



THE PERFORMANCE OF MICROFINANCE PROVIDERS ON POVERTY ALLEVIATION AMONG YAM FARM HOUSEHOLDS IN SELECTED LOCAL GOVERNMENT AREAS OF NIGER STATE, NIGERIA

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ABSTRACT

The study examined the performance of microfinance providers on poverty alleviation among yam farm household in some selected Local Government Areas of Niger State, Nigeria. Multistage sampling technique was used to draw up respondents for the survey. Data were collected from 120 respondents using structured questionnaire and were analyzed using descriptive statistics, poverty gap index, Foster-Greer-Thorbeck index, head count ratio, severity index, farm budget technique, and Gini coefficient. The results revealed that most (89.17%) yam farm household were males and married (87.50%). The average age of the respondents was 37.83 years; 75% were into poultry farming; 44.17% and 30.83% obtained credit from commercial and microfinance banks, respectively. Also, average income of the respondents before and after the loan was N38, 401.04 and N83, 329.21, respectively. The results also revealed even though credit had positive impact on the livelihood of the respondents in the area, the result of the Gini coefficient (0.6631) showed that there was inequality in income distribution among the respondents in the area. The study therefore, recommended that additional microcredit providers be established in the study area to increase its impact among the respondents especially in poverty alleviation. Also, integrated community development effort should be encouraged to provide rural infrastructures in the study area.

Keywords: Farm households, Microfinance, Niger State, Poverty alleviation, Yam.

INTRODUCTION

The provision of credit has increasingly been regarded as an important tool for raising the incomes of rural populations, mainly by mobilizing resources to more productive uses (Tanko *et al.*, 2010). As development takes place, one question that arises is the extent to which credit can be offered to the rural poor, whose main activity is farming (Baba, 2004), to facilitate their taking advantage of the self-developing entrepreneurial activities (Nissanke, 1995). Adera (1995) observed that commercial banks and other formal institutions fail to cater for the credit needs of smallholder farms, mainly due to their lending terms and conditions. It is generally the rules and regulations of the formal financial institutions that have created the myth that the poor are not bankable and since they cannot afford the required collateral, they are considered not credit worthy. Despite efforts by governments and non-governmental organizations to overcome the widespread lack of financial services, especially among small-scale farmers in developing countries, and the expansion of credit in rural areas as a strategy to increase capital flow into the agricultural sector, majority still have only limited access to bank services to support their private initiatives. Moreover, experiences from informal financial sources



indicate that smallholder farmers especially women often have greater access to informal credit facilities than to formal sources (Aryeetey and Udry, 1997). However, the volume of credit from this source is characterized by smallness and high interest rate as well as other stringent conditions attached to it. It is believed that credit in the hands of poor-resource farmers will enable them operate economies of scale, discover new and better products, create demand where non-existent and provide utilities to satisfy a widening market (Ijere and Okorie, 1998).

The inability of the informal sector to realize its full potentials could be traced to the existing financial gap between the demand for, and supply of credits for economic activities. Ijere (2007), also submitted that, one factor inhibiting the attainment of development goals in less developed countries (LDCs) including Nigeria is the populace's inability to access factors of production especially finance./credits. This he said limits the entrepreneurial ability of the people, especially the poor. Consequently, potential employment opportunities and household prospects for creating wealth and improving incomes are lost. Farm households, for example are engulfed in the vicious cycle of small holdings, low income, low savings and low capital investment. Access to formal financial services by the majority of farmers and other rural micro and small-scale entrepreneurs, who make up the greater percentage of the informal sector, particularly rural population and urban poor, is limited. The Central Bank of Nigeria (CBN, 2005) notes that the formal financial system provides services to about 35% of the economically active population while the remaining 65% are excluded from access to financial services, and that these 65% are often served by the informal sector, through NGO-MFIs, friends, relatives, cooperatives and credit unions. This financial gap has been partly attributed to the inadequacy in the distribution of formal institutions. This suggests that Nigeria is grossly under banked.

Government of West Africa and many other countries have recognized the role credit can play in agricultural production and have established a number of special agencies to provide agricultural credit to farmers. In Nigeria for example, the Agricultural Cooperative Bank (now Bank of Agriculture, BOA) as well as the rural (commercial) banks are established mainly to provide credit for agricultural purposes and other rural ventures. In Ghana, similarly, the Agricultural Development Bank as well as government owned rural banks perform similar roles and one can find similar institutions in many other countries (Ogunsumi, 2007). For example, many agricultural development projects are situated in the heart of small farmer communities and their activities bring them into direct contact with small farmers. In Nigeria, such development projects include the Integrated Rural Development Project, like the 7 commodity boards in Nigeria. Such projects are involved in marketing services, extension services, provision of inputs, credits, construction of feeder roads to mention but a few. Since the boards are nearer to the farmers, they can act as agents for providing agricultural credit to smallholder farmers. Banks and other financial institutions give money to these agencies who can then lend to farmers in kind and/or cash. These agencies are also responsible for the repayment of the loans by the farmers. The role of Ghana Cotton Development Board (GCDB) in the disbursement of funds from the Ghana Agricultural Development Bank (ADB) to farmers and in the repayment of the loans is a very good example of how a development project agency can be very useful in provision of agricultural credit to small farmers. The GCDB has a register of cotton farmers in each district and request for loans from the African Development Bank (ADB) for these farmers. The loans are provided for these farmers in the form of bullock ploughs and in cash, through the boards district officers, and are done with minimum of form-filling. The GCDB also takes responsibility of advising the farmers on the productive use of the loan. Despite these efforts, agricultural productivity and total food and fibre production in Nigeria is pitifully much below expectation (Ogunsunmi, 2007). Nigerian agriculture has to a



large extent, not diverted itself from most of the characteristics of the peasanteconomy that were prominent in the pre-independence period (Adewumi and Omotesho, 2002). Nigerian agriculture is characterized by low farm incomes, low level of capacity in the food and fibre needs of the country and primitive rapid development of the agricultural sector of the economy to break the vicious cycle of poverty that is prevalent in the rural economies. Furthermore, food and fibre shortages resulting in the under-nourishment of people and under-capacity utilization of industries have become a rule rather than exception. This coupled with population pressure has resulted in food insecurity. Jirgi *et al.* (2007) observed that on several occasions, Nigerian government has initiated more encompassing credit and non-credit program for small-scale farmers. Such programs/schemes include; Directorate of Food, Roads and Rural Infrastructure (DFRRI); National Directorate of Employment (NDE); Family Economic Advancement Programme (FEAP); People's Bank of Nigeria (PBN); and the Nigerian Agricultural and Cooperative Bank (NACB), which later transformed into the Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB) and now Bank of Agriculture (BOA); Agricultural Credit Guarantee Scheme Fund (ACGSF); and Community Banks (CBs) now being transformed into unit commercial Banks/ Microfinance Banks (MFBs); National Poverty Eradication Programme (NAPEP) (which focuses on Community Development) and small and Medium enterprises Development Agencies (SMEDAN), which focuses on entrepreneurship. Cooperative societies and self-help groups are also major players in this respect. Other initiatives included the Small -Scale Industries Credit Guarantee Scheme (SSICGS), the Nigerian Commercial Banks and Agricultural Credit Guarantee Scheme Fund (ACGSF), the Commercial Agricultural Credit Scheme (CACS), Nigeria Initiative-based risk sharing system for agricultural lending (NIRSAL), Agricultural Credit Support Scheme (ACSS) and the Anchor Borrower's Programme (ABP).

According to Akinyele (2010), government had further continued to increase its credit interventions, for instance, the ACGSF established to increase the flow of credit to farmers had since been expanded, while bank's guarantee rate against default payment on loans was also increased to 75% from 55 percent in 2003 (CBN, 2008). However, Okoronkwo and Anozie (2007) observed that, despite agricultural credit schemes introduced by the government in Nigeria in a bid to boost small scale agricultural production, this dream has remained evasive. Small scale farmers are still left in the cold in spite of their relentless effort to embrace these credits. The inaccessibility of farm credit to small scale farmers has continued to be a major reason for the persistence of subsistence farming. Nigerian agriculture inevitably requires some capital injection from formal and informal sectors of the economy if the vicious cycle is to be broken.

Be that as it may, informal credit institutions have proved relatively successful in meeting the credit needs of small-scale agriculture in Nigeria; their limited resources restrict the extent to which it can effectively and sustainably satisfy the credit needs of these entrepreneurs (Nappon and Huddleston, 1993). This is because, as the small -scale farmer expand in size, the volume of loans required become increasingly difficult for informal credit sources to satisfy (Aryeetey and Udry, 1997).

In addition to the inadequacy of formal financial institutions in Nigeria, is the critical problem of low repayment rates associated with the different agricultural financial institutions like the MFIs. This is considered unsatisfactory and calls for urgent attention to redress the situation. It therefore, has become imperative to address the problem since many of the loan schemes are recycling in nature and their consequence may result in capital rationing by these institutions, this will definitely deny many farmers and other micro entrepreneurs the opportunity of benefiting from these loan schemes. Furthermore, poor loan repayment reduces



lenders' return thereby decreasing the ability of the lender to generate resources internally for institutional growth and sustainability. In extreme case, it may result in distress condition or outright liquidation of the institution. Berseley (1994) affirmed that the issues of enforcing loan repayment constitute a major problem in credit market. According to him, enforcement problem arises in a situation in which the borrower is able but unwilling to repay loan. This was one of the problems that confronted the former NACB, as many of its loan beneficiaries regarded the loan as their share of the national cake (Olieh, 1988). Consequently, this led to its merger with similar troubled financial institutions and/or programmes, namely; FEAP and PBN to form NACRDB.

The question now is, why are the repayment rates of informal and semi-formal financial institutions and in particular, UNDP micro-start projects high (Marx, 2001); while some formal financial institutions are having abysmally low rates? This study is aimed at providing the answer to this question. It is reasonable to expect that an impressive loan repayment rate would be mutually beneficial to the farmers/ entrepreneurs and the loan institutions. On the part of the farmers and micro-entrepreneurs, good credit ratings would definitely attract more loans with which to procure improved input and implements (repeat loans). In such situation, efficiency would improve as well as profitability and these are capable of lifting them out of the vicious cycle of poverty. For the financial institutions which depend mainly on interest as income for the institutional growth, prompt loan repayment would mean enhance profitability and robust growth.

Also, the study will investigate gender considerations in the repayment patterns of loan beneficiaries. Christian *et al.* (2009) asserted that women in rural areas of Edo State, Nigeria find it difficult to access loans from financial institutions for several reasons, including lack of collateral and/or bank accounts, and the belief that women do not repay loans, among gender and status stabilities in loan distribution as the two variables constitute important considerations in the equation of economic growth and development, especially in developing countries.

Another question is that; what excitement(s) does the farm household desire from MFIs as a strategy for poverty alleviation and in the absence of research and extension education? Zeller and Meier (2002) asserted that "the excitement about the use of microfinance as a strategy for poverty alleviation is not backed up with sound facts derived from vigorous research". Many government institutions and project managers are sometimes reluctant to carry out impact evaluations because they are regarded as time consuming, technically complex and because the findings can be politically sensitive, especially if negative (Baker, 2000). More so, systematic evaluations of the impact of credit on the women are uneven and inadequate, in addition to the fact that the indicators used by the international partners and practitioners to measure impact of microcredit on poverty are outreach, number of client served by lending institutions and profitability (Jiroko, 2011). These are measures of international performances and not indicators of impact on clients. More often than not, to reap the benefits of credit facilities, farmers need information relating to sources of loan such as names of lenders, location and types of existing credit (Manyong *et al.*, 1996). It was against this backdrop that this study attempted to examine the level of involvement of financial institutions as providers of microcredit to farm households as well as the impact of the microcredit on agricultural output and poverty alleviation in Niger State, Nigeria.

Furthermore, a vigorous evaluation can help to assess the appropriation and effectiveness of programmes (Baker, 2000). Evaluation of impact is very important in developing economy like Nigeria, where resources are relatively scarce and every dollar spent should aim at maximizing impact on poverty reduction (Baker, 2000). Impact analysis can guide



improvements in microfinance providers management and customers services. There is therefore, a strong case for attempting to access the impact of microfinance providers on the welfare of clients. Similarly, while there is evidence to suggest that microfinance services can be critical inputs in poverty reduction, the impacts are not automatic. To reduce poverty, microfinance providers must reach poor and very poor clients. Thus, the assessment of poverty levels of microfinance clients is an important policy issue for both practitioners and donors (Simanowitz, 2003; and Weiss and Montgomery, 2004). For practitioners, improved understanding of the target market and whether it is being reached can help in the design of financial services better suited to the need of difficult group of clients. For donors who want to ensure that their resources are contributing to poverty reduction, assessment of poverty outreach as well as poverty impact can be used to make decisions about resources allocation.

MATERIALS AND METHODS

The Study Area

Niger State is located in the North-central zone in the country and was created in the 3rd February, 1976 from the defunct North-Western State, by the Late Head of State, and Commander-in –Chief of the Armed Forces of the Federal Republic of Nigeria, General Murtala Ramat Muhammad. The State lies between latitude 9⁰36' North and longitude 6⁰22' East of the equator. The State lies in the Guinea Savannah agro-ecological zone of the country with favourable climatic condition for crops and livestock production. The State is bordered to the North by Sokoto State, West by Kebbi State, South by Kogi State and South-west by Kwara State. Kaduna State and the Federal Capital Territory share common boundaries with the state to the North and East, respectively. The State also has an International boundary with the Republic of Benin along Agwara and Borgu Local Government Areas to the North-West. The State has a population of 3,950,249 (NPC, 2006) and a projected value of 4,702, 376 at the end of 2013 (CBN, 2.38 % annual projection). Similarly, the State is ranked 8th out of 36 in terms of population density. About 55% of Niger State populations are farmers while the remaining 15% engage in other vocations such as business, artisans, white collar jobs, etc. Niger State experiences distinct dry and wet seasons with annual rainfall varying from 1,100mm in the Northern parts to 1,600mm in the southern parts of the State, respectively (NSADP, 1997). The minimum temperature range of between 21⁰C-37⁰C. The rainy season lasts for about 80 days in the Northern parts and about 120 days in the southern parts of the State. The average sunshine hours are about 6-9. Generally, the climate, soil and hydrology of the State permits the cultivation of most of Nigeria's staple food crops such as yam, maize, millet, sorghum, cassava, rice, vegetables, etc. and still allows sufficient opportunity for grazing, fresh water fishing and forestry development. The Gross Domestic Product (GDP) of Niger State, as of 2011 was \$11.63 billion (NSBs, 2013). The inhabitants of the State are mostly peasant farmers.

Sampling Procedure and Sampling Size

Multi-stage random sampling technique was used in the selection of respondents for the study. In the first stage, three (3) Local Government Areas (LGAs) were randomly selected from agro-ecological zone I of the State, with Bidaas its headquarters. The second stage involves a random selection of three (3) localities from each of the LGAs; summing up to nine (9) localities. The third stage involves a random selection of yam farm households from each of the localities; using Yamane (1997) simplified formula to determine the sample size (n) from the N population of yam farm households in the study area. According to Yamane;



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

where;

n = Sample size

N = Population size obtained through a reconnaissance survey of the study area, and

E = Precision level (or sampling error).

Meanwhile the sampling frame of the localities and yam farm households selected were obtained from the National farmers’ census (2011), National farmers database, Niger State Ministry of Agriculture, Yam Farmers’ Association and Village heads. Also, the unit of the survey was the head of farming households (or simply household head, HHs). Table 1 shows the sampling frame and sampling method of the 120 yam farm households in the study.

Table 1: Sampling Frame and Size of the Study

| Selected LGAs | Community | Sampling frame (Nh) | Sampled household (nh) |
|---------------|------------|---------------------|------------------------|
| Mokwa | Mokwa | 101 | 14 |
| | Gbajibo | 127 | 18 |
| | Bokani | 26 | 4 |
| Lavun | Kutigi | 126 | 16 |
| | Doko | 77 | 11 |
| | Dabban | 71 | 10 |
| Gbako | Lemu | 237 | 26 |
| | Toroko | 77 | 11 |
| | Emiworongi | 49 | 10 |
| Total | 9 | 891 | 120 |

Source: Field survey, 2016

Method of Data Collection

Generally, primary data used for the study were collected with the use of well-structured questionnaire, personal interview schedules and observations. The researchers were assisted by well-trained enumerators as well as extension agents attached to each of the localities in data collection. Similarly, the village heads in each of the communities assisted the researchers with the sampling frame from which samples were drawn. Information collected include, socioeconomic data of HHs sex, years of education, marital status, household size, and source of fund; household expenditure data, encompassing expenditure on food and non-food items such as health, communication, education, transportation, recreation, and housing; household income data, including information on crop income, livestock income, agricultural wage income from both formal and informal employment, self-employed income from own businesses, remittance income received from relatives/friends not presently living with the household, other income sources, mostly comprising capital earnings and pension. However, some secondary data were also obtained to assist the researcher to accomplish the objectives. For example, some information were obtained from records and documents of the United Nations Development Programme (UNDP,) WORLD Bank- CGAP (The Consultative Group to assist the poorest) and their website from the internet, periodicals, magazines, annual accounts and returns from Banks etc. Additional secondary data were obtained from official documents of the States’ Agency for Economic Empowerments as well special programme targeted at rural development, e.g., *Fadama* Development Programmes, NEEDS, and Better Life for Rural dwellers (BLF RD).



Analytical Techniques

Descriptive statistics, Poverty line determination, Foster-Greer-Thorbeck (FGT) index P, Headcount ratio, Poverty gap ratio, severity index, Farm budget technique were used to analyze the data. The model is specified implicitly as follows:

1. Descriptive Statistical tools were used to analyze the socio-economic characteristics of the farm households as well as the impact of microcredit on the livelihood of the yam farmers. They include frequency distribution tables, means/averages, percentages and charts.
2. Poverty Line Determination: The poverty line has been defined as the minimum or the cut-off standard of expenditure on food and non-food or per capita income below which an individual or household is described as poor (Anyanwu, 1997); that is, the conventional notion depicts poverty as a condition in which people are below a specified minimum income level and are unable to provide or satisfy the basic necessities of life needed for acceptable standard of living (World Bank, 2008). In addition, poverty is measured using some other indicators, which usually focus on economic performance and standard of living of the population. Indicators used include GNP per capita (The purchasing power of real GDP per capita; and poverty line which is a benchmark that represents the value of Faroic (food and non-food) needs considered essential for meeting the minimum socially acceptable standard of living within a given society. Thus, any individual whose income or consumption falls below the poverty line is regarded as poor. According to Adekoya (2014), there is no official poverty line in Nigeria and as such many earlier studies have used poverty lines which are proportions of the average per capita expenditure. However, in this study, mean per capita expenditure was used to separate the poor from non-poor. The expenditure method was adopted because it has been conventionally viewed as more appropriate for welfare indication (Agbaeze and Onwuka, 2014). Also, for practical reason of reliability, per capita expenditure levels are thought better capture long run welfare levels than current income. It is consistent and does not change over a period of time (Adekoya, 2014; and Haughton and Khandler, 2010).

A related measure is the Poverty gap index (or income gap index which measures the shortfall or gap between the average income of the poor and the poverty line, expressed as a percentage of the poverty line. A recent development in computing indication of poverty is the UNDP, Human Development index (HDI). The HDI combines a measure of purchasing power with measures of physical health and educational attainment to indicate progress or retrogression in human life. The building blocks of the HDI are data on longevity, knowledge and income. Longevity is measured solely by life expectancy at birth while knowledge is measured by the adult literacy rate and mean-years of schooling weighted as 2:1 respectively. For income purchasing power parity (PPP) (based on real GDP per capita is adjusted for the local cost of living) is used. The value of HDI is expressed as a value between 0 and 1. Other indicators of poverty measures the extent to which the distribution of income or consumption among individuals or household within a production deviates from a perfectly equal distribution, is a good summary of the degree of inequality. Therefore, to determine the poverty status of the households in the study area, a community poverty line (CPL) was constructed as adopted by falls below the poverty line is regarded as poor. According to Adekoya (2014), there is no official poverty line in Nigeria and as such many earlier studies have used poverty lines which are proportions of the average per capita expenditure. The poverty line was defined as the two-thirds ($2/3$) and one-third ($1/3$) of the mean value of per capita consumption expenditure in the study area. The respondents' per capita expenditure was used as bench mark in classifying them into three, namely non poor, poor and core poor. This was based on World Bank/National Bureau of statistics [NBS] (2013) classification of poverty status as:



- i. Non poor: These are farm household whose per capita expenditure is above 2/3 of poverty line, i.e., $P > 2/3$ of the mean expenditure per day.
 - ii. Poor: These are farm households whose expenditure was below the poverty line, i.e., $P < 2/3$ of the mean expenditure per day.
 - iii. Core poor: These are farm household whose expenditure was below 1/3 of the mean expenditure poverty line, i.e., $p < 1/3$ of the mean expenditure.
3. Foster-Greer-Thorbeck (FGT) Index P_α : This tool will be used to examine the puberty indices which are made up of heat count ratio, poverty gap and severity of poverty. The Foster Greer-Thorbeck metric is a generalized measure of poverty within an economy. It is a class of additively decomposable measure (P) proposed by Foster, Greer and Thorbeck (1984). It measures the outfall form the poverty line and is weighted by α . It also considers the inequality among the poor but the proper amount of α is pre-defined. Mathematically, it is expressed as:

$$P_\alpha = \frac{1}{N} \sum_{i=1}^E \left(\frac{\bar{x} - y_i}{\bar{x}} \right)^\alpha \quad \dots (2)$$

where; $P_\alpha = p$ –alpha which is known as FGT index

\bar{x} = poverty line.

α = FGT parameter, which takes value of 0, 1, or 2 representing incidence depth, or severity of poverty, respectively;

y_i = total income of the farm households;

N = total sample population; and

q = number of farm households below the poverty line.

4. Headcount ratio: This is the proportion of people below the poverty line. This index measures the incidence of poverty. Mean per capita income is calculated and the poverty line is drawn to separate the poor from the non-poor. The headcount ratio is used to calculate the proportion of household whose members have per capita income below the poverty line. It is expressed as:

$$P_0 = H = \frac{q}{n} \quad \dots (3)$$

where; P_0 = Poverty incidence

q = Number of farm households below poverty line;

n = Total number of farm households; and

h = headcount ratio.

5. Poverty Gap Ratio: Poverty gap is the aggregate shortfall of income of all the poor from the specified poverty line. It measures the difference between actual income and minimum non-poverty income. Mathematically, it is denoted as:

$$P_1 = \frac{1}{N} \sum_{i=1}^q \left(\frac{\bar{x} - y_i}{\bar{x}} \right) \quad \dots (4)$$

where;

P_1 = Poverty gap;

\bar{x} = Poverty line;

Y_i = Total expenditure of the poor farm households;

N = Total sample population; and

Q = Number of farm households below poverty line.

6. Severity Index: The severity of poverty index, denoted as P_2 , is the sum of the square of poverty depth divided by the number of poor households. It allows for concern about the poorest of the poor by attaching greater weight to the poorest of the poor than of those just below the poverty line. It is expressed as:



$$P_2 = \frac{1}{N} \sum_{i=1}^q \left(\frac{\bar{x} - y_i}{\bar{x}} \right)^2 \quad \dots (5)$$

where;

P_2 = Severity Index;

\bar{x} = poverty line; and

q = Number of farm households below the poverty line.

7. Farm Budget Technique: This will used to analyze the level of income of the yam farm households. Gross Farm Income (GFM) = Price x Quantity Produced.

8. Gini Coefficient: This will be used to ascertain the extent of income inequality among the respondents in the study area. The Gini coefficient is a measure of statistical dispersion most prominently used as measure of inequality among value of a frequency distribution, for example, level of income, and wealth (Onyeagocha, 2008). It has a value from 0 to 1. Therefore, a low Gini coefficient indicates a more equal distribution of income or wealth with zero corresponding to complete equality while higher Gini coefficient indicates more unequal distribution with one corresponding to complete inequality; it is expressed as:

$$\text{Gini-Coefficient, } G = 1 - \sum x y \quad \dots (6)$$

where;

G = Gini coefficient;

X = Percentage of farmers in income group; and

Y = cumulative percent of income.

RESULTS AND DISCUSSION

Socio-economic Characteristics of the Respondents

The distribution of respondents according to their socio-economic characteristics, covering sex, age, marital status, household size, educational level, primary occupation, secondary occupation, enterprise experience and source of funding is presented in Table 2. The result of the analysis revealed that 89.17% of the yam farm households were males, while 10.83% were females. This is an indication that most yam farm households were males, and this may be as a result of the physical exertion of energy required in the business. This result compared favourably with Oguniyi *et al.* (2011) in their study on Comparative analysis of poverty and income inequality among food crop and livestock farmers in Ilesa metropolis Osun State, Nigeria, who revealed that 86% of food crop famers were males, and is because the enterprise is a tedious one. Also, Olaleye (2009) revealed that the dominance of men in agricultural production is because male folks are the bread winners in most households, in line with the Nigerian tradition. However, the result validates the findings of Ng'ero *et al.* (2011) who revealed that women were mostly engaged in agricultural production than men because of their involvement in processing and marketing activities.

Table 2 revealed that the average age of the farm households was 38.73 years. This implies that most of the farm households were in their productive age and therefore, can participate actively in various agricultural production activities. The implication of this finding is that majority of the farm households are within the middle and economically active age group; with a high tendency of adopting modern technologies and hence more technically efficient than those in the higher age brackets. Therefore, the bulk of the yam farm households in the study are aware energetic and should be rationally enterprising, which according to Iheke (2006) has lots of positive implications for agricultural productivity and loan repayment capacity. Furthermore, as noted by Nwaru (2004), the risk bearing abilities and innovativeness of a farmer, the mental capability to cope with daily challenges and the ability to do manual work decreases with age.



Marital status of respondents may become an important factor in agricultural production especially in traditional agriculture when farm labour is in short supply. Table 2 revealed that most of the respondents (87.50%) were married while 12.50% were single. This is an indication that married people were more involved in agricultural production in the study area. The higher percentage of married respondents agrees with Agbaeze and Onwuka (2014) who reported that higher percentage of Yam farmers were made of married people. There was a big visible difference showing that the married respondents had more access to credit in the study area. This result corroborated with the findings of Tanko *et al.* (2012) who reported that majority of the respondents who had access to credit in Niger State, Nigeria were married. Generally, married respondents have more financial responsibilities than their unmarried counterparts and hence, have to seek profitable source of income to adopt innovations to enhance their technical efficiency and cater for the needs of the families. This is in support of the study of resource use efficiency in maize production amongst small scale farmers in Lavun LGA of Niger State, Nigeria by Ojo and Mohammed (2008) which revealed that more than 90% of the respondents in the separate study were married.

Household size is the total number of the people in the same dwelling unit or feeding from the same pot (NPC, 2007). The importance of large family size in a household especially in traditional agriculture was expressed by Olufe (1988), in his study of resource productivity in food crop production in Kwara State of Nigeria. According to the study, family labour accounted for a significant proportion of total labour force used in traditional agriculture, thereby enabling the cultivation of large hectares of farmlands and reducing the cost of hiring labour for farm operations. A relatively large household size was found in the area with an average size of approximately 9 persons per households, though 44.16% of the households have a family size ranging above 10 persons. Preponderance of large family size is a characteristic of the poor in rural area (Eboh, 1995). The result of the findings from this study, however validates Sani (2016) who among yam farmers in selected LGAs of Niger State, Nigeria reported that most farmers (44 %) had about 6-10 household members. Traditional agriculture is highly labour intensive, much of the labour is needed in post-harvest activities such as processing, distribution and marketing. Many yam farm households tend to have large families so that their need for labour could be met by family members. Meanwhile, Baba and Etuk (1991) and Baba and Wando (1998) explained that the implication of the large household size is that household expenditure tends to draw more on family income, so that only a meager sum is saved and invested eventually on farming, and for the borrowed capital, this is likely to affect the repayment capacity of the respondent.

Education raise the skills and technical competence of farmers, narrow down their information gap and also increases their management abilities, thereby leading to productive performance (Asogwa, 1987). Furthermore, Oladeebo and Oladeebo (2008) opined that literate farmers will repay more of the loans obtained than illiterate farmers, having understood the importance and the advantages of prompt loan repayment. Also, Olagunju and Adeyemo (2008) shared this view stating that borrowers with higher level of education would have a better repayment performance on the basis of the fact that such farmers would readily respond to improve technologies and innovations that would enhance better returns from farm investment. Simonyan and Balogun (2010) opined that education increases farmers' ability to make correct and meaningful choice for farm operations, while Ogbe (2009) established that the level of education raises human capital and increase their level of managerial ability.

More so, Akaya (2015) submitted that the level of education determines the level of available opportunities geared towards improved livelihood, food security enhancement and consequently reduce poverty. Table 2 revealed that about 51% had some form of formal



education while 49% did not. Lack of education among members of the farming and rural communities in West Africa posed some constraints on sustainability in the sector.

The distribution of respondents based on source of funding for their agricultural activities shows that personal savings (60%) was the predominant sources of funding for the yam farm households. Similarly, sources of findings from the formal sector accounted for only 14.17% Ndanitsa (2014) had earlier reported low patronage of most farmers on formal loans. The formal financial institutions are less patronized for financial support for farming in the study area, and this may be due to high interest rate on such facilities and insistence by the financial institutions for the provision of collateral facilities.

Table 2 also revealed that the primary occupation of the respondents is crop farming (100%), but are engaged in other secondary occupations namely trading (75.00%), artisan (10.83%), poultry farming (5.83%) and agro-processing (3.33%). This is an indication that the respondents were also engaged in secondary occupation as insurance against crop failure, and to get additional income. This finding corroborates with the findings of Ndanitsa (2014) who revealed that most farm households were engaged in secondary occupations such as trading, artisan, agro-processing, poultry farming etc.

Experience in yam enterprise by the respondents shows that business activities requires both time on the process and training in the activities. For example, a sizeable number of farmers learn by doing. Osuntogun (2000) noted that several factors are known to affect the credit needs of farmers; prominent among these is their past experience. Table 2 shows that most Yam farm households in the study area (35.00%) had between 11-15 years of farming experience, with mean years of experience put at 15.28 years. This was a good development in the area as the more experience an entrepreneur is the better the enterprises (like farming) would be managed. The finding of the study corroborates with those of Ndanitsa (2014), Ndanitsa (2005), Tsoho (2005), Olayemi (2016) , Garba (2016), Tanko *et al.* (2010) who all reported that most crop farm households have more than 10years farming experience. The combination of farming experience with the ability to manage farm resources efficiently is expected to translate to higher returns for entrepreneurs in an area. This finding further buttress the work of Afolabi (2010), on the analysis of loan repayment amongst small scale farmers, which established that farming experiences has significant influence on the ability of the farmers to acquire and repay loan advance to them. Thus, the more the farmers experience the more their abilities to manage general and specific factors which affect the farm business, including the ability to repay loans as at when due.



Table 2: Socio-economic Characteristics of the Respondents

| Variable | Frequency (n = 120) | Percentage |
|--------------------------------------|---------------------|------------|
| Sex: | | |
| Male | 107 | 89.17 |
| Female | 13 | 10.83 |
| Age: | | |
| <40 | 39 | 32.50 |
| 40-49 | 56 | 46.66 |
| 50-59 | 23 | 19.17 |
| 60 and above | 2 | 1.67 |
| Mean age = | 38.73 | |
| Marital status | | |
| Single | 15 | 12.50 |
| Married | 105 | 87.50 |
| Household size | | |
| ≤ 5 | 20 | 16.67 |
| 6-10 | 47 | 39.17 |
| Above 10 | 53 | 44.16 |
| Mean | 8.8 | |
| Education level: | | |
| No formal education | 49 | 40.83 |
| Qur'anic Education | 10 | 8.33 |
| Primary Education | 22 | 18.33 |
| Secondary Education | 20 | 16.67 |
| Tertiary Education | 19 | 15.83 |
| Source of funding: | | |
| Personal savings | 72 | 60.00 |
| Informal source | 31 | 25.83 |
| Formal source | 17 | 14.17 |
| Primary occupation: | | |
| Crop farming | 120 | 100.00 |
| Animal husbandry | 0 | 0.00 |
| Agro-processing | 0 | 0.00 |
| Trading | 0 | 0.00 |
| Other (Artisan) | 0 | 0.00 |
| Secondary occupation | | |
| Trading | 90 | 75.00 |
| Poultry farming | 7 | 5.83 |
| Crop farming | 6 | 5.00 |
| Agro-processing | 4 | 3.33 |
| Others (Artisan) | 13 | 10.83 |
| Enterprise experience (years) | | |
| 1-5 | 15 | 12.50 |
| 6-10 | 24 | 20.000 |
| 11-15 | 42 | 35.00 |
| 16-0 | 20 | 16.67 |
| 21-25 | 12 | 10.00 |
| 26-30 | 7 | 5.83 |
| Mean = 15.28 years | | |

Source: Field survey data, 2016

Sources of Credit available to Farm Households

Availability, acquisition and use of capital in agriculture is a yard stick to efficient production by small scale farmers, most especially if supported with technical advisory services, like extension education. The percentage distribution of yam farm households according to sources of microcredit from the microfinance providers in the study area is



presented in Table 3. The result in Table 3 reveals that most of the respondents (44.17%) sourced their credit from the commercial banks despite the believe that most small-scale farmers hardly access credit from the formal sources because of the requirements of collateral, tedious procedures, low literacy levels, ignorance and other stringent conditions. This finding corroborates with that of Ndanitsa (2014), Olayemi (2016) and Garba (2016) in their separate studies who revealed that most farmers obtained credit from the commercial banks. However, this finding is contrary to the findings of Tanko *et al.* (2010) who revealed that most of the respondents (more than half) got their financial assistance from the cooperative societies.

Table 3: Sources of Credit Utilized by the Respondents

| Source of credit | Frequency | Percentage (%) |
|---|-----------|----------------|
| Commercial Banks | 53 | 44.17 |
| Microfinance banks (MFB) | 37 | 30.83 |
| Millennium development goals office (MDG) | 20 | 16.67 |
| Relatives and friends | 7 | 5.58 |
| Agricultural cooperatives | 3 | 2.50 |

Source: Fields survey, 2016

More often than not, interestingly, farm households also source their funds from MFBs (30.83%), MDGs (16.67%), relatives/friends (5.83%) and agricultural cooperatives (2.50%). In addition, farm households who do not patronize Commercial Banks and MFBs said they do so because of the avoidance of high interest rates and institutions insistence on the provision of collateral facilities

Impact of Microfinance Providers on Income of the Respondents

Respondents that access microfinance enjoyed increases in income from their businesses and were able to sustain the gains overtime. Income of the respondents after accessing the microfinance facility was higher than before accessing the facility. Table 4 shows the income distribution levels among the respondents “before” and “after” accessing the microcredit facility from the Microfinance providers. The result of Table 4 indicates that the estimated income before accessing microfinance loan facility were mostly less than ₦25,000.00 for 47.50% of the respondents, while over 70percent of the respondents reported monthly income after accessing microfinance facility to range from ₦76,000.00 - ₦100,000.00. The mean monthly income of the respondents before and after microcredit facility were ₦38,401.04 and ₦ 83,329.21, respectively. This indicates an increase of 46.08%. The phenomenal increase in income is in line with Jung (2004) who reported 46 percent income rise among borrowers of microfinance loans. Similarly, Marcus *et al.* (1999) in their study, “Save the children foundation in London”, also confirmed a 50 % increase in household income of microfinance client who were mostly farm households agro-processors. Furthermore, this study also confirms that microfinance clients in the study area had better coping capacities especially in lean situations and these increase with amount of credit received.



Table 4: Respondents’ Income Levels Before and After Microcredit Facility

| Income distribution (₹/Month) | Before accessing micro-credit facility from microfinance providers Frequency (%) | After accessing micro-credit facility from microfinance providers Frequency (%) |
|-------------------------------|---|--|
| 1,000.00-24,000.00 | 57(47.50) | 4 (3.33) |
| 25,000.00-50,000.00 | 34(28.33) | 11(9.17) |
| 51,000.00-75,000.00 | 15(12.50) | 13(10.83) |
| 76,000.00-100,000.00 | 8(6.67) | 85(70.83) |
| 101,000.00-150,000.00 | 6(5.000) | 7(5.83) |
| Mean/average income | ₹38,401.04 | ₹83,329.21 |

Source: Field survey, 2016

Overall, the evidence from this research is overwhelmingly in favour of microfinance as tool to increasing beneficiaries’ income, thereby rising above the poverty line, and therefore is an effective method of poverty alleviation among the people of the area, especially the yam farm households.

Impact of Microfinance Providers on Nutritional Intake and Reduction of the Respondents

Table 5 shows the distribution of respondents based on nutritional and health status before and after accessing micro-credit facility from microfinance providers in the study area. Generally, micro-credit facility has substantial effect on the nutrition and health of the poor; due to the increase in the income of the clients. Though microfinance providers in the area were not known for their direct involvement in nutrition and provision of health facility, however, they indirectly had a positive influence on nutrition and health because increased income through access to micro-credit facility invariably had led to high nutrition (through greater intake of diets containing higher amount of protein, vitamins, and minerals) and greater access to healthcare. In fact, some of the clients revealed that increases, income from higher investment opportunities as a result of the microfinance facility had enabled them to acquire treated mosquito nets, purchased insecticides against mosquitoes and had reduced the incidence of malaria, especially for children and pregnant women in their households.

Table 5: Respondents’ Nutritional and Health Status Before and After Microfinance Loan Facility

| Nutritional and health characteristics | Before microfinance loan facility frequency (%) | After microfinance loan facility frequency (%) |
|--|---|--|
| Frequency of consuming beef/Mutton/fish/egg | 3:104 (72.22) | 8:125 (86.81) |
| Use of treated mosquito nets, insecticides for prevention of malaria | 28 (19.44) | 87(60.42) |
| Infant mortality rate (age-1-6 years in the last 6 months) | 33 (22.92) | 6 (4.17) |

Source: Field survey, 2016

Table 5 reveals that micro-credit facility from microfinance providers to the yam farm households in the study area had positive effect on the realization of the United Nations Millennium Development Goals 1, 4, 5 and 6; the first of which is to eradicate extreme poverty



and hunger. The findings were that 72.22% of the respondents consumed animal protein (beef, mutton, fish and eggs) 3 times per week before microfinance loan. However, 86.81% of the respondents consumed the same diet 8 times per week. The use of treated mosquito nets to prevent malaria attack from mosquito bite also increased from 19.44% of respondents (before the loan) to 60.42% (after the loan). However, mortality rate (children 1-6 years) in the last 6 months had also dropped from 22.92% before the loan to as low as 4.17%. These findings therefore show that microfinance can significantly increase the income of poor client, which translates into better nutrition and health for impoverished families. The nutritional benefits are particularly felt by children and pregnant mothers. The benefits from increase in income of the clients and better nutrition spilled over into many other areas in which the poor certainly needed help. The overall impact of microfinance facility for its clients can create a deep and lasting impact on poverty alleviation, most especially for the farm households in the rural communities.

Microfinance Loan Facilities and Women’s Empowerment

Microfinance loan facilities have the potential for contributing to women’s economic, social and political empowerment (Mayoux, 2002). Access to savings and credit from microfinance providers can initiate or strengthen a series of interlinked and mutually reinforcing virtual spirals of empowerment. Evidence has shown that contributions to women’s empowerment through microfinance in the number of, and expansion of financial self-sustainable programs cannot be over-emphasized (Arunachalam, 2007; Gugerty, 2005; Norwood, 2006 and Swain, 2007). Iheanacho, (2005) observed that women have been the focal point of many development strategies since the 1980s and that 84.2% of the poorest microfinance clients worldwide are women. The authors further added that since women are taking a lot of financial responsibility for family and household promised a greater development impact on a collective level and offer opportunity for some forms of contributions to households and improved living conditions for their children. Furthermore, world leaders are finally beginning to realize that poverty alleviation will only be achieved through the empowerment and economic improvement of women. The result in Table 6 revealed that running a successful business may not only contribute both directly and indirectly to their empowerment but greater control over their business and lives. Table 6 reveals that all the female respondents (13) had improvement in one activity or the other, which led to their empowerment. However, of the respondents, 76.92% were able to acquire more farm inputs which led to improved farm productivity, which ultimately led to increase in income and reduced poverty in the study area.

Table 6: Women Welfare and Empowerment due to Microfinance Loan Facilities (n = 13)

| Item | Frequency* | Percentage |
|--|-------------------|-------------------|
| Increased of farm size | 12 | 92.31 |
| Establishment of new farm | 4 | 30.77 |
| Use of improved farming inputs | 10 | 76.92 |
| Expansion of trading volume | 3 | 23.08 |
| Processing of farming output | 5 | 38.46 |
| Increased income generation | 7 | 53.85 |
| Ability to take over more household responsibility | 7 | 53.85 |
| Acquiring more assets | 5 | 38.46 |
| Total | 53 | |

*Multiple responses exist
 Source: Field survey, 2016



Microfinance Providers Lifts Poor Out of Poverty

Microfinance alleviates poverty especially in the rural economies through its contribution to economic stability and well-being of poor families via increased income, improved health, nutrition, education and empowerment. In the study area, comparison was made on the economic situation of clients before and after borrowing microcredit programme, 72.50% of the clients were classified as “very poor” and 27.50% as moderately poor”. The result of the study (after 9 months of participation in the loan scheme) revealed a remarkable improvement in the poverty level of the clients. According to World Bank (1996), those that earned less than (<) 1/3 of mean per capita household income (MPCHI) and less than 2/3 of MPCHI are considered to be very poor and moderately poor respectively. However, households that earned PHCHI or higher than the MCPCHI was considered to be no longer poor. The result is shown in Table 7.

From Table 7, it can be inferred that microcredit from microfinance providers in the area had improved the economic situation among the respondents in the study area. In June, 2016, 10.83% of the clients were still classified as “very poor” 18.33% as “moderately poor” and 70.84% were “no longer poor”. This suggests that microfinance loans in the area were able to lift most of their beneficiaries above the poverty line. This findings corroborates those of Simanowitz and Walter (2002), Umebali and Mgbada (2002), and Njokuoma and Ogbe (2010). The findings from this study show that microcredit facility can be used as a means not only to increase household income, but completely lift poor families especially the farm households out of poverty.

Table 7: Respondents’ Poverty Line Before and After Microcredit Facility (n = 120)

| Poverty Line | Before accessing microcredit facility frequency (%) | After accessing microcredit facility frequency (%) |
|---------------------|--|---|
| Very poor | 87(72.50) | 13 (10.83) |
| Moderately poor | 24 (27.50) | 22 (18.33) |
| No longer poor | 0 (0) | 85(70.84) |

Source: Field survey, 2016

Determinants of Poverty Status of Yam Farm Households

Analysis of yam farm household’s poverty status is revealed in Table 8. It showed a poverty line of ₦327,541.736. This implies that a yam farm household in the study area with an average annual expenditure of greater or equal to ₦522,953.97 was considered to be non-poor or rich and any farm household with average annual expenditure below ₦522,953.97 was considered moderately poor. The core poverty line of ₦174, 319.99 mean that a yam farm household with an average annual expenditure greater than ₦174,317.99 but less than ₦348,635.98 was considered moderately poor. And yam farm household with an annual expenditure less than ₦174,317.99 were considered as core poor or very poor. Furthermore, the headcount indices of 0.1083, 0.1833 and 0.7084 were obtained, implying that 10.83%, of the respondents were very poor, 18.33% of the respondents were moderately poor while 70.84% of the respondents were non poor. Similarly, it can also be compared with those of Sani (2016), who reported indices of 0.025, 0.25 and 0.725, respectively, for very poor, moderately poor and non-poor yam farmers in selected Local Government Areas of Niger State, Nigeria. The poverty gap of average poor farm household below poverty line was 0.2442; implying that the expenditure of the moderately poor yam farm household in the study area was 24.42% below the poverty line. This result corroborated the statement of National Bureau



of Statistics (2013) which affirmed that at the end of 2012, Niger State had the lowest poverty rate in Nigeria with a poverty rate of 33.8%.

Table 8: Poverty Indices of Yam Farm Household in the Study Area

| Poverty index | Result (₦) frequency | Percentage |
|----------------------------------|----------------------|------------|
| 1. Total annual expenditure | 522,953.97 | |
| - 2/3 of mean annual expenditure | 348,635.98 | |
| - 1/3 of mean annual expenditure | 174,317.99 | |
| 2. Headcount index: | | |
| - Core poor/very poor | 0.1083 | 13 (10.83) |
| - Moderately poor | 0.1833 | 22 (18.33) |
| - Non-poor | 0.7084 | 85 (70.84) |
| 3. Poverty index: | | |
| - Moderate poor | 0.02442 | |
| - Core poor | 0.1147 | |

Source: Field survey 2016

Estimate of Income Distribution

In estimating the income distribution of the farm household engaged in yam production, Gini coefficient was computed and the result of the computation is presented in Table 9. It could be observed that majority of the yam farm households representing 20.83% of the total sample earned annual income range of ₦20,000 to ₦300,000 on annual basis. This was followed closely by 18.33% of the total sample yam farm households, that received ₦600,000 to ₦700,000 on annual basis.

In addition, the Gini coefficient of 0.6631 was recorded, and it reflects the level of income inequality in income distribution. This is comparable with Gini coefficient of income distribution of 0.33 for food crop farmers, 0.40 for livestock farmers recorded by Ojo, (2012) and Sani (2016) for yam farmers in Niger State of Nigeria.



Table 9: Computation of Gini Coefficient for the Yam Farm Household

| Income (₦) | Number of yam farm households (freq) | % of farm households in income group | Cum-frequency | Cum % of yam farm households income group | Total income | % of their income | Cum. of income | XY |
|-----------------|--------------------------------------|--------------------------------------|---------------|---|--------------|-------------------|----------------|-----------|
| ≤ 100,000.00 | 3 | 2.50 | 2.50 | 0.42 | 193,570 | 0.31 | 0.31 | 0.0000775 |
| 100,001-200,000 | 18 | 15.00 | 17.50 | 2.97 | 4,489,305 | 7.17 | 7.48 | 0.01122 |
| 200,001-300,000 | 25 | 20.83 | 38.33 | 6.52 | 7,345,696 | 11.73 | 19.21 | 0.0400 |
| 300,001-400,000 | 22 | 18.33 | 56.66 | 9.63 | 6,255,592 | 10.00 | 29.21 | 0.0535 |
| 400,001-500,000 | 10 | 8.33 | 64.99 | 11.05 | 614,938 | 0.98 | 30.19 | 0.025 |
| 500,001-600,000 | 6 | 5.00 | 69.99 | 11.90 | 3,619,542 | 5.78 | 35.97 | 0.018 |
| 600,001-700,000 | 4 | 3.33 | 73.32 | 12.46 | 1,875,754 | 2.99 | 38.96 | 0.0001 |
| 700,001-800,000 | 6 | 5.00 | 78.32 | 13.31 | 7,629,832 | 12.18 | 51.14 | 0.006 |
| 800,001-900,000 | 10 | 8.33 | 86.65 | 14.74 | 5,943,218 | 9.48 | 60.62 | 0.050 |
| >900,000 | 16 | 13.33 | 99.98 | 17.00 | 24,663,418 | 39.38 | 100.00 | 0.133 |
| Total | 120 | 100.00 | 588.24 | 100.00 | 62,630,865 | 100.00 | | 0.3369 |

Gini Coefficient = 1- 0.3369 = 0.6631

Source: Field survey, 2016

CONCLUSION AND RECOMMENDATIONS

The study evaluated the poverty, income distribution and impact of microfinance providers on yam farm households in the study area. The result of the study revealed that microcredit facility obtained from the microfinance providers had positive impact on the respondents, especially those below the poverty line. Meanwhile, it was recommended that additional effort be made to increase areas under cultivation by the households; to increase their productivity, income and alleviate poverty. It was also suggested that more of these microfinance institutions be established in the study area to increase its impact on poverty reduction. Finally, integrated community development effort should be encouraged to provide rural infrastructure to improve rural economies and raise their standard of living.

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