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Analysis of the sources of Farm investment Credit in the Upper West region of Ghana

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A B S T R A C T

Among business organizations, farm enterprises predominate in rural areas in Ghana. Successive governments have made several efforts to provide agricultural credit to farmers. However, farm enterprises in the Upper West Region are still faced with the challenge of accessing credit. The study therefore, sought to identify: the sources from which farmers' access credit, test the hypothesis that average credit allocated to farmers is independent of the source of credit and ascertain the extent of credit allocation to the farm sector. Data were obtained from a survey conducted by the International Food Programme and Research Institute. Descriptive statistics and Analysis of Variance test were the methods of analysis. The Primary data were basically collected from two hundred and fifty (250) food crop farmers selected using a multistage sampling procedure. The study points out that sources of farm investment credit in the region are mainly informal. Average amount of credit given to farmers is independent of the source of credit. Famers allocate credit resources to activities they considered important. It is recommended that any policy aim at increasing the value of farm investment credit to farmers should concentrate on the informal sources. All credit resources should be converted to physical inputs and other services and delivered to farmers to minimize credit diversion from the farm sector.

Introduction

Ghana is an agrarian economy with majority of poor households earning their livelihood from agricultural activities. As a result, both past and present agricultural development strategies concentrated much on the delivery of investment capital to rural farmers in particular. In 1968 the Agricultural Development Bank (ADB)

was established to provide farm investment credit to farmers (Asuming-Brempong, 2003). However, rural households who were largely farmers did not gain from this intervention (National Development Planning Commission, 2003). Later in 2005, the Microfinance and Small Loans Centre (MASLOC) was created by government to enhance groups and individuals including smallholder farmers' access to credit. This is because enhancing farmer access to credit remains a strategy for agricultural modernisation (National Development Planning Commission, 2005). Several efforts are being put in place towards developing financial institutions to offer credit to producers. These credit institutions include State Banks, Private Banks, Cooperatives, Government Agencies, NGOs, Business firms, Moneylenders and Relatives (Ghana Statistical Service, 2008).

In the Upper West Region, about 86% of the population is engaged in farm businesses as their source of livelihood (Inkoom and Nanguo, 2011). These farm enterprises are still faced with the problem of accessing investment credit for production activities despite the availability of financial institutions. Quaye (2008) observes this and indicates that only 19% of households in the region have access to credit. Even when access is possible at all, they receive an average of GH□150.00 (Ansoglenang, 2006) which is inadequate compared to their input requirement (Abdulai and Huffman, 2000; Seidu, 2008 and Quaye, 2008). Most financial institutions offer credit to economic agents in other sectors than those in crop production. Famers therefore, have a challenge in locating institutions willing to offer substantial credit for crop production. Reasons with respect to lack of collateral and the perceived risky nature of crop production resulting from weather, disease and price uncertainties make value of credit to farmers uncertain. Other credit institutions are of the view that resource constraint poor farmers often divert loans into other non-farming activities. Hence the expected returns on investment (ROI) in farming activities is often not realized thus resulting in loan default. This study therefore, sought to identify the sources from which farmers access credit and test the hypothesis that average credit allocated to farmers is independent of the source of credit. The study also sought to ascertain the extend of credit allocation to farming activities.

Past Studies on Rural Credit Market in Ghana

The Ghanaian credit market is decomposed into three segments comprising of formal, semi-formal and informal institutions (Steel and Andah, 2003; Andah, 2005; and Bending *et al.,* 2009). The banking sector in Ghana accounts for about 75% of total financial system assets (Yartey, 2006). This encompasses the Bank of Ghana as the mother bank, commercial banks, merchant banks and development banks. Others include Social Security Trust, discount houses, credit unions and rural banks. All formal credit institutions are registered and regulated by the bank of Ghana. The semi-formal and informal credit institutions are not regulated by the Bank of Ghana (Andah, 2005). Like other developing economies, credit market in Ghana is heterogeneous which provides different forms of financial intervention (Ekumah and Essel, 2001; and Mensah, 2004). This heterogeneity is featured as different sources of credit exist in the market. As noted by the Ghana Statistical Service (2008), sources of credit in Ghana compose of State Banks, Private Banks,

Cooperatives, Government Agencies, NGOs, Business firms, Money lenders and Relatives. Those found in the Upper West Region are NGOs, micro-credit institutions, private lenders and banks (Ansoglenang, 2006). Despite segmentation of the financial market, there exist significant interactions between the formal and informal segments in allocation and mobilization of credit (Aryeetey, 1992).

In Ghana, formal financial institutions are incorporated under the companies code 1963 (Act 179) and licensed by the central bank (Steel and Andah, 2003). These formal institutions include universal banks, rural and community banks and non-banking financial institutions such as savings and loans companies (Andah, 2005; Bendig *et al*, 2009; Awunyo-Victor and Abankwah, 2012). Credit from formal sources in Ghana is limited and come with huge collateral. This is because banks are unwilling to lend to smallholder farmers who lack these collateral and operate in risky ventures (Ghana Statistical Service, 2008; Quartey *et al*, 2012). Universal banks such as Agricultural Development Bank have limited coverage within rural Ghana thus limiting farmers from accessing credit from them, hence lending credit to farmers is then left to rural banks to play as a major role (Awunyo-Victor and Abankwah, 2012). Consistent with this premise, Yartey (2006) explains that these rural banks are owned and managed by rural communities which mobilize savings and extend credit to households in rural areas. This suggests that where Rural Banks exist, owned and managed by rural dwellers themselves, access to credit by farmers will be relatively easier.

Semi-formal financial sector are those financial institutions that are formally registered but not licensed by Bank of Ghana (Steel and Andah, 2003). This implies that their activities are not very much regulated under the financial sector regulations of Ghana. They fall between the formal and informal financial markets and include credit unions, village banks and other credit schemes run by non-governmental organizations. Savings and Loans Companies (SLCs) also fall under the semi-formal sector which operates under the Financial Institution (Non-Banking) law 1993 (PNDCL 328) (ISSER, 2011). NGOs are incorporated as companies limited by guarantee (not for profit) under the Companies Code. They focus on poverty alleviation using different mechanisms. NGOs in Ghana rely heavily on the use of external funds for micro credit which are usually provided by donors. This is because they are not licensed to take deposits from the public. The role and operations of Credit Unions as a source of credit also appear vital under semi-formal credit institutions. These institutions according to Aryeetey and Gockel (1991) were first introduced in Ghana by Roman Catholic fathers. Credit Unions operate as cooperative societies aimed at providing savings and loans facilities only to their members (Andah, 2005). Individual members make predetermined periodic deposits into their accounts and may borrow up to two times their savings balance. Most Credit Unions require borrowers to provide security in a form of a guarantee from a co-member (Steel and Andah, 2003).

Informal credit financial activities are usually demand-driven generated entirely by the needs of the market place. They consist of a large number of activities of unregulated transactions carried out by individuals and intermediaries such as moneylenders, private finance firms, savings and credit institutions, traders,

landlords and households (Montiel *et al*., 1993). In their analysis of the rural credit market in Ghana, Owusu-Antwi and Antwi (2010) identify major components of the informal market as group lenders, moneylenders, "Susu" Collector and Warehouse Receipt Credit. Susu collectors usually deposit money collected with the bank, invest in their own business or lend to others (Aryeetey, 1992). This creates linkages with the formal credit markets (banks) through savings and within informal operators through lending. Alabi *et al*., (2007) recognise the role of the traditional informal banking system such as the "Susu" credit scheme in enterprise development. They agreed that participants in such schemes develop some kind of interpersonal relationships beyond financial product to a welfare product where individuals have some kind of belongingness. This implies that the informal financial market in Ghana do not only performs financial role but socio-cultural roles as well. This according to Aryeetey (2008) is a mechanism of minimizing loan default since informal institutions establish good relationships with their borrowers and by Montiel *et al*., (1993) perspective; minimize moral hazards and lowering monitoring cost.

Credit market in Ghana is faced with a number of challenges which affect growth in other sectors of the economy. Easterling *et al.*, (2008) analyse factors affecting economic growth of Ghana. In their analysis, they identify weaknesses associated with the financial market to include slow expansion of the rural banking sector, limited banking coverage, limited financial instruments and limited collateral. Due to the absence of collateral, households in the agricultural sector are limited in taking credit from the formal market. This according to Easterling *et al*., (2008) limits agricultural development. In their analysis of factors hindering the effectiveness of the rural credit market in Ghana, Owusu-Antwi and Antwi (2010) emphasize the role of high interest rate, lack of collateral, inadequate innovation and high delinquency as major challenges. Schremer and Colombet (2001) point out that, credit institutions often give loans to only rich people, when they are unable to repay, it reduces access for all. This suggests that the conditions of credit delivery for investment are not reinforcing effective supply of investment funds. These supply side challenges result in limited access to credit by producers. Government policies such as tax systems in many African countries tend to constraint informal markets (Tripp, 2001). What this implies is that appropriate policies have not been put in place towards the development of the sector. The informal credit sector has therefore, been neglected to survive on its own as such credit institutions are under no regulation or formal registration (Andah, 2005). The operators of the "Susu" system for instance are not insured, characterised by irregular payment by contributors and fraudulent people who default the vulnerable (Alabi *et al*., 2007). Earlier studies such as Mensah (2004) indicate that informal financing schemes in Ghana have not been effective due to inadequate institutional framework, lack of legal and regulatory framework, low managerial capacity and training. Informal sources of credit are therefore very expensive because of high interest rates (Quartey *et al*., 2012) and moneylenders in particular require collateral and strict loan recovery procedures which deter farmers from accessing credit (Awunyo-Victor and Abankwah, 2012).

Agricultural institutions especially in the developing world sometimes fail to achieve

their goal of enhancing farmer productivity through resource allocation to the farm sector. Efforts to enhance farmers' access to inputs such as credit are often limited through diversion of agricultural loans into non-farming activities. Several empirical studies report that farmers often allocate some portion of borrowed funds into non-farming activities as against the purpose of which such loans have been obtained. Consistent with this observation, Anyiro and Oriaku's (2011) results indicate that only 16.66% of small holder farmers in Abia State (Nigeria) used their loans on crop production as in line with the purpose of which the loans were given. Some diverted into crop and animal production (19.79%). The rest diverted into other agricultural activities but not related to crop production. Henri-Ukoha et al., (2011) report low (12.15%) diversion of loans into non-farming activities in Abia State, South East Nigeria. The rest invested in purchasing farm tools, buying inputs such as seeds, chemicals, fertilizers and land preparation. Mishra and Nayak (2004) are of the view that the effect of credit on the individual borrower depends on the utilization of the loan. Farmers often have the tendency to misuse agricultural credit and therefore will not feel its impact on their livelihood. They underutilize credit for investment purposes by devoting it to personal consumption (Waheed, 2009). This indicates misdirection of loans since agricultural credit is to serve as an investment capital and not meant for personal consumption. Besides, Oboh and Ekpebu (2011) report that 56.1% of loans obtained by arable crop farmers in the Benue State in Nigeria are used for the purpose in which such loans were obtained while 43.9% diverted to non-farming purpose. A further analysis of the average budget share as a measure of the percentage of total credit spent on farming activities shows that age of the farmer, farm size, years of education, and frequency of bank visit have direct influence on credit allocation to the farm sector.

Amonoo *et al.*, (2003) postulate that when beneficiaries receive loans late, they tend to misused them which translate into low output and inability to repay. Oboh and Ekpebu (2011) share the same opinion when they argue that increase in length of loan delayed and household size reduce the percentage of loan allocation to the farm sector. Oboh *et al.*, (2011) support that the marginal budget shares of credit for farm and non-farm sectors are 55.5% and 45.5% respectively. They argue that small loan size disbursement to resource poor farmers have high tendency for diversion to settle minor non-farm expenses hence, the rate of loan diversion was observed to increase with decreasing loan size, partial disbursement and loan management training. Eze and Ibekwe (2007), however, share a divergent view about loan diversion. They argue that if an approve loan is larger than the farmer can manage, there will be a high tendency for loan diversion. Nimoh *et al.*, (2011) investigated into the effect of formal credit on the performance of the poultry industry in urban and pre-urban Kumasi in Ghana. They, however, observe no diversion of loans into non-farming activities among the farmers. They maintain that, formal credit institutions place much emphasis on how credit received should be utilized thus minimizing the rate of loan diversion.

It has been observed that different researchers share varied opinion on what actually cause loan diversion. As some attribute it to inadequate loan amount, others believe that larger loan size causes its diversion. This implies that credit allocation to the farm sector is influence by

several factors which may vary from institution to institution at different places. This underscores the need to investigate into credit allocation to the farm sector among farmers in the Upper West Region.

Materials and Methods

Data and Variables

Data were obtained from a survey conducted by the International Food Programme and Research Institute (IFPRI) in December, 2012 to cover production activities for the 2011 agricultural year. The Primary data were basically collected from two hundred and fifty (250) food crop farmers selected using a multistage sampling procedure. On the first stage, one municipality and three (3) districts in the Upper West Region were selected based on their significant production activities. They were the Wa Municipality, Wa West District, Wa East District and Nadowli District. Twenty-five (25) farming communities in these municipality and districts were selected at random in the second stage and finally, ten (10) farmers were randomly selected as respondents from each community. This constitutes a total sample size of two hundred and fifty (250) respondents.

Analytical Framework

To analyse the sources from which farmers' access credit descriptive statistics was employed. Besides, the one way Analysis of Variance (ANOVA) technique was used to test the null hypothesis that average credit receive by farmers is independent of the source. The hypothesis tested is stated below:

$$H_o: \mu_1 = \mu_2 = \mu_3 = \cdots \mu_k$$
$$H_I: \mu_1 \neq \mu_2 \neq \mu_3 \neq \cdots \mu_k$$

ANOVA uses F-statistics for the validation of hypothesis. Opoku (2006) specifies the F-statistics for this type of computational procedure as:

$$F = \frac{MS_B}{MS_W} \sim F_{(\alpha,\ K-1,\ N-k)}$$

Where: $MS_B = \frac{SS_B}{df}$ and $MS_W = \frac{SS_W}{df}$ 2

The variation of the observations about the sample grand mean is the Sum Squares Total (SS_T) specified as:

$$SS_T = \sum X^2 - \frac{(\sum X)^2}{N}$$

Where:

$$N = n_1 + n_2 + n_3 + \cdots + n_{k-1} + n_k$$

N is the size of the sample (total number of farmers), n_i is number of farmers from an i^{th} source and *X* is the amount of credit received. The sum squares between groups (SS_B) measures the departure from the null hypothesis which is the variation in the sample means (average credit from source *i*) about the sample grand mean measured by:

$$SS_B = \left[\frac{(\sum X_1)^2}{n_1} + \frac{(\sum X_2)^2}{n_2} + \cdots + \frac{(\sum X_{k-1})^2}{n_{k-1}} + \frac{(\sum X_k)^2}{n_k}\right] - \frac{(\sum X)^2}{N}$$

While the sum of the variations of the individual observations about the corresponding sample means is the Sum Squares within groups (SS_W) specified as:

$$SS_W = \left[\sum X_1^{\ 2} - \frac{(\sum X_1)^2}{n_1}\right] + \left[\sum X_2^{\ 2} - \frac{(\sum X_2)^2}{n_2}\right] + \cdots + \left[\sum X_k^{\ 2} - \frac{(\sum X_k)^2}{n_k}\right]$$

The decision is to reject the null hypothesis if F-calculated value is greater than its tabulated/critical value at a particular significance level.

Farmers sometimes do not invest the entire amount of credit obtained in the farm sector as proposed by most credit schemes. The percentage of loan allocated to the farm sector by the farmer is the measure of farm investment. Credit allocation to farming activities is believed to have varied according to the farm enterprise characteristics. This was described using descriptive statistics.

Results and Discussion

Summary Statistics

Out of two hundred and fifty (250) farmers investigated, male farmers constitute 68.4% of the sample and female farmers represent 31.6%. In the Upper West Region farming is predominantly done by men while females are more into petty trading and agro-processing thus accounting for the relatively larger representation of male population in the sample than that of female. More married people (95.6%) are engaged in farming than those not currently married. Only 0.8% of the sample is divorced, 1.2% widowed/widower and 2.4% not entered into marital relationship at all (single). The preponderance of married people over other groups in farming implies that the farmers are responsible. The Upper West Region is inhabited by farmers of several ethnic backgrounds but the dominant ones are the Wala and Dagaabas. Wala constitute lager proportion of the sample (56.0%) while Dagaabas represent 41.6%. other groups are the Brefor and Sissala who constitute 1.6% and 0.8% respectively. Sissala are much concentrated in the Sissala East and Sissala West Districts which are not included in the sample districts thus explaining their smaller representation in the sample. Each farmer belongs to one of the three main religions in the region. However, majority (61.6%) of those in the sample practise Islam followed by Christianity (30.4%) while only small proportion (8.0%) practise African Traditional Religion (ATR).

Sources of Credit

Empirical studies have shown that farmers receive credit largely from informal and semi-formal credit institutions. This study obtains similar results with an exception that no evidence of credit received by a farmer from a microfinance institution, Credit Union or a moneylender is recorded. Precisely, the sources of credit to farmers in the region include relatives/friends, traders, “susu”, non-Governmental Organization and credit from Government. These findings agree with empirical studies that access to bank credit in particular by rural households in the region is out of reach (Ansoglenang, 2006; Ghana Statistical Service, 2008; Marchetta, 2011). These institutions give the credit in kind or cash to farmers. Credit in kind is usually in the form of inputs or services such as extension. Credit can also be given to farmers in a form of group or individual credit. Group credit is when two or more farmers belonging to the same social group receive credit for the same purpose. Credit institutions may require collateral in the form of assets or membership to a Farmer Based Organization.

Besides, credit institutions may require payment in kind or cash at different repayment periods. All these distinct features including the amount of credit given vary from institution to institution as

evidenced from the survey. Summary statistics of these sources is presented in Table 1.

From Table 1, majority (33.1%) of the farmers access credit from relatives and friends. Nest to this category is credit from government (31.2%). Farmers who access credit from traders constitute 15.6% while those accessing credit from NGOs constitute 12.3%. It was discovered that only 7.8% of credit beneficiaries access it from "Susu". Further discussions of the sources of credit available to farmers in the region are as follows:

Relatives/ Friends

Credit from relatives and friends of households is a form of informal credit in the region. Out of the 154 respondents who accessed credit 33.1% of them received it from relatives/friends. The proportion of farmers accessing credit from this source is relatively higher than any other source thus making it the predominant source among farmers. The survey has revealed that credit from relatives/friends is often in the form of cash, requires no collateral and given to farmers as individuals. From Table 2, average credit given is GH□293.60 with standard deviation of 185.0 ranging from GH□40.0 to GH□1000.0. This finding agrees with the submission made by Abdulai and Huffman (2000), Seidu (2008) and Quaye (2008) that average credit available to farmers in the region is inadequate compared to their input requirement. This source of credit is basically short term of 5.3 months on average ranging from 3 to 12 months. The average repayment period being 5.3 months imply that relatives/friends offer credit to farmers just to assist them carry some specific short term activities rather than the entire farm operation which will cover a period of one year. Farmers who received credit from this source have average farm size, farm asset, farm income, total household income and farming experience lower than the sample averages.

Trader Credit

Traders here are usually market women who often buy farm produce from farmers at the farm gate or some organised market centres. From Table 1, 15.6% among credit beneficiaries accessed it from traders. Trader credit is the third dominant credit sources to farmers. From Table 2, average credit obtained by farmers from traders is GH□ 291.30 with a standard deviation of 164.3. The minimum and maximum amount received are GH□ 100.0 and GH□ 900.0 respectively. Farmers in the region find trader credit convenient because such traders serve as source of effective demand for their produce. Traders know the exact location of farmers and therefore can purchase the produce at the farm gate thus reducing the transportation cost of farmers.

Non-Governmental Organization

Non-Governmental Organizations (NGOs) exist in the region with some of their objectives being to provide credit support to farmers. For instance, Pronet North, WIDO, Centre for Indigenous Knowledge and Organisational Development (CIKOD), and Rural Women Farmers Association of Ghana (RUWFAG) can be mentioned in this regard. They are non-profit making organizations seeking to raise the average income of farmers through adoption of better farming practices. They provide credit in kind to farmers usually in the form of input supply such as seeds, fertilizer, tractor service and insecticides. Apart from credit from Government, average credit given to farmers in the region by NGOs is

higher than other sources of credit. Farmers received an average of GH□376.19 with repayment done in either cash or in kind. Payment in kind is in the form of farm produce usually cereals.

"Susu"

It is a common practice among farmers in the region to come together and make contributions in the form of savings. Members can therefore take credit from this contribution for enterprise development. This kind of credit source is slightly different from what has been described by Owusu-Antwi and Antwi (2010) that "Susu" collectors are informal financial providers who supply farmers with short-term financial needs suggesting that the collectors are on one side; providing credit to farmers on the other side. However, this kind of "Susu" exists in the region but what is accessible to farmers is the one formed by the farmers themselves. The survey has shown that the value of credit given to a farmer depends on the level of contribution made. All credit received from this source was in a form of cash, required no collateral with no repayment in kind accepted. This however, is not a dominant source of credit as it is not found in many of the study communities. Out of the 154 farmers who received credit only 7.8% of them sourced credit from this kind of "Susu" formation.

Credit from Government

This category consists of credit obtained from sources under government programmes. The Savannah Accelerated Development Authority (SADA) and the block farming system under the Youth in Agriculture Programme are the main activities of Government and concentrate on providing credit services to food crop farmers. About 31.2% of credit beneficiaries in the region accessed credit from this source. Credit from Government programmes was given to farmers' mostly in groups but in some few occasions farmers accessed it as individuals. Credit was given as cash or in kind to farmers. Average credit received by farmers from this source is GH□851.85 with a standard deviation of 1615.40 (see Table 2).

Further comparative analysis of the sources of credit is done by analyzing the variance of credit received. Results of the Analysis of Variance Test are indicated in Table 3.

From Table 3, the F-test value (0.98) is not significant at 10% (0.42 > 0.1). This implies that there is no enough evidence to reject the null hypothesis. The differences in the average credit observe among the sources only occurred by chance. Therefore, the claim that source of credit does not influence the average credit received is true in the case of the Upper West Region.

Credit Allocation to Farming Activities

The result of the study indicates that the purpose of farmers taking credit was to enhance activities related to crop production. It was further discovered that greater proportion (80%) of farmers who took credit did not divert it into activities not related to crop production. However, 20% of farmers did not fully utilize their credit resources in line with the purpose for which credit was obtained. From Table 4, 96 farmers representing 38.4% did not obtain credit hence diversion status was not applicable to them. Out of the 61.6% of respondents who took credit, 80% did not divert while the remaining 20% diverted into non-farming activities. Compared to Anyiro and Oriaku (2011) observation who

reported 63.55% of credit diversion as well as Oboh and Ekpe (2011) who reported 43.9% of farmers diverting to non-farming activities, the situation of farmers in the Upper West Region can be considered relatively better.

Farmers received an average of GH□472.90, spent an average of GH□448.14 of credit on farming activities and diverted an average of GH□25.39 of credit to non-farming activities. Descriptive statistics of credit received, spent and diverted is shown in Table 5.

A further analysis of credit -allocation to the farm sector is done. From Table 6, there exists no evidence of credit diversion from "Susu" and NGO. The non-diversion from NGO may be associated with credit given in kind accompanied by strict supervision. The case of "Susu" can be associated with the small value of credit received thus agreeing to the argument postulated by Eze and Ibekwe (2007) that if an approved loan is higher than the farmer can manage, there will be a high tendency for loan diversion. The reverse may hold for other sources of credit where there was evidence of credit diversion.

Farmers allocated credit to different activities ranging from land preparation to harvesting of crops. From Table 7, the specific activities credit was spent on include Ploughing (plough), purchase of seeds (seeds), labour for sowing(sow), purchase of fertilizer (fertilizer), purchase of insecticides(insecticides) and labour for harvesting (harvest). However, land ploughing and purchase of fertilizer were the major activities credit was allocated to. Purchase of seeds, insecticides and payment of labour for harvesting were the least activities credit was spent on.

Table 1: Summary of Sources of Credit

Credit Source	Frequency	Percentage
Relatives/Friends	51	33.1
Traders	24	15.6
"Susu"	12	7.8
NGO	19	12.3
Government	48	31.2
Total	**154**	**100**

Source: Field Survey, 2012

Table 2: Descriptive Statistics of Credit Amount Received by Source (GH□)

Source of Credit	N	Mean	Std. Deviation	Std. Error	95% Confidence for Mean		Min	Maxi
					Lower Bound	Upper Bound		
Relatives/Friends	51	293.57	185.01	25.91	241.53	345.60	40.00	1000.00
Trader	24	291.33	164.27	33.53	221.97	360.70	100.00	900.00
Susu	12	235.42	249.19	71.94	77.09	393.75	75.00	1000.00
NGO	19	376.19	556.05	127.57	108.18	644.20	40.00	2483.60
Government	48	851.85	2845.29	410.68	25.67	1678.04	72.00	20000.00
Total	**154**	**472.89**	**1615.40**	**130.17**	**215.73**	**730.06**	**40.00**	**20000.00**

Source: Field Survey, 2012

Table 3: ANOVA

Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	10178927.80	4.00	2544731.95	0.98	0.42
Within Groups	389077337.82	149.00	2611257.30		
Total	399256265.61	153.00			

Source: Field Survey, 2012

Table 4: Diversion Status of Credit Beneficiaries

Diversion Status	Frequency	Percentage	Valid Percentage
No diversion	120	48.0	80
Diversion	34	13.6	20
Non-Response	96	38.4	-
Total	**250**	**100**	**100**

Source: Field Survey, 2012

Table 5: Descriptive Statistics of the Amount of Credit Received, Spent and Diverted

Variable	N	Minimum Value	Maximum Value	Mean Value	Standard Deviation
Credit Amount	154	40	20000	472.90	1615.40
Amount Spent	154	40	20000	448.14	1609.65
Amount Diverted	154	0	980	25.39	108.87

Source: Field Survey, 2012

Table 6: Average Credit (GH□) Allocated to the farm Sector by Sources

Source of Credit	Amount Received	Amount Spent	Amount Diverted	Percent Spent	Percent Diverted
Relatives/Friends	293.57	278.24	15.33	94.78	5.22
Traders	291.33	267.17	24.17	91.70	8.30
"Susu"	235.42	235.42	0.00	100	0.00
NGO	376.19	376.19	0.00	100	0.00
Government	85 1.85	800.81	51.04	94.00	6.00
Total	**472.89**	**448.14**	**24.75**	**94.77**	**5.23**

Source: Field Survey, 2010

Table 7: Percentage of Credit Allocation to Farming Activities by Source

Source	Plough	Seeds	Sow	Weeds	Fertilizer	Insecticides	Harvest	Total
Relatives	26.3	5.8	7.0	18.9	28.5	0.0	13.5	100
Trader	25.3	4.2	10.6	18.4	34.5	0.0	7.1	100
"Susu"	34.3	0.0	12.1	21.6	32.0	0.0	0.0	100
NGO	29.3	3.8	0.0	0.0	61.0	5.9	0.0	100
Gov't	6.6	1.6	0.0	76.3	15.5	0.0	0.0	100
Total	**24.3**	**3.1**	**5.8**	**26.0**	**34.3**	**1.4**	**5.1**	**100**

Source: Field Survey, 2012

The percentage of credit allocation as shown in Table 7 indicates that in all, more credit was allocated to purchase of fertilizer (34%), followed by weeding (26%), ploughing (24.35), sowing (5.8%), harvesting (5.1%), purchase of seeds (3.1%) and the activity with the least credit allocation is purchase of insecticides (1.4%). Farmers allocate resources to activities they consider as key in their production process. Prominent among them include inputs acquisition such as fertilizer and labour. This explains why more credit resources were allocated to these activities. Most farmers store seeds after harvest for the next planting season and do not normally have to buy seeds. The fact that the least proportion of credit was spent on the purchase of insecticides suggests that farmers' use of insecticides in the region is low.

Conclusions and Recommendations

Formal, semi-formal and informal credit institutions exist in the Upper West Region but the fact that many credit beneficiaries received from the informal sources implies that agricultural credit in the region is largely from the informal source. Results also point out that sources of farm investment credit in the region do not vary in terms of average credit given to farmers. About 38.4% of respondents did not receive credit thus implying that some farmers still face challenges in accessing credit. Famers allocate credit resources more to activities they considered more important and these include purchasing of fertilizer, weeding, ploughing, purchase of seeds, insecticides and harvesting. Some farmers diverted some portion of credit resources to non-farming activities thus implying that they will not be able to generate the expected returns from the purpose for which credit was obtained. This reduces farmers' access to credit from some institutions. It is therefore, recommended that any policy aim at increasing the value of farm investment credit to farmers should be directed to the informal. To minimize credit diversion to non-farming activities, credit institutions should not give credit in cash to farmers. All credit resources should be converted to physical inputs and other services and delivered to farmers.

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