuing a microcredit policy that seeks to provide essential business which improves the livelihood of poor people.

Ethiopia's financial sector consists of commercial banks, insurance companies, microfinance institutions, saving and credit associations, multipurpose cooperatives and money lenders. The microfinance sector in Ethiopia is a 1990's phenomenon. The sector has progressed from humanitarian orientation to combining outreach and viability missions. The Government's hand in the MFI industry is huge ranging from extending institutional and portfolio supports to claiming ownership in MFIs (Gashaw, 2014). As of September 2010, the microfinance industry had mobilized 2.8 billion Ethiopian birr, growing from previous period although with significantly lower growth than the banking sector.

However, studies shows that majority of smallholder farmers in Ethiopia still have no access to formal credit. The microfinance sector of Ethiopia, as at 2009, recorded 2.3 million borrowers. There are currently 31

MFIs registered with the National Bank of Ethiopia serving clients through 433 branches and 598 sub-branches. Studies estimate that this figure serves around 3% of the total population and between 10-25% of the total microfinance demand in the country (MF Transparency, 2011). Therefore, here is a study on the analysis of factors that affect smallholder farmers' access to credit in Edja district, Guraghe zone.

1.2. Statement of the Problem

Agricultural development requires the adoption of improved technologies. Majority of smallholder farm community comprises of subsistence farmers who are not in a position to use high quality seeds, sufficient fertilizers and improved farm implements due to the lack of finance available to them. Therefore, lack of finance is one of the main reasons for low productivity in smallholder agriculture. The matter of enhancing agricultural productivity largely depends on the availability of finance and credit facility available to the farmers in their respective areas (Mohammad *et al.,* 2006).

Improving the access of households to credit has been taken as an important intervention to poverty reduction by many developing countries and development assistance organizations (Guobao, nd**)**. According to Ibrahim and Bauer (2013), among the multiple causes of rural poverty, the lack of access to formal and adequate financial services remains a major impediment to the socio-economic choices of the rural smallholder farmers. One of the identified constraints facing the poor is lack of access to credit to enable them to take advantage of economic opportunities to increase their level of productivity and income, hence move out of poverty (Sophia *et al.*, 2012).

The development of microfinance institutions in Ethiopia is a recent phenomenon. The proclamation, which provides for the establishment of microfinance institutions, was issued in July 1996. Since then, various microfinance institutions have legally been registered and started delivering microfinance services (Wolday, 2003). The Ethiopian microfinance sector is characterized by its rapid growth, an aggressive drive to achieve scale, a broad geographic coverage, a dominance of government backed Microfinance Institutions (MFIs), an emphasis on rural households, the promotion of both credit and savings products, a strong focus on sustainability and by the fact that the sector is Ethiopian owned and driven (Dilayehu, 2014) .

However, despite the encouraging increase in number of microfinance institutions in the country, the rural poor's demand for credit remained untouched particularly due to the institutions bureaucratic procedures and methodologies. According to Ebisa *et al.* (2013), the number of microfinance clients in Ethiopian was 2.5 million in the year 2011. Studies estimate that this figure serves around 3% of the total population and between 10-25% of the total microfinance demand in the country. In Ethiopia even though microfinance programs have been considered increasingly as important safety nets of the poor, knowledge about the achievements of these strategies remains only partial and limited, generally in the case of rural setting (Dilayehu, 2014).

The study is concerned with identifying factors affecting smallholder farmers' credit access in Edja district of Guraghe zone. Since, there are many factors affecting smallholder farmers' access to credit, it is crucial to identify the important ones because it makes us more sharpen to solve the problem.

1.3. Objectives of the Study:

➢ To identify factors influencing smallholder farmers' access to credit from MFIs.

2. RESEARCH METHODOLOGY

2.1. Description of the Study Area

Edja District is located in the Guraghe zone. The average family size of the district is 4.4. The land use pattern of the district is divided into cropland, grazing land and forest. Crops grown in the area includes cereals, fruits, vegetables, coffee, chat and enset. The estimated land use figure of the district is that the cultivated land of the district to be 40.7 percent and cultivable land 33.7 percent, grazing land and land under forest or natural vegetation makes up 12.1 percent and 8.6 percent, respectively (WVIE, 2006) . The majority of the land owners possess land size ranges from 0.5 to 1 ha. There are two Micro finance institutions namely Omo Microfinance and WISDOM microfinance which provides credit service in the district.

2.2. Types, Sources and Methods of Data Collection

2.2.1. Types and sources of data

Data on the farmers' circumstances, resources, enterprises, expenditures, production, consumption, etc are collected. The data include both primary and secondary types. The primary data was collected from sample farmers and secondary data from concerned government organizations or public sectors like district Finance and Economic Development Office; microfinance institutions like Omo microfinance and Wisdom microfinance institutions.

2.2.2. Sampling procedure and sample size determination

The population of the study was farm households of the district. According to Edja district Finance and Economic Development office, the number of households in the district is 14380. Because of time, finance and other constraints the researchers limited the sample population in the three representative kebeles of the district. In the study, samples were selected by stratifying the population in to two groups in each kebele, i.e., credit users and non-users, and samples were selected randomly in each stratum. Households were selected randomly from each group according to their list in the frame from each kebele office for the non-users and in the microfinance offices for credit users. The unit of analysis in this research was households who were selected randomly from the total households of the three kebeles.

In the study, both probability and non-probability sampling techniques were used. Probability sampling technique was used because it gives equal chance to the households in each group. Regarding selecting sample kebeles from the district non- probability (purposive) sampling method was used. Sample size depends on sampling error, population size, and variation in the population, with respect to the characteristics of interest. This study applied a simplified formula provided by Yamane (1967) to determine the sample size at the level of precision of 0.09 as:

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

Where, n is the sample size, N is the population size and e is the level of precision. The above formula provided approximately 120 sample households.

2.2.3. Methods of data collection

Key informants interview and structured questionnaire were the main data collection instruments employed to collect the data. The researchers used enumerators to collect data from farmers by providing training on how to conduct the interview. In addition to interview type of data collection technique, secondary data from public sectors and microfinance institutions were collected. Concerning selection of sample respondents, probability sampling technique was used. First, the target population is stratified in to two groups i.e., credit users and non-users, and then simple random sampling was used to select respondents in each group.

2.3. Methods of Data Analysis

Descriptive statistics and logistic regression model was applied to analyze the data.

Model Specification

A Logistic model is a univariate binary model. We use a binomial logistic regression model given that the dependent variable is dichotomous: 0 when a farmer is having no access to credit and 1 when having access to credit. Predictor variables are a set of socioeconomic and demographic status indicators and dwelling endowment of the farmers. They contain both dichotomous and continuous variables. Let Pj denote the probability that the j-th farmer is having access to credit. We assume that Pj is a Bernouli variable and its distribution depends on the vector of predictors X, so that:

$$ p_j(X) = \frac{e^{\alpha + \beta X}}{1 + e^{\alpha + \beta X}} \qquad (i) $$

The logit function to be estimated is then written as:

$$ (ii) $$

$$ \ln \frac{p_j}{1 - p_j} = \alpha + \sum_i \beta_i X_{ij} $$

The logit variable ln {Pj / (1-Pj)} is the natural log of the odds in favor of the farmer having access to credit. Equation iii is estimated by maximum likelihood method and the procedure does not require assumptions of normality or homoskedasticity of errors in predictor variables.

2.4. Variables Description and Hypothesis

It is necessary to identify the potential explanatory variables and describe their measurement and represent them in symbols.

Table1: Measurements and hypothesis of dependent and independent variables

Variable	Type	Definition	Expected sign
Dependent variable			
Participation in MFIs	Dummy	Borrowing money from MFIs	1 if participant, otherwise 0
Independent variables			
SHH	Dummy	Sex of the household head	+/-
EDUHH	Continuous	Education of the HH head	+
FSHH	Continuous	Total members in the HH	+/ -
CLS	Continuous	Land owned and cultivated	+
FEC	Continuous	Extension service	+
AHH	Continuous	Age of HH head	+
AVSN	Dummy	Availability of social network	+
MSHH	Dummy	Marital status of HH head	-
DRHH	Continuous	Age of member[<15and>64]/ No of productive HH member	-/+
HHGLP	Dummy	Perception to group lending HH	-
DCR	Continuous	Distance to Credit source from the homestead	-
NOFY	Dummy	Income for the HH from other sources other than farm income	+/-
ATTR	Dummy	HH's attitude towards risk associated associated with credit	+

Source**:** own definition

3. RESULTS AND DISCUSSION
3.1. Descriptive Statistics of Selected Variables
In order to have a clear picture of the quantitative and qualitative demographic, socio-economic and institutional variables which differentiate between credit users from the non-users t-test and chi-square test were applied. Five continuous and two discrete variables were found to be significant with 1%, 5% and 10% probability level.

Table 2: Mean differences of continuous variables for formal credit users and non-users

Variables	Credit users Mean	Non users Mean	t- value
Age of HH head	44.9 (7.4)	49.2 (6.1)	3.45***
Education level of HH head	6.45 (3.72)	3 (2.38)	5.31***
Size of HH	4.46 (1.03)	3.95 (1.22)	2.49 ***
Cultivated land holding	0.97 (0.79)	0.83 (0.55)	1.85*
Extension contact	4.27 (2.88)	3.52 (1.89)	1.79 *
Dependency ratio of HH	0.21 (0.16)	0.20 (0.15)	0.53
Distance to credit institution	7.82 (4.85)	8.36 (4.75)	0.7

Source: Survey result 2015
***, * represents significance at 1% and 10% probability level, respectively
Note: numbers in parentheses indicates standard deviations

Extension contact (FEC) is related to access formal credit for smallholder farmers. It was hypothesized that farmers who have frequent contact with extension agents have more information that influences farm household's demand to use credit from the formal sources. An average number of extension contact days for credit user and non-user sample households were 4.27 and 3.52 days per annum respectively, the difference between the credit users and non-users group was significant at 10% probability level.

The Study revealed that total cultivated land owned by the household (CLS) has a relation with the formal credit access of the household. It was hypothesized that the larger the total area of the cultivated land the farmer owned, the higher would be the output and as a result higher income to buy different farm inputs like improved seed. Farmers with higher level of output were expected to uptake credit from formal source compared to those who have not. As shown in the table (table 2) above credit user households owned larger cultivated land size than non – users which is statistically significant at 10 percent probability level.

Significant mean difference was observed between formal credit users and non-users with respect to age of the household head (AHH). The result of the survey revealed that credit users and non-user farmers have an

average age of 44.9 and 49.2 years respectively. The difference in terms of age of household head between the groups was significant at 1% probability level. The survey result was also indicates that farmers' education level (EDUHH) can affects their access to formal credit. As shown in (table 2) above credit users and non-user farmers have an average education level of 6.45 and 3 grades respectively and the difference among the groups was statistically significant at 1% probability level.

Household size (SZHH) is also related with farmers' access to formal credit. It was hypothesized that as the family size increases availability of labor in the household increases which is one of the factors of production, to increase the productivity of family labor, the household needs more capital. This makes the household to look for credit to satisfy the need of capital. The result of the survey revealed that credit users and non-user farmers have an average household size of 4.46 and 3.95 respectively. The difference in terms of family size between the groups was statistically significant at 1% probability level.

Table 3: Proportion comparison for dummy/ Categorical variables

Variables	Values	Formal credit				χ^2-value
		Users	%	Non-Users	%	
Sex of HH head	0	8	13.3	21	35	7.7***
	1	52	86.7	39	65	
Marital status of HH head	0	15	25	18	30	0.37
	1	45	75	42	70	
HH head's perception of group lending	0	21	35	23	38.3	0.14
	1	39	65	37	61.7	
Availability of social network	0	6	10	10	16.6	1.15
	1	54	90	50	83.4	
Attitude towards risk	0	25	41.4	26	43.4	0.03
	1	35	58.4	34	56.6	
Non and/off farm income	0	37	61.6	49	81. 7	
	1	23	38.4	11	18.3	5.9**

Source: Survey result 2015

***, ** represents significance at 1% and 5% probability level, respectively.

Household heads' sex (SHH) is one of the discrete variables that significantly affects credit access. From the total sample households, 13.3 percent of the users and 35 percent of the non-users were female headed households. The number of credit user female headed households is lower than the credit users of male household heads. The difference between the user and non-user groups was statistically significant at 1% probability level.

Regarding non- and/off farm income, there is percentage difference between users and non users as shown in the table above.

3.2. Determinants of Smallholder Farmers' Access to Formal Sources of Credit

In the preceding section, variables characterizing the farm households and their differences between the user and non-user groups were identified. However, in the logit model analysis, we emphasize on considering the combined effect of variables between formal credit user and non-user farm households in the study area. Therefore, the emphasis is on analyzing the variables together, not one at a time. By considering the variables simultaneously, we are able to incorporate important information about their relationship. Thirteen variables were hypothesized to explain factors affecting smallholder farmer's access to formal credit. Out of these five of the variables were found to be significant, while the remaining seven were less significant in explaining the variations in the dependent variable among sample farm households.

The maximum likelihood estimates of the logistic regression model show that the age of the household head (AHH), education level of the household head (EDUHH), the number of family members in the household (SZHH), non and/off-farm income (NOFY) and size of cultivated land the household owns (CLS) were important factors influencing smallholder farmers access to formal credit in the study area (Table 4). The rest factors: sex of the household head (SHH), marital status of the household head (MSHH), perception of the household towards group lending (HHGLP), distance from lending institutions (DCR), dependency ratio of the household (DRHH), availability of social network (AVSN), attitude towards risk (ATTR) and extension contact with the development agents (FEC) were less powerful in explaining smallholder farmers' access to formal credit indicating that the two groups were homogeneous with regard to these variables.

Table 4: Maximum likelihood estimates of logit model and the effects of explanatory variables on the probability of access to formal credit from MFIs

Explanatory Variables	Estimated coefficient	Mfx	Z statistics
Constant	2.533		1.00
Age of HH head	-0.123	-0.031	-2.65***
Sex of HH head	0.798	0.195	1.20
Education level	0.133	0.033	1.75*
Household size	0.464	0.116	1.87*
Cultivated land holding	1.27	0.318	1.94*
Extension contact	0.015	0.004	0.14
Availability of social network	0.309	0.076	0.43
Marital status of the HH	0.304	0.075	0.52
Dependency ratio	-0.199	-0.049	-0.12
HH perception of group lending	0.710	0.175	1.35
Distance to credit institution	0.105	0.026	1.60
Attitude towards risk	0.521	0.129	0.93
Non and/off farm income	1.11	0.267	1.89*

Source: Computed from the field survey data, 2007

***, ** and * represents level of significant at 1%, 5% and 10% respectively

LR chi2 (11) = 46.46, Prob > chi2 = 0.0000 Log likelihood = -59.946759 Pseudo-R^2 = 0.2744

Interpretation of Significant Explanatory Variables

The education level of the household head (EDUHH) was found to be an important variable in determining credit use from MFIs. The Z- statistics corresponding to the variable EDUHH show that it is significant at 10% level. A one unit increase in the education level of the household head produces 0.033 increases in the probability of credit access from MFIs for the household. This is consistent with the prior expectation. Logically it is expected that Literacy status can influence farmers' access to formal credit institutions, and this effect is expected to be positive, because literate farmers are assumed to have better technical knowhow and information about the market and other facilities provided by the government. Secondly, they have a better understanding of bureaucratic procedures involved in the application, acquisition and repayment of loans. The result of this study is consistent with the result of many other studies. Educated individuals have the potential to expand income and thereby own assets necessary for collateral, better able to appreciate the need of credit and have less entry costs as they face fewer difficulties in collecting and evaluating the information needed to apply a loan (Wivine, 2012). Similarly a study conducted in Pakistan by Shehla and Hasnu (2007), shows that Literacy status increasing the probability of being a borrower by a factor of 20. Another study conducted in Rwanda also shows that education level of the household head has a positive and statistically significant relation to household access to formal credit. Just as expected education level has a positive sign and is significant at 1 percent, implying that a higher educated farmer is associated with a significantly higher chance of accessing a formal credit. The result of marginal effect indicates that farmers with higher levels of education have higher likelihood of accessing formal credit by 14.9 percent (Wivine, 2012).

It was also apparent from the results that total cultivated land holding (CLS) have positive relation with access to formal credit use from MFI. A one unit increase in the cultivated land holding of the household produces 0.318 increases in the probability of credit access for the household. The positive relationship between cultivated land size and access to credit may be that farmer who cultivated larger size of land can utilize more capital for labor and other farm inputs and therefore, this will increase the demand for credit and therefore, as demand increase there will be a chance of seeking credit from MFIs. Atieno (2007) stated that land owned has a positive effect on accessing credit. The higher the amount of land owned, the higher the amount of loan that the farmer likely to apply for. Farmers with small areas of land will apply for small amount of credit which might not be adequate for his activity nor correspond to his ability to manage additional investment.

On the other hand this result contradicts with the study by Anbes (2003), which revealed that "the level of farm credit for fertilizer and high yielding varieties varied inversely with farm size". This may be true for fertilizer credit use, but in the case of farm labor it is different. Since farming in rural Ethiopia especially in the study area is extensive, and in extensive farming when the size of the land increases the need for labor proportionally increases. This again increases operational expenses, which leads to the need for additional capital, and additional capital requirement leads to the demand for credit.

The age of household head (AHH) also found to be another significant factor that influences the households' access to formal credit but negatively. As shown in table (4) above the age of the household head negatively

affects the farmers' probability of accessing credit at 1% significance level. A one year increase in the age of the household head produces 0.031 increases in the probability of credit access for the household. It was hypothesized that older households have control over more resources, are more experienced, have a better reputation, and more responsibility where as younger households often consume more than save. According to Moll (2000), it is difficult for them to get credit because younger household heads are considered to be lacking experience and their reputation is less. Therefore, this variable was expected to have positive influence on participation in MFI. However, the result of a study conducted in Zanzibar indicates a negative but significant relationship between credit access and age. This finding suggests that older people have poor chances to access credit from formal and quasi-formal financial institutions. This relationship was expected because the older people are always risks averse and would not like to enter into debt obligations. In addition, the older people find it difficult to understand the operations and conditions of formal and quasi-formal financial institutions and are also afraid of loan conditions (Mohamed, 2003).

Household size was hypothesized to have negative relation with farmers' access to formal credit. Because it is assumed that household with larger size demand more micro credit (Schreiner and Colombet, 2001). Greater household size represents a bigger demand for consumption and less ability to repay the debt. So, they have less credit access from lenders. In the present study this variable is expected to have negative effect on participation in MFI. However it is found that household size influences farmers' access to credit positively and significantly at 10 % probability level. As shown in the table above, a one unit increase in household member of the household produces 0.116 increases in the probability of credit access for the household. This result is consistent with the result of many other studies and it may be because as the household size increases productive labor in the household may also increases, which is one of the factors of production. To utilize and to increase the productivity of household resources including the household labor, the household may need more capital and it makes the household to look for credit sources like MFIs.

Non-and/off farm income of the household was found to be another significant factor that influences the households' access to formal credit but negatively. As shown in table (4) above non-and/or off farm income of the household negatively affects the farmers' probability of accessing credit at 10% significance level. The significantly positive coefficient of the off-farm incomes variable in the model suggests that off-farm income generation increases a farmer's likelihood of contracting a loan from formal sources of finance. Adding off-farm activities to a farm household's income portfolio increases its chance of engaging in credit markets by 0.267. This variable was hypothesized to have either positive or negative influence on smallholder farmers' participation in MFIs credit service. The result is consistent with many other previous studies. According to Wivin *et al.* (2013), the likelihood of farmers participating successfully in formal credit markets increases with off-farm incomes.

4. CONCLUSION AND RECOMMENDATIONS
4.1. Conclusion
The intention of the paper was to identify the determinants of smallholder farmers' access to Microfinance credit in the Edja district of Guraghe zone, Ethiopia. Stratified and simple random sampling techniques were used to select the respondents in the study area. Descriptive statistics and logistic regression model were used to analyze the data.

In the study area the age of the household head (AHH), education level of the household head (EDUHH), the number of household members (SZHH), non and/off-farm income (NOFY) and size of cultivated land the household owned (CLS), were found to be important factors influencing smallholder farmers' access to formal credit.

4.2. Recommendations
The importance of human capital in the understanding of credit market participation behavior implies that policies that uplift human capital in the area could generate co-benefits in the financial sphere. Notably, policies that foster education such as the basic education can significantly contribute to rural poverty alleviation through improved access to financial skills. Moreover, Land is one of the most constraining factors and the possibility of its expansion seems bleak. Therefore, the government should assess and encourage techniques for increasing the intensity of cultivation through facilities like irrigation.

The result of the study indicates that young farmers are more interested in Microfinance credit than old farmers, that is, the age of the farmer has a significant effect on the farmers' access to Microfinance credit. Therefore, strategies to reach this group (young farmers) of the society and creating awareness for those can increase the effectiveness of microfinance and it helps to achieve the promises of Microfinance. Moreover, adding non- and/ off- farm income generating activities is important as it increases the chance of engaging in MFIs credit services.

5. REFERENCES

Anbes Tenaye. 2003. Pattern of credit use and its impact on Small farmers' income:A Study in Dire Dawa Area, Eastern Ethiopia, MSc Thesis,unpublished, Haramaya University, Alemaya.

Atieno, J. 2007. Determinants of credit demand by smallholder farmers in Kenya: an Empirical analysis, Jahrgang.

Dilayehu Daniel. 2014. The Role of Microfinance Institutions in Accessing Credit and Poverty Reduction in Rural Ethiopia: The Case of Omo Micro Finance Institution in Damot Gale Woreda, Wolaita Zone, MSc Thesis. Hawassa University, Hawassa.

Ebisa Deribie, Getachew Nigussie and Fikadu Mitiku. 2013. Filling the breach:Microfinance. J. Bus. Econ. Manage. 1(1):10-17.

Gashaw Ayele. 2014. Microfinance Institutions in Ethiopia, Kenya and Uganda: The Horn Economic and Social Policy Institute (HESPI) Policy Paper no. 02/14.

Guobao, W. nd. Access to Credit, Poverty and Inequality: Some Findings from China Using Grouped Rural Household Data, Chinese Academy of Social Sciences

Ibrahim, A. and Bauer, S. 2013. Access to Micro credit and its Impact on Farm Profit among Rural Farmers in Dryland of Sudan, Global Advanced Research Journal of Agricultural Science, Vol. 2(3). pp. 088-102.

MF.Transparency. 2011. Promoting Transparent Pricing in the Microfinance Industry; Country Survey: Ethiopia

Mohamed, K. 2003. Access to Formal and Quasi-Formal Credit by Smallholder Farmers and Artisanal Fishermen: A Case of Zanzibar, Mkuki na Nyota Publishers, Dar es Salaam, Tanzania.

Mohammad, F., Dawood, J., Abbas, U. and Badshah, H. 2006. Effects of short term credit advanced by ztbl for enhancement of crop productivity and income of growers, Journal of Agricultural and Biological Science, Peshawar, Pakistan.

Moll, H. 2000. Banks in Rural Financial Markets. Wageningen University Press.

Ololade R.A. α & Olagunju F. 2013. Determinants of Access to Credit among Rural Farmers in Oyo State, Nigeria, Global Journals Inc. USA.

Schreiner, M. and Colombet, H. 2001. From Urban to Rural: Lessons for Microfinance from Argentina Development Policy Revision, 19: 339-354.

Serah, W. 2013. An Identification and Evaluation of Factors Influencing Smallholder Dairy Farmers' Choice of Agricultural Credit Source: The Case of Githunguri Division of Kiambu County, University of Nairobi.

Shehla A. and Hasnu, K. 2007. Smallholders' Access to Rural Credit: Evidence from Pakistan, The Lahore Journal of Economics, 12 (2): 1-25.

Sisay Yehuala. 2008. Determinants of smallholder farmers access to formal credit, Hayamaya University, Unpublished.

Sophia, J., Ebimobowei, A. and Wisdom, S. 2012. an analysis of microfinance and poverty reduction in Bayelsa state of Nigeria. Kuwait chapter of Arabian journal of business and management review vol. 1.

UNDP (United Nations Development Program). 2014. Ethiopia: Quarterly Economic Brief, third quarter. Vol.21,No.1 pp. 19-30.

Welday Amha. 2003. Micro finance in Ethiopia: Performance, Challenges and Role in Poverty Reduction. AEMFI, Occasional Paper, 7.

Wivine, M. 2012. An economic assessment of the factors influencing smallholder farmers' access to formal credit: a case study of rwamagana district, Rwanda, Nairobi University, Nairobi.

Wivine, M., Patrick, H. and Mbatia, O. 2013. Determinants of Farmers' Participation in Formal Credit Markets in Rural Rwanda, University of Nairobi, Nairobi, Kenya.

World Bank. 2008. World Development Report. Agriculture for Development, Washington.

WVIE (World Vision International Ethiopia). 2006. Baseline Survey Descriptive Report of Edja Woreda. Unpublished. Addis Ababa. Ethiopia.

Yamane, T. 1967. Statistics, An Introductory Analysis, 2nd Ed., Harper and Row, New York University.